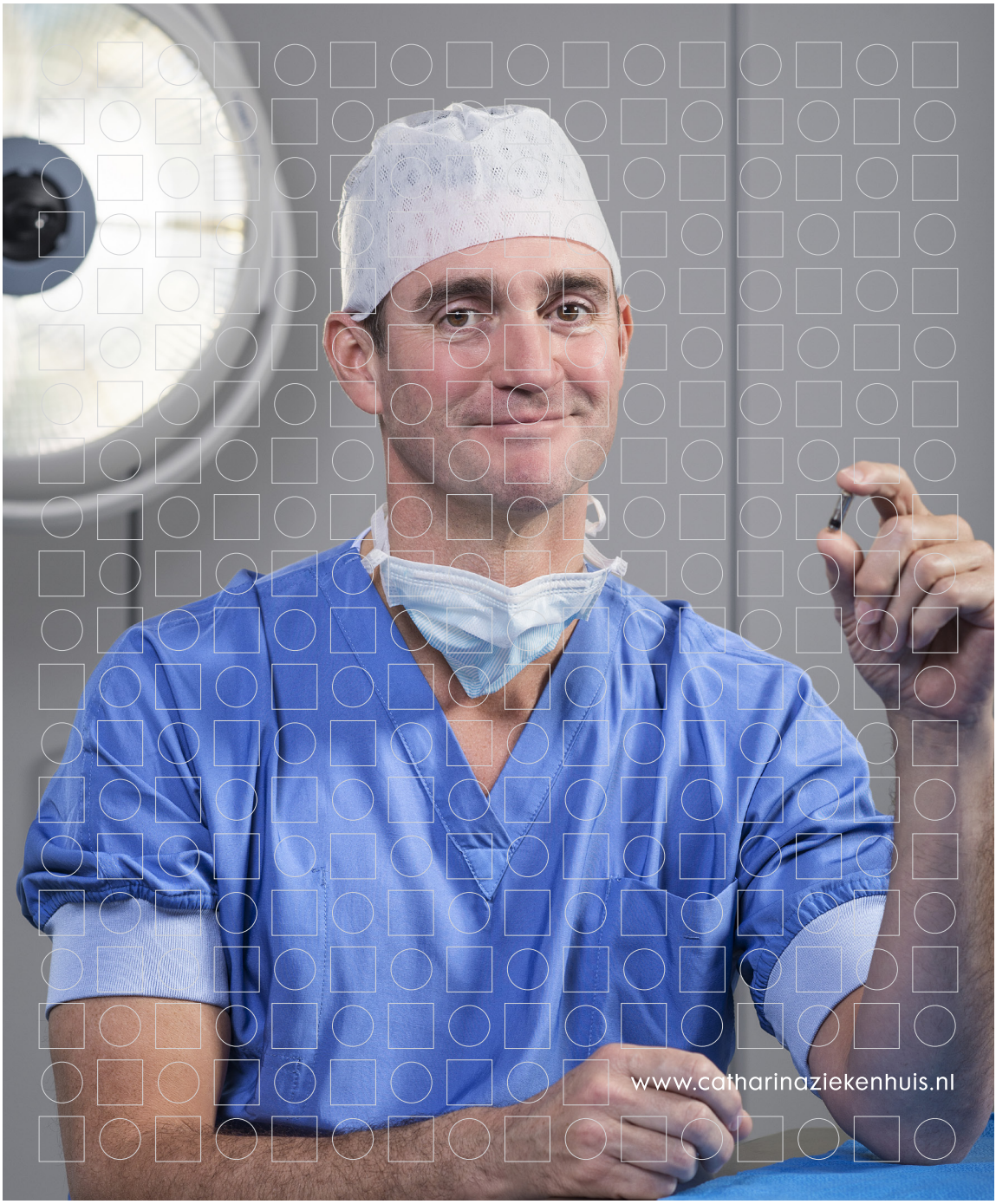
# Wetenschappelijk jaaroverzicht

## 2014

catharina ziekenhuis



# Wetenschappelijk Jaaroverzicht 2014

Onder redactie van:
JMAH Jansen
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ATM Dierick-van Daele
L van Coppenolle

Een uitgave van het Catharina Ziekenhuis
Eindhoven, 2015

# Inhoudsopgave

**The work of science is to substitute facts for appearances, and demonstrations for impressions**
**John Ruskin (1819-1900)**

# Algemeen Klinisch Laboratorium

**Boonen KJ**

**Determination of dabigatran, rivaroxaban and apixaban by UPLC-MS/MS and coagulation assays for therapy monitoring of novel direct oral anticoagulants**

Schmitz EM*, Boonen K*, van den Heuvel DJ*, van Dongen JL, Schellings MW, Emmen JM, van der Graaf F, Brunsveld L, van de Kerkhof D*

J Thromb Haemost. 2014 Oct;12(10):1636-46

*Voor abstract zie: AKL - Schmitz E*

*impactfactor: 5.55*

**Curvers J**

**Interference of therapeutic monoclonal immunoglobulins in the investigation of M-proteins**

Ruinemans-Koerts J, Verkroost C, Schmidt-Hieltjes Y, Wiegers C, Curvers J*, Thelen M, van Luin M

Clin Chem Lab Med. 2014 Nov;52(11):e235-7

*Geen abstract beschikbaar*

*impactfactor: 2.955*

**Curvers J**

**Thyroid function, activated protein C resistance and the risk of venous thrombosis in users of hormonal contraceptives**

Raps M, Curvers J*, Helmerhorst FM, Ballieux BE, Rosing J, Thomassen S, Rosendaal FR, van Vliet HA*

Thromb Res. 2014 Apr;133(4):640-4

INTRODUCTION: Use of combined hormonal contraceptives is associated with a three- to eight-fold increased risk of venous thrombosis compared with non-use. The thrombotic risk depends on the estrogen dose as well as the progestogen type. Use of hormonal contraceptives leads to resistance to activated protein C (APC), which may serve as marker for the risk of venous thrombosis. Hyperthyroidism is also associated with an increased risk of venous thrombosis, due to increased free Thyroxine (FT4) levels which cause a hypercoagulable state.

MATERIALS AND METHODS: The objective of this study was to evaluate the effects of hormonal contraceptives on levels of FT4, thyroid stimulating hormone (TSH) and thyroxine binding globulin (TBG), and to investigate the effects on APC resistance per contraceptive group. We measured FT4, TBG and TSH levels and APC resistance in 231 users of oral contraceptives.

RESULTS: Users of the most thrombogenic hormonal contraceptives, i.e. containing desogestrel, cyproterone acetate or drospirenone, had higher TBG levels than users of less thrombogenic hormonal contraceptives, i.e. the levonorgestrel-containing intrauterine device. TSH levels were not significantly elevated and FT4 levels did not change. TBG levels were also associated with APC resistance.

CONCLUSION: Use of hormonal contraceptives lead to elevated TBG levels, slightly elevated TSH levels and unchanged FT4 levels without causing a hyperthyroid state. Thus, the increased thrombotic risk during the use of hormonal contraceptives cannot be explained by a hyperthyroid state caused by use of these hormonal contraceptives.

*impactfactor: 2.427*

**Heuvel D van den**

**Determination of dabigatran, rivaroxaban and apixaban by UPLC-MS/MS and coagulation assays for therapy monitoring of novel direct oral anticoagulants**

Schmitz EM*, Boonen K*, van den Heuvel DJ*, van Dongen JL, Schellings MW, Emmen JM, van der Graaf F, Brunsveld L, van de Kerkhof D*

J Thromb Haemost. 2014 Oct;12(10):1636-46

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*impactfactor: 5.55*

**Kerkhof D van de**

**Determination of dabigatran, rivaroxaban and apixaban by UPLC-MS/MS and coagulation assays for therapy monitoring of novel direct oral anticoagulants**

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J Thromb Haemost. 2014 Oct;12(10):1636-46

*Voor abstract zie: AKL - Schmitz E*

*impactfactor: 5.55*

**Kerkhof D van de**

**Successful co-administration of dabigatran etexilate and protease inhibitors ritonavir/lopinavir in a patient with atrial fibrillation**

Barco S, Coppens M, van den Dool EJ, van de Kerkhof D*, Stroobants AK, Middeldorp S

Thromb Haemost. 2014 Jul 3;112(4).

*Geen abstract beschikbaar*

*impactfactor: 5.760*

**Schmitz E**

**Determination of dabigatran, rivaroxaban and apixaban by UPLC-MS/MS and coagulation assays for therapy monitoring of novel direct oral anticoagulants**

Schmitz EM*, Boonen K*, van den Heuvel DJ*, van Dongen JL, Schellings MW, Emmen JM, van der Graaf F, Brunsveld L, van de Kerkhof D*

J Thromb Haemost. 2014 Oct;12(10):1636-46

BACKGROUND: Three novel direct oral anticoagulants (DOACs) have recently been registered by the FDA and EMA: dabigatran, rivaroxaban and apixaban. To quantify DOACs in plasma, various dedicated coagulation assays have been developed. OBJECTIVE: Development and validation of a reference UPLC-MS/MS method and evaluation of the analytical performance of several coagulation assays for quantification of dabigatran, rivaroxaban and apixaban.

METHODS: The developed UPLC-MS/MS method was validated by determination of precision, accuracy, specificity, matrix effects, lower limits of detection and quantification, carry-over, recovery, stability and robustness. The following coagulation assays were evaluated for accuracy and precision: LD dTT (laboratory developed diluted thrombin time), Hemoclot dTT, Pefakit PiCT, Stago ECA, Stago Liquid anti-Xa, Biophen Heparin and Biophen DiXal anti-Xa. Agreement between the various coagulation assays and UPLC-MS/MS was determined using random samples from patients using dabigatran or rivaroxaban. RESULTS: The UPLC-MS/MS method was shown to be accurate, precise, sensitive, stable and robust. The dabigatran coagulation assay showing the best precision, accuracy and agreement with the UPLC-MS/MS method was the LD dTT test. For rivaroxaban, the anti-Xa

assays were superior to the PiCT-Xa assay concerning precision, accuracy and agreement to the reference method. For apixaban, the Liquid anti-Xa assay was superior to the PiCT-Xa assay.

CONCLUSIONS: Statistically significant differences were observed between the various coagulation assays when compared to the UPLC-MS/MS reference method. It is unknown yet whether these differences are clinically relevant. When quantifying DOACs using coagulation assays, comparison to a reference method as part of proficiency testing is therefore pivotal.

*impactfactor: 5.55*

** = Werkzaam in het Catharina Ziekenhuis*

# Anesthesiologie

**Bouwman RA**

**Ablation of colorectal liver metastases by irreversible electroporation: results of the COLDFIRE-I ablate-and-resect study**

Scheffer HJ, Nielsen K, van Tilborg AA, Vieveen JM, Bouwman RA*, Kazemier G, Niessen HW, Meijer S, van Kuijk C, van den Tol MP, Meijerink MR

Eur Radiol. 2014 Oct;24(10):2467-75. Epub 2014 Jun 18

OBJECTIVES: Irreversible electroporation (IRE) is a new ablation technique that relies on high-voltage electrical pulses. This clinical study evaluates the pathological response of colorectal liver metastases (CRLM) treated with IRE and the clinical safety and feasibility. METHODS: Ten patients with resectable CRLM were included. During laparotomy, the metastases were treated with IRE and resected 60 min later. Safety and feasibility were assessed based on adverse events, laboratory values, technical success and intra-operative ultrasound findings. Tissue response was assessed using triphenyl tetrazolium chloride (TTC) vitality staining and (immuno)histochemical stainings (HE, complement-3d and caspase-3). RESULTS: Ten lesions with a mean diameter of 2.4 cm were successfully electroporated and resected, on average, 84 min later (range 51-153 min). One minor transient cardiac arrhythmia occurred during IRE. Ultrasound showed a sharply demarcated hypoechoic ablation zone around the tumour. TTC showed avitality of all lesions, covering the complete tumour in 8/10 lesions. Although immunohistochemistry proved heterogeneous and difficult to interpret within the tumours, it confirmed irreversible cell damage in the tumour-free margin of all specimens.

CONCLUSIONS: This ablate-and-resect study demonstrated avitality caused by IRE of CRLM in humans. Further characterisation of tissue- and tumour-specific electrical properties is warranted to improve ablation protocols for maximised tissue ablation.

KEY POINTS:

- Irreversible electroporation induces cell death in colorectal liver metastases within 1 h.
- The ablation zone shows a sharp demarcation between avital and vital tissue.
- Apoptosis is involved in cell death of colorectal liver metastases after IRE.
- Effects of IRE can be monitored real-time using intraoperative ultrasound.
- Local electrical heterogeneities of tumour tissue may require tumour-specific ablation protocols.

*impactfactor: 4.338*

*Ten tijde van publicatie werkzaam bij: Department of Anaesthesiology, VU UMC, Amsterdam*

**Bouwman RA**

**Anaesthetic management during open and percutaneous irreversible electroporation**

Nielsen K, Scheffer HJ, Vieveen JM, van Tilborg AA, Meijer S, van Kuijk C, van den Tol MP, Meijerink MR, Bouwman RA*

Br J Anaesth. 2014 Dec;113(6):985-92. Epub 2014 Aug 30

BACKGROUND: Irreversible electroporation (IRE) is a novel tumour ablation technique involving repetitive application of electrical energy around a tumour. The use of pulsed electrical gradients carries a risk of cardiac arrhythmias, severe muscle contractions, and seizures. We aimed to identify IRE-related risks and the appropriate precautions for anaesthetic management.

METHODS: All patients who were treated with IRE were prospectively included. Exclusion criteria were arrhythmias, congestive heart failure, active coronary artery disease, and epilepsy. All procedures were performed under general anaesthesia with complete muscle relaxation during ECG-synchronized pulsing. Adverse events, cardiovascular effects, blood samples, cerebral activity, and post-procedural pain were analysed.

RESULTS: Twenty-eight patients underwent 30 IRE sessions for tumours in the liver, pancreas, kidney, and lesser pelvis. No major adverse events occurred during IRE. Median systolic and diastolic blood pressure increased by 44 mm Hg (range -7 to 108 mm Hg) and 19 mm Hg (range 1-50 mm Hg), respectively. Two transient minor cardiac arrhythmias without haemodynamic consequences were observed. Muscle contractions were mild and IRE caused no reactive brain activity on a simplified EEG. Pain in the first 24 h after percutaneous IRE was generally mild, but higher pain scores were reported after pancreatic treatment (mean VAS score 3; range 0-9).

CONCLUSIONS: Side-effects during IRE on tumours in the liver, pancreas, kidney, and lesser pelvis seem mild and manageable when current recommendations for anaesthesia management, including deep muscle relaxation and ECG synchronized pulsing, are followed. Electrical pulses do not seem to cause reactive cerebral activity and evidence for pre-existing atrial fibrillation as an absolute contra-indication for IRE is questionable.

*impactfactor: 4.354*

**Bouwman RA**

**Cardiovascular autonomic function testing under non-standardised and standardised conditions in cardiovascular patients with type-2 diabetes mellitus**

Keet SW, Bulte CS, Sivanathan A, Verhees L, Allaart CP, Boer C, Bouwman RA*
Anaesthesia. 2014 May;69(5):476-83

Autonomic function tests require standardised test conditions. We compared testing under non-standardised and standardised conditions and investigated the agreement between heart and pulse rate variability in 30 subjects with diabetes mellitus. Deep breathing, Valsalva manoeuvre and quick standing tests showed non-standardised reproducibility intraclass correlations (95% CI) of 0.96 (0.82-0.99), 0.96 (0.81-0.99) and 0.75 (-0.98 to 0.94), respectively. Intraclass correlations for sustained handgrip and quick standing were poor. Heart and pulse rate variability showed high-frequency band intraclass correlations (95% CI) of 0.65 (-0.07 to 0.89) and 0.47 (-0.88 to 0.85) for the very low-frequency band, respectively, 0.68 (0.00-0.90) and 0.70 (-0.09 to 0.91) for the low-frequency band, and 0.86 (0.57-0.95) and 0.82 (0.39-0.95) for the high-frequency band. Reproducibility under standardised conditions was comparable. The mean difference (95% limits of agreement) between heart and pulse rate variability was 0.99 (0.80-1.22) for very low frequency, 1.03 (0.88-1.21) for low frequency and 1.35 (0.84-2.16) for high frequency, with a Spearman's correlation coefficient of 1.00, 0.99 and 0.98, respectively. We demonstrated a high agreement between heart and pulse rate variability and acceptable reproducibility with most autonomic function tests, heart and pulse rate variability.

*impactfactor: 3.846*
*Ten tijde van publicatie werkzaam bij: Department of Anaesthesiology, VU UMC, Amsterdam*

**Bouwman RA**

**Diaphragm fiber strength is reduced in critically ill patients and restored by a troponin activator**

Hooijman PE, Beishuizen A, de Waard MC, de Man FS, Vermeijden JW, Steenvoorde P, Bouwman RA*, Lommen W, van Hees HW, Heunks LM, Dickhoff C, van der Peet DL, Girbes AR, Jasper JR, Malik FI, Stienen GJ, Hartemink KJ, Paul MA, Ottenheijm CA.
Am J Respir Crit Care Med. 2014 Apr 1;189(7):863-5

*Geen abstract beschikbaar*
*impactfactor: 11.986*

**Bouwman RA**

**Irreversible Electroporation for Nonthermal Tumor Ablation in the Clinical Setting: A Systematic Review of Safety and Efficacy**

Scheffer HJ, Nielsen K, de Jong MC, van Tilborg AA, Vieveen JM, Bouwman AR*, Meijer S, van Kuijk C, van den Tol PM, Meijerink MR

J Vasc Interv Radiol. 2014 Jul;25(7):997-1011; quiz 1011. Epub 2014 Mar 18

PURPOSE: To provide an overview of current clinical results of irreversible electroporation (IRE), a novel, nonthermal tumor ablation technique that uses electric pulses to induce cell death, while preserving structural integrity of bile ducts and vessels. METHODS: All in-human literature on IRE reporting safety or efficacy or both was included. All adverse events were recorded. Tumor response on follow-up imaging from 3 months onward was evaluated.

RESULTS: In 16 studies, 221 patients had 325 tumors treated in liver (n = 129), pancreas (n = 69), kidney (n = 14), lung (n = 6), lesser pelvis (n = 1), and lymph node (n = 2). No major adverse events during IRE were reported. IRE caused only minor complications in the liver; however, three major complications were reported in the pancreas (bile leak [n = 2], portal vein thrombosis [n = 1]). Complete response at 3 months was 67%-100% for hepatic tumors (93%-100% for tumors < 3 cm). Pancreatic IRE combined with surgery led to prolonged survival compared with control patients (20 mo vs 13 mo) and significant pain reduction. CONCLUSIONS: In cases where other techniques are unsuitable, IRE is a promising modality for the ablation of tumors near bile ducts and blood vessels. This articles gives an extensive overview of the available evidence, which is limited in terms of quality and quantity. With the limitations of the evidence in mind, IRE of central liver tumors seems relatively safe without major complications, whereas complications after pancreatic IRE appear more severe. The available limited results for tumor control are generally good. Overall, the future of IRE for difficult-to-reach tumors appears promising.

*impactfactor: 2.149*

*Ten tijde van publicatie werkzaam bij: Department of Anaesthesiology, VU UMC, Amsterdam*

**Bouwman RA**

**Myocardial blood flow under general anaesthesia with sevoflurane in type 2 diabetic patients: a pilot study**

Bulte CS, van den Brom CE, Loer SA, Boer C, Bouwman RA# Cardiovasc Diabetol. 2014 Mar 23;13(1):62

BACKGROUND: In type 2 diabetic patients, cardiac events in the perioperative period may be associated with diminished myocardial vasomotor function and endothelial dysfunction. The influence of sevoflurane anaesthesia on myocardial endothelial dysfunction in type 2 diabetic mellitus is investigated in this pilot study. METHODS: Six males with type 2 diabetes mellitus and eight healthy controls were included. Using myocardial contrast echocardiography, myocardial blood flow (MBF) was measured at rest, during adenosine-induced hyperaemia (endothelium-independent vasodilation) and after sympathetic stimulation by the cold pressor test (endothelium-dependent vasodilation). Measurements were performed before and after induction of sevoflurane anaesthesia.

RESULTS: Sevoflurane anaesthesia decreased resting MBF in diabetics but not in controls (P?=?0.03), while baseline MBF did not differ between diabetics and controls. Without anaesthesia, adenosine-induced hyperaemia increased MBF in both groups compared to resting values. Adenosine combined with sevoflurane resulted in a lower hyperaemic MBF in both groups compared to no anaesthesia. Differences in MBF in response to adenosine

before and after sevoflurane administration were larger in diabetic patients, however not statistically significant in this pilot group (P?=?0.08). Myocardial blood flow parameters after the cold pressor test were not different between groups.
CONCLUSION: These pilot data in type 2 diabetic patients show that sevoflurane anaesthesia decreases resting myocardial blood flow compared to healthy controls. Further, we observed a trend towards a lower endothelium-independent vasodilation capacity in diabetic patients under sevoflurane anaesthesia. Endothelium-dependent vasodilation was not affected by sevoflurane in diabetic patients. These data provide preliminary insight into myocardial responses in type 2 diabetic patients under general anaesthesia.

*impactfactor: 3.71*
*Ten tijde van publicatie werkzaam bij: Department of Anaesthesiology, VU UMC, Amsterdam*

**Bouwman RA**
**Relax, It's Just Laparoscopy! A Prospective Randomized Trial on Heart Rate Variability of the Surgeon in Robot-Assisted versus Conventional Laparoscopic Cholecystectomy**
Heemskerk J, Zandbergen HR, Keet SW, Martijnse I, van Montfort G*, Peters RJ, Svircevic V*, Bouwman RA*, Baeten CG, Bouvy ND
Dig Surg. 2014;31(3):225-32. Epub 2014 Sep 25
*Voor abstract zie: Chirurgie - van Montfort G*
*impactfactor: 1.742*

**Bouwman RA**
**Reply from the authors Boly CA, Bouwman RA*, Reesink KD**
Br J Anaesth. 2014 Mar;112(3):579-80
Comment on:
Minimally invasive intraoperative estimation of left-ventricular end-systolic elastance with phenylephrine as loading intervention.
Boly CA, Reesink KD, van den Tol MP, Jansen EK, Westerhof BE, Boer C, Bouwman RA.
Br J Anaesth. 2013 Nov; 111(5):750-8. Epub 2013 Jul 9.
Perioperative non-invasive estimation of left ventricular elastance (Ees) is no longer a challenge; it is a reality. [Br J Anaesth. 2014]
*impactfactor: 4.354*
*Ten tijde van publicatie werkzaam bij: Department of Anaesthesiology, VU UMC, Amsterdam*

**Bouwman RA**
**The Impact of Postoperative Renal Replacement Therapy on Long-Term Outcome After Cardiac Surgery Increases with Age**
Haanschoten MC*, van Straten AH*, Bouwman A*, Bindels AJ*, van Zundert AA*, Soliman Hamad MA*
J Card Surg. 2014 Jul;29(4):464-9. Epub 2014 Apr 18
*Voor abstract zie: Anesthesiologie - Haanschoten MC*
*impactfactor: 0.888*

**Haak-van der Lely F**

**STOP-Bang and the effect on patient outcome and length of hospital stay when patients are not using continuous positive airway pressure**

Proczko MA, Stepaniak PS*, de Quelerij M, van der Lely FH*, Smulders JF, Kaska L, Soliman Hamad MA*

J Anesth. 2014 Dec;28(6):891-7. Epub 2014 May 29

*Voor abstract zie: Operatiekamers - Stepaniak PS*
*impactfactor: 1.117*

**Haanschoten MC**

**The Impact of Postoperative Renal Replacement Therapy on Long-Term Outcome After Cardiac Surgery Increases with Age**

Haanschoten MC*, van Straten AH*, Bouwman A*, Bindels AJ*, van Zundert AA*, Soliman Hamad MA*

J Card Surg. 2014 Jul;29(4):464-9. Epub 2014 Apr 18

BACKGROUND AND AIM OF THE STUDY: In the present study, we investigated the survival of patients who received postoperative renal replacement therapy (RRT) after cardiac surgery. We specifically focused on factors predicting long-term outcome in elderly patients. METHODS: Data of all patients that received unintentional renal replacement therapy following cardiac surgery between 2004 and 2010 were analyzed. Logistic- and Cox regression analyses were performed to detect the predictors of early and late mortality, respectively.

RESULTS: During the study period, 11,899 patients underwent cardiac surgery in our center. Post-operative RRT was performed in 138 patients (1.2%). In this group of patients, 30-day mortality included 72 patients (52%) and the total overall mortality included 107 patients (77.5%). Regression analyses revealed that age predicted 30-day mortality (odds ratio?=?1.08 [1.03 to 1.12]) as well as late mortality (odds ratio?=?1.05 [1.02 to 1.07]. CONCLUSIONS: Patients requiring RRT after cardiac surgery have a poor prognosis with a high mortality. Older age predicted both 30-day and late mortality in these patients.

*impactfactor: 0.888*

**Herold IH**

**Maximum-likelihood estimation for indicator dilution analysis**

Kuenen M, Herold I*, Korsten H*, de la Rosette J, Wijkstra H, Mischi M

IEEE Trans Biomed Eng. 2014 Mar;61(3):821-31. Epub 2013 Nov 11

Indicator-dilution methods are widely used by many medical imaging techniques and by dye-, lithium-, and thermodilution measurements. The measured indicator dilution curves are typically fitted by a mathematical model to estimate the hemodynamic parameters of interest. This paper presents a new maximum-likelihood algorithm for parameter estimation, where indicator dilution curves are considered as the histogram of underlying transit-time distribution. Apart from a general description of the algorithm, semi-analytical solutions are provided for three well-known indicator dilution models. An adaptation of the algorithm is also introduced to cope with indicator recirculation. In simulations as well as in experimental data obtained by dynamic contrast-enhanced ultrasound imaging, the proposed algorithm shows a superior parameter estimation accuracy over nonlinear least-squares regression. The feasibility of the algorithm for use in vivo is evaluated using dynamic contrastenhanced ultrasound recordings obtained with the purpose of prostate cancer detection. The proposed algorithm shows an improved ability (increase in receiver-operating-characteristic

curve area of up to 0.13) with respect to existing methods to differentiate between healthy tissue and cancer.

*impactfactor:* --

**Herold IH**

**Volume quantification by contrast-enhanced ultrasound: an in-vitro comparison with true volumes and thermodilution**

Herold IH*, Russo G, Mischi M, Houthuizen P*, Saidov T, van het Veer M*, van Assen HC, Korsten HH*

Cardiovasc Ultrasound. 2013 Oct 17;11:36

BACKGROUND: Contrast-enhanced ultrasound (CEUS) has recently been proposed as a minimally- invasive, alternative method for blood volume measurement. This study aims at comparing the accuracy of CEUS and the classical thermodilution techniques for volume assessment in an in-vitro set-up.

METHODS: The in-vitro set-up consisted of a variable network between an inflow and outflow tube and a roller pump. The inflow and outflow tubes were insonified with an ultrasound array transducer and a thermistor was placed in each tube. Indicator dilution curves were made by injecting indicator which consisted of an ultrasound-contrast-agent diluted in ice-cold saline. Both acoustic intensity- and thermo-dilution curves were used to calculate the indicator mean transit time between the inflow and outflow tube. The volumes were derived by multiplying the estimated mean transit time by the flow rate. We compared the volumes measured by CEUS with the true volumes of the variable network and those measured by thermodilution by Bland-Altman and intraclass-correlation analysis.

RESULTS: The measurements by CEUS and thermodilution showed a very strong correlation (rs = 0.94) with a modest volume underestimation by CEUS of -40 ± 28 mL and an overestimation of 84 ± 62 mL by thermodilution compared with the true volumes. Both CEUS and thermodilution showed a high statistically significant correlation with the true volume (rs = 0.97 (95% CI, 0.95 - 0.98; P<0.0001) and rs = 0.96 (95% CI, 0.94 - 0.98; P<0.0001, respectively).

CONCLUSIONS: CEUS volume estimation provides a strong correlation with both the true volumes in-vitro and volume estimation by thermodilution. It may therefore represent an interesting alternative to the standard, invasive thermodilution technique.

*impactfactor:* *1.28*

**Korsten HH**

**Integratie van informatie over in het ziekenhuis opgetreden bijwerkingen in een eerstelijnsinfornatiesysteem; eerste stap**

Carolien MJ van der Linden, René JE Grouls, Paul AF Jansen, Martine Newton-Boerjan, Toine CG Egberts, Erik HM Korsten

Pharmaceutisch Weekblad 2014;8:A1426

impactfactor: --

**Korsten HH**

**Maximum-likelihood estimation for indicator dilution analysis**

Kuenen M, Herold I*, Korsten H*, de la Rosette J, Wijkstra H, Mischi M IEEE Trans Biomed Eng. 2014 Mar;61(3):821-31. Epub 2013 Nov 11

*Voor abstract zie:* *Anesthesiologie - Herold IH*

*impactfactor:* --

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Cardiovasc Ultrasound. 2013 Oct 17;11:36

*Voor abstract zie: Anesthesiologie - Herold IH*
*impactfactor: 1.28*

**Niesten EA**

**Misdiagnosed case of symptomatic hyponatraemia**

Dieperink P, van der Hoeven JG, Niesten ED*

Anaesth Intensive Care. 2014 May;42(3):420-1

*Geen abstract beschikbaar*
*impactfactor: 1.47*

**Pentchev D**

**Capnography and bronchial blocker may help in the diagnosis of surgical lung injury during thoracoscopy**

Pentchev DN*, van Zundert AA*

J Clin Anesth. 2014 May;26(3):244-5

*Geen abstract beschikbaar*
*impactfactor: 1.210*

**Svircevic-Leijtens V**

**Relax, It's Just Laparoscopy! A Prospective Randomized Trial on Heart Rate Variability of the Surgeon in Robot-Assisted versus Conventional Laparoscopic Cholecystectomy**

Heemskerk J, Zandbergen HR, Keet SW, Martijnse I, van Montfort G*, Peters RJ, Svircevic V*, Bouwman RA*, Baeten CG, Bouvy ND

Dig Surg. 2014;31(3):225-32. Epub 2014 Sep 25

*Voor abstract zie: Chirurgie - van Montfort G*
*impactfactor: 1.742*

**Zundert AA van**

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*Geen abstract beschikbaar*
*impactfactor: 1.210*

**Zundert AA van**

**Reducing the immediate availability of red blood cells in cardiac surgery, a single-centre experience**

Haanschoten MC*, van Straten AH*, Verstappen F*, van de Kerkhof D*, van Zundert AA*, Soliman Hamad MA*

Neth Heart J. 2015 Jan;23(1):28-32. Epub 2014 Oct 18.

*Voor abstract zie: Anesthesiologie - Haanschoten MC*
*impactfactor: 2.263*

**Zundert AA van**

**The Impact of Postoperative Renal Replacement Therapy on Long-Term Outcome After Cardiac Surgery Increases with Age**

Haanschoten MC*, van Straten AH*, Bouwman A*, Bindels AJ*, van Zundert AA*, Soliman Hamad MA*

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*Voor abstract zie: Anesthesiologie - Haanschoten MC*
*impactfactor: 0.888*

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# Apotheek

**Ackerman EW**

**Afhandeling van meldingen uit medisch-farmaceutische beslisregels bij toepassing van drie actieve meldingsmethoden in de klinische praktijk**

Scheepers-Hoeks AMJW*, Grouls RJE*, Neef C, ten Broeke R*, Ackerman EW*, Korsten HHM*

PW Wetenschappelijk Platform 2014;8:a1440

*Geen abstract beschikbaar*

*impactfactor:* --

**Brassé BP**

**Severe colchicine intoxication; always lethal?!?**

L.H. Link*, A.J.G.H. Bindels*, B.P. Brassé*, F.A. Intven*, R.J.E. Grouls*, A.N. Roos*

Neth J Crit Care, 2014;18(4): 19-21

*Voor abstract zie:* *Inwendige geneeskunde - Link, LH*

*impactfactor:* --

**Broeke, R ten**

**Afhandeling van meldingen uit medisch-farmaceutische beslisregels bij toepassing van drie actieve meldingsmethoden in de klinische praktijk**

Scheepers-Hoeks AMJW*, Grouls RJE*, Neef C, ten Broeke R*, Ackerman EW*, Korsten HHM*

PW Wetenschappelijk Platform 2014;8:a1440

*Geen abstract beschikbaar*

*impactfactor:* --

**Grouls RJ**

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Scheepers-Hoeks AMJW*, Grouls RJE*, Neef C, ten Broeke R*, Ackerman EW*, Korsten HHM*

PW Wetenschappelijk Platform 2014;8:a1440

*Geen abstract beschikbaar*

*impactfactor:* --

**Grouls RJ**

**Integratie van informatie over in het ziekenhuis opgetreden bijwerkingen in een eerstelijnsinfornatiesysteem; eerste stap**

Carolien MJ van der Linden, René JE Grouls, Paul AF Jansen, Martine Newton-Boerjan, Toine CG Egberts, Erik HM Korsten

Pharmaceutisch Weekblad 2014;8:A1426

*Geen abstract beschikbaar*

*impactfactor:* --

**Grouls RJ**

**Severe colchicine intoxication; always lethal?!?**

L.H. Link*, A.J.G.H. Bindels*, B.P. Brassé*, F.A. Intven*, R.J.E. Grouls*, A.N. Roos*

Neth J Crit Care, 2014;18(4): 19-21

*Voor abstract zie: Inwendige geneeskunde - Link, LH*

*impactfactor: --*

**Scheepers-Hoeks AM**

**Afhandeling van meldingen uit medisch-farmaceutische beslisregels bij toepassing van drie actieve meldingsmethoden in de klinische praktijk**

Scheepers-Hoeks AMJW*, Grouls RJE*, Neef C, ten Broeke R*, Ackerman EW*, Korsten HHM*

PW Wetenschappelijk Platform 2014;8:a1440

*Geen abstract beschikbaar*

*impactfactor: --*

** = Werkzaam in het Catharina Ziekenhuis*

# Cardiologie

**Bouwmeester S**

**Consideration of QRS complex in addition to ST-segment abnormalities in the estimation of the "risk region" during acute anterior or inferior myocardial infarction**

Vervaat FE, Bouwmeester S*, van Hellemond IE*, Wagner GS, Gorgels AP

J Electrocardiol. 2014 Jul-Aug;47(4):535-9. Epub 2014 Apr 18

The myocardial area at risk (MaR) is an important aspect in acute ST-elevation myocardial infarction (STEMI). It represents the myocardium at the onset of the STEMI that is ischemic and could become infarcted if no reperfusion occurs. The MaR, therefore, has clinical value because it gives an indication of the amount of myocardium that could potentially be salvaged by rapid reperfusion therapy. The most validated method for measuring the MaR is 99mTc-sestamibi SPECT, but this technique is not easily applied in the clinical setting. Another method that can be used for measuring the MaR is the standard ECG-based scoring system, Aldrich ST score, which is more easily applied. This ECG-based scoring system can be used to estimate the extent of acute ischemia for anterior or inferior left ventricular locations, by considering quantitative changes in the ST-segment. Deviations in the ST-segment baseline that occur following an acute coronary occlusion represent the ischemic changes in the transmurally ischemic myocardium. In most instances however, the ECG is not available at the very first moments of STEMI and as times passes the ischemic myocardium becomes necrotic with regression of the ST-segment deviation along with progressive changes of the QRS complex. Thus over the time course of the acute event, the Aldrich ST score would be expected to progressively underestimate the MaR, as was seen in studies with SPECT as gold standard; anterior STEMI (r=0.21, p=0.32) and inferior STEMI (r=0.17, p=0.36). Another standard ECG-based scoring system is the Selvester QRS score, which can be used to estimate the final infarct size by considering the quantitative changes in the QRS complex. Therefore, additional consideration of the Selvester QRS score in the acute phase could potentially provide the "component" of infarcted myocardium that is missing when the Aldrich ST score alone is used to determine the MaR in the acute phase, as was seen in studies with SPECT as gold standard: anterior STEMI (r=0.47, p=0.02) and inferior STEMI (r=0.58, p<0.001). The aim of this review will be to discuss the findings regarding the combining of the Aldrich ST score and initial Selvester QRS score in determining the MaR at the onset of the event in acute anterior or inferior ST-elevation myocardial infarction.

*impactfactor: 1.363*

**Bouwmeester S**

**The stability of myocardial area at risk estimated electrocardiographically in patients with ST elevation myocardial infarction**

Carlsen EA, Hassell ME, van Hellemond IE*, Bouwmeester S*, Terkelsen CJ, Ringborn M, Bang LE, Wagner GS

J Electrocardiol. 2014 Jul-Aug;47(4):540-5.Epub 2014 Apr 30

*Voor abstract zie: Inwendige geneeskunde - van Hellemond IE*

*impactfactor: 1.363*

**Bracke FA**

**Cross-manufacturer mismatch between a quadripolar IS-4 lead and a defibrillator IS-4 port**

Bracke FA*, Nathoe R*, van Gelder BM*

Heart Rhythm. 2014 Jul;11(7):1226-8. Epub 2014 Mar 29

*Geen abstract beschikbaar*

*impactfactor: 4.918*

**Bracke FA**

**Mid-term follow up of thromboembolic complications in left ventricular endocardial cardiac resynchronization therapy**

Rademakers LM*, van Gelder BM*, Scheffer MG, Bracke FA*

Heart Rhythm. 2014 Apr;11(4):609-13

*Voor abstract zie: Cardiologie - Rademakers LM*

*impactfactor: 4.918*

**Brueren BR**

**Antithrombotic therapy in patients undergoing TAVI: an overview of Dutch hospitals**

Nijenhuis VJ, Stella PR, Baan J, Brueren BR*, de Jaegere PP, den Heijer P, Hofma SH, Kievit P, Slagboom T, van den Heuvel AF, van der Kley F, van Garsse L, van Houwelingen KG, Van't Hof AW, Ten Berg JM

Neth Heart J. 2014 Feb;22(2):64-9.

PURPOSE: To assess current antithrombotic treatment strategies in the Netherlands in patients undergoing transcatheter aortic valve implantation (TAVI).

METHODS: For every Dutch hospital performing TAVI (n?=?14) an interventional cardiologist experienced in performing TAVI was interviewed concerning heparin, aspirin, thienopyridine and oral anticoagulation treatment in patients undergoing TAVI.

RESULTS: The response rate was 100 %. In every centre, a protocol for antithrombotic treatment after TAVI was available. Aspirin was prescribed in all centres, concomitant clopidogrel was prescribed 13 of the 14 centres. Duration of concomitant clopidogrel was 3 months in over two-thirds of cases. In 2 centres, duration of concomitant clopidogrel was based upon type of prosthesis: 6 months versus 3 months for supra-annular and intra-annular prostheses, respectively.

CONCLUSIONS: Leaning on a small basis of evidence and recommendations, the antithrombotic policy for patients undergoing TAVI is highly variable in the Netherlands. As a standardised regimen might further reduce haemorrhagic complications, large randomised clinical trials may help to establish the most appropriate approach.

*impactfactor: 2.263*

**Brueren BR**

**Long-term comparison of sirolimus-eluting and bare-metal stents in ST-segment elevation myocardial infarction**

Wijnbergen I*, Tijssen J, Brueren G*, Peels K,* van Dantzig JM,* Veer MV,* Koolen JJ*, Michels R*, Pijls NH*

Coron Artery Dis. 2014 Aug;25(5):378-83

*Voor abstract zie: Cardiologie - Wijnbergen I*

*impactfactor: 1.302*

**Brueren BR**

**Occurrence, fate and consequences of ventricular conduction abnormalities after transcatheter aortic valve implantation**

Houthuizen P*, van der Boon RM, Urena M, van Mieghem N, Brueren GB*, Poels TT, Van Garsse LA, Rodés-Cabau J, Prinzen FW, de Jaegere P

EuroIntervention. 2014 Feb;9(10):1142-50. E-pub 2013 Nov 25

*Voor abstract zie: Cardiologie - Houthuizen P*
*impactfactor: 3.758*

**Dantzig JM van**

**Can postoperative mean transprosthetic pressure gradient predict survival after aortic valve replacement?**

Koene BM*, Soliman Hamad MA*, Bouma W, Mariani MA, Peels KC*, van Dantzig JM*, van Straten AH*

Clin Res Cardiol. 2014 Feb;103(2):133-40. Epub 2013 Oct 18

*Voor abstract zie: Cardiothoracale chirurgie - Koene BM*
*impactfactor: 4.167*

**Dantzig JM van**

**Long-term comparison of sirolimus-eluting and bare-metal stents in ST-segment elevation myocardial infarction**

Wijnbergen I*, Tijssen J, Brueren G*, Peels K,* van Dantzig JM,* Veer MV,* Koolen JJ*, Michels R*, Pijls NH*

Coron Artery Dis. 2014 Aug;25(5):378-83

*Voor abstract zie: Cardiologie - Wijnbergen I*
*impactfactor: 1.302*

**Dekker LR**

**A change of heart**

Zimmermann FM*, van Mierlo E*, Meijer A*, Dekker LR*

Neth Heart J. 2014 Aug;22(7-8):356, 359

*Geen abstract beschikbaar*
*impactfactor: 2.263*

**Dekker LR**

**Altered platelet contents in survivors of early ischemic ventricular fibrillation: Preliminary findings**

De Jong JS, Nieuwland R, Meijers JC, Korporaal SJ, Akkerman JW, Wilde AA, Dekker LR*

Platelets. 2014;25(1):71-4. Epub 2013 Jan 9

Early ischemic ventricular fibrillation (VF) in the setting of an acute myocardial infarction (AMI) due to thrombotic coronary occlusion remains a major health problem. Several animal studies have shown that platelet-dense granule contents released during thrombus formation can induce arrhythmias. We hypothesize that the platelet release reaction is involved in the predisposition to early ischemic VF. A case-control study was performed in patients who survived VF during a first AMI ("cases," n?=?26) and in patients with one previous AMI without arrhythmias ("controls," n?=?24). All patients were on aspirin 100?mg OD. Baseline platelet activation was assessed with flow cytometry. Response to activation

was assessed with aggregometry, flow cytometry and PFA-100 analysis. Differences in platelet contents and content release were assessed by labeling platelet-dense granules with mepacrine and by measuring serotonin and ADP/ATP content. Patient and infarct characteristics and baseline platelet function tests were similar between groups. The mean time from event was 4.9 (±3.2) years among cases and 4.7 (±2.7) years among controls. Dense granule release was similar in cases versus controls. Platelet serotonin content in cases was higher than in controls (611?±?118?ng/10E(9) platelets vs. 536?±?141?ng/10(9), p?=?0.048). Even years after the event, elevations in the platelet dense granule contents between VF survivors and controls may be detected. These preliminary findings shed new light on the pathophysiological mechanisms underlying ischemic VF, as platelet-dense granules may contain mediators of early ischemic VF risk.

*impactfactor: 2.627*

**Dekker LR**

**AV block after flutter ablations?**

Oomen AW, Dekker LR, Meijer A

Neth Heart J. 2014 Jun;22(6):310-1

*Geen abstract beschikbaar*

*impactfactor: 2.263*

**Dekker LR**

**Cardiac involvement in Dutch patients with sarcoglycanopathy: a cross-sectional cohort and follow-up study**

van Westrum SM, Dekker LR*, de Voogt WG, Wilde AA, Ginjaar IB, de Visser M, van der Kooi AJ

Muscle Nerve. 2014 Dec;50(6):909-13

Objective: To describe the frequency, nature, severity, and progression of cardiac abnormalities in a cohort of Dutch sarcoglycanopathy patients. Methods: In this cross-sectional cohort study, patients were interviewed using a standardized questionnaire and assigned a functional score. Electrocardiograpy (ECG), echocardiography, and 24-hour electrocardiography were performed. Results: 24 patients with sarcoglycanopathy had a median age of 25 years (range 8-59 years). Beta blockers were used by 13%, and 17% used ACE inhibitors. ECG abnormalities were present in 5 (21%), and 4 (17%) fulfilled the criteria for dilated cardiomyopathy (DCM). There were no significant differences in median age or severity of disease between patients with or without DCM. Eleven patients were examined earlier. Median follow-up time was 10 years. Two of the 11 patients (18%) developed DCM during follow-up. Conclusion: Seventeen percent of the patients with sarcoglycanopathy were found to have dilated cardiomyopathy. We recommend bianual cardiac monitoring, including ECG and Echocardiography.

*impactfactor: 2.311*

**Dekker LR**

**Clinical characterisation of Becker muscular dystrophy patients predicts favourable outcome in exon-skipping therapy**

van den Bergen JC, Schade van Westrum SM, Dekker L*, van der Kooi AJ, de Visser M, Wokke BH, Straathof CS, Hulsker MA, Aartsma-Rus A, Verschuuren JJ, Ginjaar HB. J Neurol Neurosurg Psychiatry. 2014 Jan;85(1):92-8. Epub 2013 May 10

OBJECTIVE: Duchenne and Becker muscular dystrophy (DMD/BMD) are both caused by mutations in the DMD gene. Out-of-frame mutations in DMD lead to absence of the dystrophin protein, while in-frame BMD mutations cause production of internally deleted dystrophin. Clinically, patients with DMD loose ambulance around the age of 12, need ventilatory support at their late teens and die in their third or fourth decade due to pulmonary or cardiac failure. BMD has a more variable disease course. The disease course of patients with BMD with specific mutations could be very informative to predict the outcome of the exon-skipping therapy, aiming to restore the reading-frame in patients with DMD. METHODS: Patients with BMD with a mutation equalling a DMD mutation after successful exon skipping were selected from the Dutch Dystrophinopathy Database. Information about disease course was gathered through a standardised questionnaire. Cardiac data were collected from medical correspondence and a previous study on cardiac function in BMD. RESULTS: Forty-eight patients were included, representing 11 different mutations. Median age of patients was 43 years (range 6-67). Nine patients were wheelchair users (26-56 years). Dilated cardiomyopathy was present in 7/36 patients. Only one patient used ventilatory support. Three patients had died at the age of 45, 50 and 76 years, respectively. CONCLUSIONS: This study provides mutation specific data on the course of disease in patients with BMD. It shows that the disease course of patients with BMD, with a mutation equalling a 'skipped' DMD mutation is relatively mild. This finding strongly supports the potential benefit of exon skipping in patients with DMD.

*impactfactor: 5.580*

**Dekker LR**

**Improving the efficiency of the cardiac catheterization laboratories through understanding the stochastic behavior of the scheduled procedures**

Stepaniak P*, Soliman Hamad MA*, Dekker LR*, Koolen JJ*

Cardiol J. 2014;21(4):343-9. Epub 2013 Aug 30

*Voor abstract zie: Operatie kamers - Stepaniak P*

*impactfactor: 1.215*

**Gelder BM van**

**Cross-manufacturer mismatch between a quadripolar IS-4 lead and a defibrillator IS-4 port**

Bracke FA*, Nathoe R*, van Gelder BM*

Heart Rhythm. 2014 Jul;11(7):1226-8. Epub 2014 Mar 29

*Geen abstract beschikbaar*

*impactfactor: 4.918*

**Gelder BM van**

**Left Ventricular endocardial pacing by the interventricular septum route**

Scheffer MG, Ramanna H, van Gelder BM*

Europace. 2014 Oct;16(10):1520. Epub 2014 Jan 30

*Geen abstract beschikbaar*

*impactfactor: 3.050*

**Gelder BM van**

**Mid-term follow up of thromboembolic complications in left ventricular endocardial cardiac resynchronization therapy**

Rademakers LM*, van Gelder BM*, Scheffer MG, Bracke FA*

Heart Rhythm 2014 Apr;11(4):609-13

*Voor abstract zie: Cardiologie - Rademakers LM*

*impactfactor: 4.918*

**Habibovic M**

**Attrition and adherence in a WEB-Based Distress Management Program for Implantable Cardioverter defibrillator Patients (WEBCARE): randomized controlled trial**

Habibovic M*, Cuijpers P, Alings M, van der Voort P*, Theuns D, Bouwels L, Herrman JP, Valk S, Pedersen S

J Med Internet Res. 2014 Feb 28;16(2):e52

BACKGROUND: WEB-Based Distress Management Program for Implantable CARdioverter defibrillator Patients (WEBCARE) is a Web-based randomized controlled trial, designed to improve psychological well-being in patients with an implantable cardioverter defibrillator (ICD). As in other Web-based trials, we encountered problems with attrition and adherence.

OBJECTIVE: In the current study, we focus on the patient characteristics, reasons, and motivation of (1) completers, (2) those who quit the intervention, and (3) those who quit the intervention and the study in the treatment arm of WEBCARE.

METHODS: Consecutive first-time ICD patients from six Dutch referral hospitals were approached for participation. After signing consent and filling in baseline measures, patients were randomized to either the WEBCARE group or the Usual Care group.

RESULTS: The treatment arm of WEBCARE contained 146 patients. Of these 146, 34 (23.3%) completed the treatment, 88 (60.3%) dropped out of treatment but completed follow-up, and 24 (16.4%) dropped out of treatment and study. Results show no systematic differences in baseline demographic, clinical, or psychological characteristics between groups. A gradual increase in dropout was observed with 83.5% (122/146) completing the first lesson, while only 23.3% (34/146) eventually completed the whole treatment. Reasons most often given by patients for dropout were technical problems with the computer, time constraints, feeling fine, and not needing additional support.

CONCLUSIONS: Current findings underline the importance of focusing on adherence and dropout, as this remains a significant problem in behavioral Web-based trials. Examining possibilities to address barriers indicated by patients might enhance treatment engagement and improve patient outcomes.

*impactfactor: 4.7*

*Ten tijde van publicatie werkzaam bij: Center of Research on Psychology in Somatic Diseases, Department of Medical and Clinical Psychology, Tilburg University, Tilburg*

**Habibovic M**

**E-Health to Manage Distress in Patients With an Implantable Cardioverter-Defibrillator: Primary Results of the WEBCARE Trial**

Habibovic M*, Denollet J, Cuijpers P, Spek VR, van den Broek KC, Warmerdam L*, van der Voort PH*, Herrman JP, Bouwels L, Valk SS, Alings M, Theuns DA, Pedersen SS

Psychosom Med. 2014 Oct;76(8):593-602

The Web-based distress management program for patients with an implantable cardioverter-defibrillator (ICD; WEBCARE) was developed to mitigate distress and enhance health-related quality of life in ICD patients. This study investigated the treatment effectiveness at 3-month follow-up for generic and disease-specific outcome measures.
METHODS: Consecutive patients implanted with a first-time ICD from six hospitals in the Netherlands were randomized to either the "WEBCARE" or the "usual care" group. Patients in the WEBCARE group received a 12-week fixed, six-lesson behavioral treatment based on the problem-solving principles of cognitive behavioral therapy.
RESULTS: Two hundred eighty-nine patients (85% response rate) were randomized. The prevalence of anxiety and depression ranged between 11% and 30% and 13% and 21%, respectively. No significant intervention effects were observed for anxiety (ß = 0.35; p = .32), depression (ß = -0.01; p = .98) or health-related quality of life (Mental Component Scale: ß = 0.19; p = .86; Physical Component Scale: ß = 0.58; p = .60) at 3 months, with effect sizes (Cohen d) being small (range, 0.06-0.13). There were also no significant group differences as measured with the disease-specific measures device acceptance (ß = -0.37; p = .82), shock anxiety (ß = 0.21; p = .70), and ICD-related concerns (ß = -0.08; p = .90). No differences between treatment completers and noncompleters were observed on any of the measures.
CONCLUSIONS: In this Web-based intervention trial, no significant intervention effects on anxiety, depression, health-related quality of life, device acceptance, shock anxiety, or ICD-related concerns were observed. A more patient tailored approach targeting the needs of different subsets of ICD patients may be warranted.

*impactfactor: 4.085*

*Ten tijde van publicatie werkzaam bij: Center of Research on Psychology in Somatic Diseases, Department of Medical and Clinical Psychology, Tilburg University, Tilburg*

**Houthuizen P**

**Clinical implications of conduction abnormalities and arrhythmias after transcatheter aortic valve implantation**

van der Boon RM, Houthuizen P*, Nuis RJ, van Mieghem NM, Prinzen F, de Jaegere PP
Curr Cardiol Rep. 2014 Jan;16(1):429

Transcatheter aortic valve implantation (TAVI) has become an established treatment option for patients with aortic stenosis at prohibitive risk to undergo surgical aortic valve replacement. Despite conveying obvious clinical benefits and a decreasing frequency of complications, the occurrence of new conduction abnormalities and arrhythmias remains an important issue. Generally considered a minor complication, they may have a profound impact on prognosis and quality of life after TAVI. Therefore the purpose of this review is to assess and discuss the available information on clinical implications of both new conduction abnormalities and arrhythmias after TAVI.

*impactfactor: --*

**Houthuizen P**

**Electrophysiological and haemodynamic effects of vernakalant and flecainide in dyssynchronous canine hearts**

van Middendorp LB, Strik M, Houthuizen P*, Kuiper M, Maessen JG, Auricchio A, Prinzen FW
Europace. 2014 Aug;16(8):1249-56. Epub 2014 Jan 30

AIMS: About one-third of patients with mild dyssynchronous heart failure suffer from atrial fibrillation (AF). Drugs that convert AF to sinus rhythm may further slowdown ventricular

conduction. We aimed to investigate the electrophysiological and haemodynamic effects of vernakalant and flecainide in a canine model of chronic left bundle branch block (LBBB).

METHODS AND RESULTS: Left bundle branch block was induced in 12 canines. Four months later, vernakalant or flecainide was administered using a regime, designed to achieve clinically used plasma concentrations of the drugs, n = 6 for each drug. Epicardial electrical contact mapping showed that both drugs uniformly prolonged myocardial conduction time. Vernakalant increased QRS width significantly less than flecainide (17 ± 13 vs. 34 ± 15%, respectively). Nevertheless, both drugs equally decreased LVdP/dtmax by ~15%, LVdP/dtmin by ~10%, and left ventricular systolic blood pressure by ~5% (P = n.s. between drugs).

CONCLUSIONS: Vernakalant prolongs ventricular conduction less than flecainide, but both drugs had a similar, moderate negative effect on ventricular contractility and relaxation. Part of these reductions seems to be related to the increase in dyssynchrony.

*impactfactor: 3.050*

**Houthuizen P**

**Electrophysiological and Hemodynamic Effects of Vernakalant and Flecainide During Cardiac Resynchronization in Dyssynchronous Canine Hearts**

van Middendorp LB, Strik M, Houthuizen P*, Kuiper M, Maessen JG, Auricchio A, Prinzen FW

J Cardiovasc Pharmacol. 2014 Jan;63(1):25-32

INTRODUCTION: Patients with heart failure and left bundle branch block (LBBB) are frequently treated with biventricular pacing (BiVP). Approximately one third of them suffer from atrial fibrillation (AF). Pharmacological conversion of AF is performed with drugs that slow ventricular conduction, but the effect of these drugs on the benefit of BiVP is poorly understood.

METHODS: Experiments were performed in dogs with chronic LBBB, investigating the effect of Vernakalant and Flecainide (n=6 each) on hemodynamics and electrophysiology during epicardial and endocardial BiVP. The degree of dyssynchrony and conduction slowing were quantified using QRS width and epicardial electrical mapping.

RESULTS: Compared with LBBB, epicardial and endocardial BiVP reduced QRS duration by 7±9% and 20±13%, respectively (*p<0.05 compared with LBBB; p<0.05 between modes). During BiVP the administration of Vernakalant and Flecainide increased QRS duration by 20±14% and 34±10% (p<0.05 compared with pre-drug BiVP, p<0.05 between drugs). LV dP/dtmax decreased by 16±8% during Vernakalant and by 14±15% during Flecainide. The drugs did not affect the relative changes in QRS width and LV dP/dtmax induced by BiVP.

CONCLUSION: Vernakalant and Flecainide decrease contractility, slow myocardial conduction velocity and increase activation time. The electrical and hemodynamic benefit of BiVP is not altered by the drugs.

*impactfactor: 2.111*

**Houthuizen P**

**Occurrence, fate and consequences of ventricular conduction abnormalities after transcatheter aortic valve implantation**

Houthuizen P*, van der Boon RM, Urena M, van Mieghem N, Brueren GB*, Poels TT, Van Garsse LA, Rodés-Cabau J, Prinzen FW, de Jaegere P.

EuroIntervention. 2014 Feb;9(10):1142-50. E-pub 2013 Nov 25

Aims: Transcatheter aortic valve implantation (TAVI) is frequently complicated by new left bundle branch block (LBBB). We investigated the development and persistence of LBBB

during follow-up and its clinical consequence. Methods and results: ECGs at baseline, within 24 hours, before discharge and at 12 months after TAVI were assessed in 476 patients without pre-existing LBBB and/or pacemaker before or after TAVI. TAVI-induced new LBBB was categorised based on the timing of the occurrence (within 24 hours [acute], after 24 hours but before discharge [subacute], and after discharge [late]), in addition to persistence (transient or persistent). A total of 175 patients (36.8%) developed new LBBB of which 85.7% occurred within 24 hours after TAVI, 12.0% before and 2.3% after hospital discharge, and was persistent in 111 patients (63.4%). Implantation of the Medtronic CoreValve System (MCS) more frequently led to new LBBB than the balloon-expandable Edwards SAPIEN valve (ES) (53.8% versus 21.7%) with less recovery during follow-up (39.0% versus 9.5%). Late new LBBB was only seen in four patients (0.8%). During a median follow-up of 915 (578-1,234) days, persistent LBBB was associated with a significant increase in mortality as compared to no LBBB and temporary LBBB combined (hazard ratio 1.49, 95% confidence interval, 1.10-2.03; p=0.01). Conclusions: TAVI-induced new LBBB occurs in almost 40% of patients, almost all before hospital discharge. It occurs three times more frequently after MCS than after ES valve implantation and has a twofold lower tendency to resolve during follow-up. Persistent LBBB is associated with a higher mortality.

*impactfactor: 3.758*

**Houthuizen P**

**Postoperative conduction disorders after implantation of the self-expandable sutureless Perceval S bioprosthesis**

van Boxtel AG*, Houthuizen P*, Hamad MA*, Sjatskig J, Tan E, Prinzen FW, van Straten AH*

J Heart Valve Dis. 2014 May;23(3):319-24

*Voor abstract zie: Cardiothoracale chirurgie - van Boxtel AG*

*impactfactor: 1.071*

**Houthuizen P**

**Transcatheter aortic valve implantation-induced left bundle branch block: causes and consequences**

Poels TT, Houthuizen P*, Van Garsse LA, Maessen JG, de Jaegere P, Prinzen FW

J Cardiovasc Transl Res. 2014 Jun;7(4):395-405

Transcatheter aortic valve implantation (TAVI) is an alternative treatment option for patients with severe aortic valve stenosis who do not qualify for surgical aortic valve replacement (AVR). Besides its proven clinical benefits, one of the complications of TAVI is the creation of conduction abnormalities, like left bundle branch block (LBBB). New LBBB occurs between 7 and 65% of cases, numbers that differ considerably between devices. In this review, we discuss the possible causes and the clinical significance of TAVI-induced LBBB. Several device- and procedural-related factors seem responsible for the development of LBBB, of which depth of implantation and balloon-annulus diameter ratio are the most important ones. TAVI-induced LBBB negatively affects cardiac function and hospitalization, but its impact on mortality is subject of debate. Future research and registries should implement strict diagnostic criteria for LBBB together with recording of its timing and persistence.

*Impactfactor: 2.691*

**Houthuizen P**

**Volume quantification by contrast-enhanced ultrasound: an in-vitro comparison with true volumes and thermodilution**

Herold IH*, Russo G, Mischi M, Houthuizen P*, Saidov T, van het Veer M*, van Assen HC, Korsten HH*

Cardiovasc Ultrasound. 2013 Oct 17;11:36

*Voor abstract zie: Anesthesiologie - Herold IH*
*impactfactor: 1.28*

**Koolen JJ**

**A brief mindfulness based intervention for increase in emotional well-being and quality of life in percutaneous coronary intervention (PCI) patients: the MindfulHeart randomized controlled trial**

Nyklícek I, Dijksman SC*, Lenders PJ, Fonteijn WA, Koolen JJ*

J Behav Med. 2014 Feb;37(1):135-44. Epub 2012 Nov 23

*Voor abstract zie: Medische Psychologie - Dijksman SC*
*impactfactor: 2.855*

**Koolen JJ**

**Benefits of optimising coronary flow before stenting in primary percutaneous coronary intervention for ST-elevation myocardial infarction: insights from INFUSE-AMI**

Brener SJ, Dambrink JH, Maehara A, Chowdhary S, Gershlick AH, Genereux P, Koolen J*, Mehran R, Fahy M, Gibson CM, Stone GW

EuroIntervention 2014;9:1195-1201.Epub 2013 Jun 14

Aims: To determine the relation between thrombus aspiration (TA) and/or intra-lesion (IL) abciximab with pre-stent Thrombolysis in Myocardial Infarction (TIMI) flow grade and infarct size (IS) in patients with ST-elevation myocardial infarction (STEMI) undergoing primary percutaneous coronary intervention (PCI). Methods and results: The INFUSE-AMI trial randomised 452 patients with anterior STEMI to IL abciximab vs. no abciximab, and to manual TA vs. no TA. The primary endpoint was cMRI-determined IS at 30 days. Patients were classified according to pre-stent TIMI flow. Complete data were available in 290 patients - 68 (25.2%) with pre-stent TIMI 0/1 flow, 47 (17.4%) with TIMI 2 flow and 175 (57.4%) with TIMI 3 flow. Patients with pre-stent TIMI 3 flow had significantly lower IS (15.5% [4.6, 21.8] vs. 22.6% [14.7, 28.0] for TIMI 2 vs. 19.5 [14.4, 27.8] for TIMI 0/1, p<0.0001) and fewer 30-day clinical events (p=0.03). Patients receiving TA with or without IL abciximab had the highest rate of pre-stent TIMI 3 flow (p<0.0001) and patients receiving both had the smallest IS (14.7% vs. 17.3% for the other three groups, p=0.03). Conclusions: Optimisation of coronary flow prior to stent implantation may reduce infarct size and clinical events in STEMI patients undergoing primary PCI

*impactfactor: 3.758*

**Koolen JJ**

**Dynamics of vessel wall changes following the implantation of the absorb everolimus-eluting bioresorbable vascular scaffold: a multi-imaging modality study at 6, 12, 24 and 36 months**

Serruys PW, Onuma Y, Garcia-Garcia HM, Muramatsu T, van Geuns RJ, de Bruyne B, Dudek D, Thuesen L, Smits PC, Chevalier B, McClean D, Koolen J*, Windecker S, Whitbourn R, Meredith I, Dorange C, Veldhof S, Hebert KM, Rapoza R, Ormiston JA EuroIntervention. 2014 Mar 20;9(11):1271-84

AIMS: To assess observations with multimodality imaging of the Absorb bioresorbable everolimus-eluting vascular scaffold performed in two consecutive cohorts of patients who were serially investigated either at 6 and 24 months or at 12 and 36 months. METHODS AND RESULTS: In the ABSORB multicentre single-arm trial, 45 patients (cohort B1) and 56 patients (cohort B2) underwent serial invasive imaging, specifically quantitative coronary angiography (QCA), intravascular ultrasound (IVUS), radiofrequency backscattering (IVUS-VH) and optical coherence tomography (OCT). Between one and three years, late luminal loss remained unchanged (6 months: 0.19 mm, 1 year: 0.27 mm, 2 years: 0.27 mm, 3 years: 0.29 mm) and the in-segment angiographic restenosis rate for the entire cohort B (n=101) at three years was 6%. On IVUS, mean lumen, scaffold, plaque and vessel area showed enlargement up to two years. Mean lumen and scaffold area remained stable between two and three years whereas significant reduction in plaque behind the struts occurred with a trend toward adaptive restrictive remodelling of EEM. Hyperechogenicity of the vessel wall, a surrogate of the bioresorption process, decreased from 23.1% to 10.4% with a reduction of radiofrequency backscattering for dense calcium and necrotic core. At three years, the count of strut cores detected on OCT increased significantly, probably reflecting the dismantling of the scaffold; 98% of struts were covered. In the entire cohort B (n=101), the three-year major adverse cardiac event rate was 10.0% without any scaffold thrombosis. Conclusions: The current investigation demonstrated the dynamics of vessel wall changes after implantation of a bioresorbable scaffold, resulting at three years in stable luminal dimensions, a low restenosis rate and a low clinical major adverse cardiac events rate.

*impactfactor: 3.758*

**Koolen JJ**

**Heart disease in the Netherlands: a quantitative update**

Leening MJ, Siregar S, Vaartjes I, Bots ML, Versteegh MI, van Geuns RJ, Koolen JJ*, Deckers JW

Neth Heart J. 2014 Jan;22(1):3-10

In this review we discuss cardiovascular mortality, incidence and prevalence of heart disease, and cardiac interventions and surgery in the Netherlands. We combined most recently available data from various Dutch cardiovascular registries, Dutch Hospital Data (LMR), Statistics Netherlands (CBS), and population-based cohort studies, to provide a broad quantitative update. The absolute number of people dying from cardiovascular diseases is declining and cardiovascular conditions are no longer the leading cause of death in the Netherlands. However, a substantial burden of morbidity persists with 400,000 hospitalisations for cardiovascular disease involving over 80,000 cardiac interventions annually. In the Netherlands alone, an estimated 730,000 persons are currently diagnosed with coronary heart disease, 120,000 with heart failure, and 260,000 with atrial fibrillation.

These numbers emphasise the continuous need for dedicated research on prevention, diagnosis, and treatment of heart disease in our country.

*impactfactor: 2.263*

**Koolen JJ**

**Improving the efficiency of the cardiac catheterization laboratories through understanding the stochastic behavior of the scheduled procedures**

Stepaniak P*, Soliman Hamad MA*, Dekker LR*, Koolen JJ*

Cardiol J. 2014;21(4):343-9. Epub 2013 Aug 30

*Voor abstract zie: Operatie kamers - Stepaniak P*

*impactfactor: 1.215*

**Koolen JJ**

**Incidence and Imaging Outcomes of Acute Scaffold Disruption and Late Structural Discontinuity After Implantation of the Absorb Everolimus-Eluting Fully Bioresorbable Vascular Scaffold: Optical Coherence Tomography Assessment in the ABSORB Cohort B Trial (A Clinical Evaluation of the Bioabsorbable Everolimus Eluting Coronary Stent System in the Treatment of Patients With De Novo Native Coronary Artery Lesions)**

Onuma Y, Serruys PW, Muramatsu T, Nakatani S, van Geuns RJ, de Bruyne B, Dudek D, Christiansen E, Smits PC, Chevalier B, McClean D, Koolen J*, Windecker S, Whitbourn R, Meredith I, Garcia-Garcia HM, Veldhof S, Rapoza R, Ormiston JA.

JACC Cardiovasc Interv. 2014 Dec;7(12):1400-11

OBJECTIVES: This study sought to describe the frequency and clinical impact of acute scaffold disruption and late strut discontinuity of the second-generation Absorb bioresorbable polymeric vascular scaffolds (Absorb BVS, Abbott Vascular, Santa Clara, California) in the ABSORB (A Clinical Evaluation of the Bioabsorbable Everolimus Eluting Coronary Stent System in the Treatment of Patients With De Novo Native Coronary Artery Lesions) cohort B study by optical coherence tomography (OCT) post-procedure and at 6, 12, 24, and 36 months.

BACKGROUND: Fully bioresorbable scaffolds are a novel approach to treatment for coronary narrowing that provides transient vessel support with drug delivery capability without the long-term limitations of metallic drug-eluting stents. However, a potential drawback of the bioresorbable scaffold is the potential for disruption of the strut network when overexpanded. Conversely, the structural discontinuity of the polymeric struts at a late stage is a biologically programmed fate of the scaffold during the course of bioresorption. METHODS: The ABSORB cohort B trial is a multicenter single-arm trial assessing the safety and performance of the Absorb BVS in the treatment of 101 patients with de novo native coronary artery lesions. The current analysis included 51 patients with 143 OCT pullbacks who underwent OCT at baseline and follow-up. The presence of acute disruption or late discontinuities was diagnosed by the presence on OCT of stacked, overhung struts or isolated intraluminal struts disconnected from the expected circularity of the device. RESULTS: Of 51 patients with OCT imaging post-procedure, acute scaffold disruption was observed in 2 patients (3.9%), which could be related to overexpansion of the scaffold at the time of implantation. One patient had a target lesion revascularization that was presumably related to the disruption. Of 49 patients without acute disruption, late discontinuities were observed in 21 patients. There were no major adverse cardiac events associated with this finding except for 1 patient who had a non-ischemia-driven target lesion revascularization.

CONCLUSIONS: Acute scaffold disruption is a rare iatrogenic phenomenon that has been anecdotally associated with anginal symptoms, whereas late strut discontinuity is observed in approximately 40% of patients and could be viewed as a serendipitous OCT finding of a normal bioresorption process without clinical implications.

*impactfactor: 7.440*

**Koolen JJ**

**Long-term comparison of sirolimus-eluting and bare-metal stents in ST-segment elevation myocardial infarction**

Wijnbergen I*, Tijssen J, Brueren G*, Peels K,* van Dantzig JM,* Veer MV,* Koolen JJ*, Michels R*, Pijls NH*

Coron Artery Dis. 2014 Aug;25(5):378-83

*Voor abstract zie: Cardiologie - Wijnbergen I*

*impactfactor: 1.302*

**Meijer A**

**A change of heart**

Zimmermann FM*, van Mierlo E*, Meijer A*, Dekker LR*

Neth Heart J. 2014 Aug;22(7-8):356, 359

*Geen abstract beschikbaar*

*impactfactor: 2.263*

**Meijer A**

**AV block after flutter ablations?**

Oomen AW*, Dekker LR*, Meijer A*

Neth Heart J. 2014 Jun;22(6):310-1

*Geen abstract beschikbaar*

*impactfactor: 2.263*

**Michels HR**

**Long-term comparison of sirolimus-eluting and bare-metal stents in ST-segment elevation myocardial infarction**

Wijnbergen I*, Tijssen J, Brueren G*, Peels K,* van Dantzig JM,* Veer MV,* Koolen JJ*, Michels R*, Pijls NH*

Coron Artery Dis. 2014 Aug;25(5):378-83

*Voor abstract zie: Cardiologie - Wijnbergen I*

*impactfactor: 1.302*

**Mierlo E van**

**A change of heart**

Zimmermann FM*, van Mierlo E*, Meijer A*, Dekker LR*

Neth Heart J. 2014 Aug;22(7-8):356, 359

*Geen abstract beschikbaar*

*impactfactor: 2.263*

**Nathoe R**

**Cross-manufacturer mismatch between a quadripolar IS-4 lead and a defibrillator IS-4 port**

Bracke FA*, Nathoe R*, van Gelder BM*

Heart Rhythm. 2014 Jul;11(7):1226-8. Epub 2014 Mar 29

*Geen abstract beschikbaar*

*impactfactor: 4.918*

**Oomen AW**

**AV block after flutter ablations?**

Oomen AW*, Dekker LR, Meijer A

Neth Heart J. 2014 Jun;22(6):310-1

*Geen abstract beschikbaar*

*impactfactor: 2.263*

**Otterspoor LC**

**Complications of mechanical chest compression devices**

Platenkamp M, Otterspoor LC*

Neth Heart J. 2014 Sep;22(9):404-7. Epub 9 nov 2013

*Geen abstract beschikbaar*

*impactfactor: 2.263*

**Otterspoor LC**

**Extracorporeal membrane oxygenation in adult patients with congenital heart disease**

Uilkema RJ, Otterspoor LC*

Neth Heart J. 2014 Nov;22(11):520-2

*Geen abstract beschikbaar*

*impactfactor: 2.263*

**Peels CH**

**Can postoperative mean transprosthetic pressure gradient predict survival after aortic valve replacement?**

Koene BM*, Soliman Hamad MA*, Bouma W, Mariani MA, Peels KC*, van Dantzig JM*, van Straten AH*

Clin Res Cardiol. 2014 Feb;103(2):133-40. Epub 2013 Oct 18

*Voor abstract zie: Cardiothoracale chirurgie - Koene BM*

*impactfactor: 4.167*

**Peels CH**

**Long-term comparison of sirolimus-eluting and bare-metal stents in ST-segment elevation myocardial infarction**

Wijnbergen I*, Tijssen J, Brueren G*, Peels K,* van Dantzig JM,* Veer MV,* Koolen JJ*, Michels R*, Pijls NH*

Coron Artery Dis. 2014 Aug;25(5):378-83

*Voor abstract zie: Cardiologie - Wijnbergen I*

*impactfactor: 1.302*

**Peels CH**

**Simultaneous massive pulmonary embolism and acute myocardial infarction, associated with patent foramen ovale**

Zimmermann FM*, Peels KH*

Eur Heart J. 2014 Aug 7;35(30):2046. Epub 2014 Apr 8

*Geen abstract beschikbaar*

*impactfactor: 14.723*

**Pijls NH**

**A black and white response to the "gray zone" for fractional flow reserve measurements**

Johnson NP, Pijls NH*, De Bruyne B, Bech GJ, Kirkeeide RL, Gould KL

JACC Cardiovasc Interv. 2014 Feb;7(2):227-8

*Geen abstract beschikbaar*

*impactfactor: 7.440*

**Pijls NH**

**A mock circulation model for cardiovascular device evaluation**

Schampaert S*, Pennings KA, van de Molengraft MJ, Pijls NH*, van de Vosse FN, Rutten MCPhysiol Meas. 2014 Apr;35(4):687-702

*Voor abstract zie: Cardiologie - Schampaert S*

*impactfactor: 1.617*

**Pijls NH**

**Fractional flow reserve-guided PCI for stable coronary artery disease**

De Bruyne B, Fearon WF, Pijls NH*, Barbato E, Tonino P*, Piroth Z, Jagic N, Mobius-Winckler S, Rioufol G, Witt N, Kala P, MacCarthy P, Engström T, Oldroyd K, Mavromatis K, Manoharan G, Verlee P, Frobert O, Curzen N, Johnson JB, Limacher A, Nüesch E, Jüni P; FAME 2 Trial Investigators

N Engl J Med. 2014 Sep 25;371(13):1208-17

Comment in

FFR-guided PCI--FAME may not be so fleeting after all. [N Engl J Med. 2014]

BACKGROUND: We hypothesized that in patients with stable coronary artery disease and stenosis, percutaneous coronary intervention (PCI) performed on the basis of the fractional flow reserve (FFR) would be superior to medical therapy.

METHODS: In 1220 patients with stable coronary artery disease, we assessed the FFR in all stenoses that were visible on angiography. Patients who had at least one stenosis with an FFR of 0.80 or less were randomly assigned to undergo FFR-guided PCI plus medical therapy or to receive medical therapy alone. Patients in whom all stenoses had an FFR of more than 0.80 received medical therapy alone and were included in a registry. The primary end point was a composite of death from any cause, nonfatal myocardial infarction, or urgent revascularization within 2 years.

RESULTS: The rate of the primary end point was significantly lower in the PCI group than in the medical-therapy group (8.1% vs. 19.5%; hazard ratio, 0.39; 95% confidence interval [CI], 0.26 to 0.57; P<0.001). This reduction was driven by a lower rate of urgent revascularization in the PCI group (4.0% vs. 16.3%; hazard ratio, 0.23; 95% CI, 0.14 to 0.38; P<0.001), with no significant between-group differences in the rates of death and myocardial infarction. Urgent revascularizations that were triggered by myocardial infarction or ischemic changes

on electrocardiography were less frequent in the PCI group (3.4% vs. 7.0%, P=0.01). In a landmark analysis, the rate of death or myocardial infarction from 8 days to 2 years was lower in the PCI group than in the medical-therapy group (4.6% vs. 8.0%, P=0.04). Among registry patients, the rate of the primary end point was 9.0% at 2 years. CONCLUSIONS: In patients with stable coronary artery disease, FFR-guided PCI, as compared with medical therapy alone, improved the outcome. Patients without ischemia had a favorable outcome with medical therapy alone.

*impactfactor: 54.42*

**Pijls NH**

**Improving the Quality of Percutaneous Revascularisation in Patients with Multivessel Disease in Australia: Cost-Effectiveness, Public Health Implications, and Budget Impact of FFR-Guided PCI**

Siebert U, Arvandi M, M Gothe R, Bornschein B, Eccleston D, L Walters D, Rankin J, De Bruyne B, F Fearon W, H Pijls N*, Harper R

Heart Lung Circ. 2014 Jun;23(6):527-33. Epub 2014 Jan 22

PURPOSE: The international multicentre FAME Study (n=1,005) demonstrated significant health benefits for patients undergoing multivessel percutaneous coronary intervention (PCI) guided by fractional flow reserve (FFR) measurement compared with angiography guidance alone (ANGIO). We determined the cost-effectiveness and the public health/budget impact for Australia.

METHODS: We performed a prospective economic evaluation comparing FFR vs. ANGIO in patients with multivessel disease based on original patient-level FAME data. We used Australian utilities (EQ-5D) and costs to calculate quality-adjusted life years (QALYs) and incremental cost-effectiveness adopting the societal perspective. The public health and budget impact from the payer's perspective was based on Australian PCI registries. Uncertainty was explored using deterministic sensitivity analyses and the bootstrap method (n=5,000 samples).

RESULTS: The cost-effectiveness analysis showed that FFR was cost-saving and reduces costs by 1,776 AUD per patient during one year. Over a two-year time horizon, the public health impact ranged from 7.8 to 73.9 QALYs gained and the budget impact from 1.8 to 14.5 million AUD total cost savings. Sensitivity analyses demonstrated that FFR was cost-saving over a wide range of assumptions.

CONCLUSIONS: FFR-guided PCI in patients with multivessel coronary disease substantially reduces cardiac events, improves QALYs and is cost-saving in the Australian health care system.

*impactfactor: 1.172*

**Pijls NH**

**Increased platelet reactivity is associated with circulating platelet-monocyte complexes and macrophages in human atherosclerotic plaques**

Rutten B, Tersteeg C, Vrijenhoek JE, van Holten TC, Elsenberg EH, Mak-Nienhuis EM, de Borst GJ, Jukema JW, Pijls NH*, Waltenberger J, van Zonneveld AJ, Moll FL, McClellan E, Stubbs A, Pasterkamp G, Hoefer I, de Groot PG, Roest M

PLoS One. 2014 Aug 14;9(8):e105019

OBJECTIVE: Platelet reactivity, platelet binding to monocytes and monocyte infiltration play a detrimental role in atherosclerotic plaque progression. We investigated whether platelet

reactivity was associated with levels of circulating platelet-monocyte complexes (PMCs) and macrophages in human atherosclerotic carotid plaques.

METHODS: Platelet reactivity was determined by measuring platelet P-selectin expression after platelet stimulation with increasing concentrations of adenosine diphosphate (ADP), in two independent cohorts: the Circulating Cells cohort (n?=?244) and the Athero-Express cohort (n?=?91). Levels of PMCs were assessed by flow cytometry in blood samples of patients who were scheduled for percutaneous coronary intervention (Circulating Cells cohort). Monocyte infiltration was semi-quantitatively determined by histological examination of atherosclerotic carotid plaques collected during carotid endarterectomy (Athero-Express cohort).

RESULTS: We found increased platelet reactivity in patients with high PMCs as compared to patients with low PMCs (median (interquartile range): 4153 (1585-11267) area under the curve (AUC) vs. 9633 (3580-21565) AUC, P<0.001). Also, we observed increased platelet reactivity in patients with high macrophage levels in atherosclerotic plaques as compared to patients with low macrophage levels in atherosclerotic plaques (mean±SD; 8969±3485 AUC vs. 7020±3442 AUC, P?=?0.02). All associations remained significant after adjustment for age, sex and use of drugs against platelet activation.

CONCLUSION: Platelet reactivity towards ADP is associated with levels of PMCs and macrophages in human atherosclerotic carotid plaques

*impactfactor:* --

**Pijls NH**

**Long-term comparison of sirolimus-eluting and bare-metal stents in ST-segment elevation myocardial infarction**

Wijnbergen I*, Tijssen J, Brueren G*, Peels K,* van Dantzig JM,* Veer MV,* Koolen JJ*, Michels R*, Pijls NH*

Coron Artery Dis. 2014 Aug;25(5):378-83

*Voor abstract zie:* *Cardiologie - Wijnbergen I*

*impactfactor:* *1.302*

**Pijls NH**

**Multicenter Core Laboratory Comparison of the Instantaneous Wave-Free Ratio and Resting Pd/Pa with Fractional Flow Reserve: The RESOLVE Study**

Jeremias A, Maehara A, Généreux P, Asrress KN, Berry C, De Bruyne B, Davies JE, Escaned J, Fearon WF, Gould KL, Johnson NP, Kirtane AJ, Koo BK, Marques KM, Nijjer S, Oldroyd KG, Petraco R, Piek JJ, Pijls NH*, Redwood S, Siebes M, Spaan JA, Van't Veer M*, Mintz GS, Stone GW.

J Am Coll Cardiol. 2014 Apr 8;63(13):1253-61. Epub 2013 Nov 6

OBJECTIVES: We sought to examine the diagnostic accuracy between the instantaneous wave-free ratio (iFR) and resting Pd/Pa with respect to hyperemic fractional flow reserve (FFR) in a core laboratory-based multicenter collaborative study.

BACKGROUND: FFR is an index of coronary stenosis severity that has been clinically validated in 3 prospective randomized trials. iFR and Pd/Pa are non-hyperemic pressure-derived indices of stenosis severity with discordant reports regarding their accuracy with respect to FFR. Methods: iFR, resting Pd/Pa and FFR were measured in 1,768 patients from 15 clinical sites. An independent physiology core laboratory performed blinded offline analysis of all raw data. The primary objectives were to determine specific iFR and Pd/Pa thresholds with =90% accuracy in predicting ischemic vs. non-ischemic FFR (based on an FFR cut-point of

0.80), and the proportion of patients falling beyond those thresholds. RESULTS: Of 1,974 submitted lesions, 381 (19.6%) were excluded because of suboptimal acquisition, leaving 1,593 for final analysis. By ROC analysis, the optimal iFR cut-point for FFR =0.80 was 0.90 (c-statistic 0.81 [95%CI 0.79-0.83], overall accuracy 80.4%), and the optimal cut-point for Pd/Pa was 0.92 (c-statistic 0.82 [0.80-0.84], overall accuracy 81.5%), with no significant difference between these resting measures. iFR and Pd/Pa had =90% accuracy to predict a positive or negative FFR in 64.9% (62.6-67.3%) and 48.3% (45.6-50.5%) of lesions, respectively.

CONCLUSIONS: This comprehensive, core laboratory analysis comparing iFR and Pd/Pa to FFR demonstrates an overall accuracy of ~80% for both non-hyperemic indices, which can be improved to =90% in a subset of lesions. Clinical outcome studies are required to determine whether the use of iFR or Pd/Pa might obviate the need for hyperemia in selected patients.

KEYWORDS: Coronary Physiology, Distal coronary artery pressure/aortic pressure (non-hyperemic), FFR, Fractional Flow Reserve, Fractional flow reserve (hyperemic by definition), Instantaneous wave-free ratio (non-hyperemic), Myocardial Ischemia, NPV, P(d)/P(a), PCI, PPV, Positive predictive value, ROC, Receiver-operating characteristic, iFR, negative predictive value, percutaneous coronary intervention.

*impactfactor: 15.343*

**Pijls NH**

**Prognostic value of fractional flow reserve: linking physiologic severity to clinical outcomes**

Johnson NP, Tóth GG, Lai D, Zhu H, Açar G, Agostoni P, Appelman Y, Arslan F, Barbato E, Chen SL, Di Serafino L, Domínguez-Franco AJ, Dupouy P, Esen AM, Esen OB, Hamilos M, Iwasaki K, Jensen LO, Jiménez-Navarro MF, Katritsis DG, Kocaman SA, Koo BK, López-Palop R, Lorin JD, Miller LH, Muller O, Nam CW, Oud N, Puymirat E, Rieber J, Rioufol G, Rodés-Cabau J, Sedlis SP, Takeishi Y, Tonino PA*, Van Belle E, Verna E, Werner GS, Fearon WF, Pijls NH*, De Bruyne B, Gould KL

J Am Coll Cardiol. 2014 Oct 21;64(16):1641-54

*Voor abstract zie: Cardiologie - Tonino WA*

*impactfactor: 15.343*

**Pijls NH**

**Response to letter regarding article, "cost-effectiveness of percutaneous coronary intervention in patients with stable coronary artery disease and abnormal fractional flow reserve"**

Fearon WF, Shilane D, Pijls NH*, Boothroyd DB, Tonino PA*, Barbato E, Juni P, De Bruyne B, Hlatky MA; FAME 2 Investigators.

Circulation. 2014 Jun 24;129(25):e684

*Geen abstract beschikbaar*

*impactfactor: 15.202*

**Pijls NH**

**The impact of age on fractional flow reserve-guided percutaneous coronary intervention: A FAME (Fractional Flow Reserve versus Angiography for Multivessel Evaluation) trial substudy**

Lim HS, Tonino PA*, De Bruyne B, Yong AS, Lee BK, Pijls NH*, Fearon WF Int J Cardiol. 2014 Nov 15;177(1):66-70. Epub 2014 Sep 20

*Voor abstract zie:* *Cardiologie - Tonino PA*
*impactfactor:* *6.175*

**Pijls NH**

**The relationship between fractional flow reserve, platelet reactivity and platelet leukocyte complexes in stable coronary artery disease**

Sels JW*, Rutten B, van Holten TC, Hillaert MA, Waltenberger J, Pijls NH*, Pasterkamp G, de Groot PG, Roest M

PLoS One. 2013 Dec 31;8(12):e83198

*Voor abstract zie:* *Cardiologie -Sels JE*
*impactfactor:* --

**Ponten JE**

**Mesh Or Patch for Hernia on Epigastric and Umbilical Sites (MORPHEUS trial): study protocol for a multi-centre patient blinded randomized controlled trial**

Ponten JE*, Leenders BJ, Charbon JA, Lettinga-van de Poll T, Heemskerk J, Martijnse IS, Konsten JL, Nienhuijs SW*

BMC Surg. 2014 May 22;14(1):33

BACKGROUND: Evidence is accumulating that, similar to other ventral hernias, umbilical and epigastric hernias must be mesh repaired. The difficulties involved in mesh placement and in mesh-related complications could be the reason many small abdominal hernias are still primary closed. In laparoscopic repair, a mesh is placed intraperitoneally, while the most common procedure is open surgery is pre-peritoneal mesh placement. A recently developed alternative method is the so-called patch repair, in this approach a mesh can be placed intraperitoneally through open surgery. In theory, such patches are particularly suitable for small hernias due to a reduction in the required dissection. This simple procedure is described in several studies. It is still unclear whether this new approach is associated with an equal risk of recurrence and complications compared with pre-peritoneal meshes. The material of the patch is in direct contact with intra-abdominal organs, it is unknown if this leads to more complications. On the other hand, the smaller dissection in the pre-peritoneal plane may lead to a reduction in wound complications.

METHODS/DESIGN: 346 patients suffering from an umbilical or epigastric hernia will be included in a multi-centre patient-blinded trial, comparing mesh repair with patch repair. Randomisation will take place for the two operation techniques. The two devices investigated are a flat pre-peritoneal mesh and a Proceed Ventral Patch®. Stratification will occur per centre. Post-operative evaluation will take place after 1, 3, 12 and 24 months. The number of complications requiring treatment is the primary endpoint. Secondary endpoints are Verbal Descriptor Scale (VDS) pain score and VDS cosmetic score, operation duration, recurrence and costs. An intention to treat analysis will be performed.

DISCUSSION: This trial is one of the first in its kind, to compare different mesh devices in a randomized controlled setting. The results will help to evaluate mesh repair for epigastric an umbilical hernia, and find a surgical method that minimizes the complication rate.

*impactfactor: 1.24*

**Rademakers LM**

**Mid-term follow up of thromboembolic complications in left ventricular endocardial cardiac resynchronization therapy**

Rademakers LM*, van Gelder BM*, Scheffer MG, Bracke FA*

Heart Rhythm. 2014 Apr;11(4):609-13

BACKGROUND: Endocardial left ventricular (LV) pacing for cardiac resynchronization therapy (CRT) has been proposed as an alternative to traditional LV transvenous epicardial pacing with equal or superior cardiac performance. The risks of cerebral thromboembolism and possible interference with mitral valve function moderate its clinical application. OBJECTIVE: The purpose of this study was to investigate cerebral thromboembolic complications after LV endocardial lead placement. Mitral regurgitation (MR) was the secondary outcome measure.

METHODS: CRT candidates with a failed coronary sinus approach or nonresponders to conventional CRT underwent endocardial LV lead implantation (45 atrial transseptal, 6 transapical). Coumarin was prescribed with a targeted international normalized ratio between 3.5 and 4.5. Patient records were checked and general practitioners were contacted regarding cerebral thromboembolic complications. MR was evaluated by echocardiography at baseline and after 6 months.

RESULTS: In 7 patients, 6 ischemic strokes and 2 transient ischemic attacks occurred, corresponding to 6.1 thromboembolic events per 100 patient-years (95% confidence interval 3.4-15.8). One patient refused hospital admission; all other patients had a subtherapeutic anticoagulation level at the time of the event. No major bleeding complications occurred. There was no change in the grade of MR (grade 2, P = .727) after 6 months. CONCLUSION: Endocardial LV lead placement in patients with advanced heart failure is associated with thromboembolic risk. However, all but 1 patient had a subtherapeutic level of anticoagulation. Endocardial LV lead placement is not associated with aggravation of MR.

*impactfactor: 4.918*

**Schampaert S**

**A Mock circulation model for cardiovascular device evaluation**

Schampaert S*, Pennings KA, van de Molengraft MJ, Pijls NH*, van de Vosse FN, Rutten MC

Physiol Meas. 2014 Apr;35(4):687-702

The aim of this study was to develop an integrated mock circulation system that functions in a physiological manner for testing cardiovascular devices under well-controlled circumstances. In contrast to previously reported mock loops, the model includes a systemic, pulmonary, and coronary circulation, an elaborate heart contraction model, and a realistic heart rate control model. The behavior of the presented system was tested in response to changes in left ventricular contractile states, loading conditions, and heart rate. For validation purposes, generated hemodynamic parameters and responses were compared to literature. The model was implemented in a servo-motor driven mock loop, together with a relatively simple lead-lag controller. The pressure and flow signals measured closely mimicked human pressure under both physiological and pathological conditions. In addition, the system's response to changes in preload, afterload, and heart rate indicate a proper implementation of the incorporated

feedback mechanisms (frequency and cardiac function control). Therefore, the presented mock circulation allows for generic in vitro testing of cardiovascular devices under well-controlled circumstances.
*impactfactor: 1.617*

**Schampaert S**

**Arterial pulsatility improvement in a feedback-controlled continuous flow left ventricular assist device: An ex-vivo experimental study**

Bozkurt S, van Tuijl S, Schampaert S*, van de Vosse FN, Rutten MC

Med Eng Phys. 2014 Oct;36(10):1288-95. Epub 2014 Jul 25

Continuous flow left ventricular assist devices (CF-LVADs) reduce arterial pulsatility, which may cause long-term complications in the cardiovascular system. The aim of this study is to improve the pulsatility by driving a CF-LVAD at a varying speed, synchronous with the cardiac cycle in an ex-vivo experiment. A Micromed DeBakey pump was used as CF-LVAD. The heart was paced at 140bpm to obtain a constant cardiac cycle for each heartbeat. First, the CF-LVAD was operated at a constant speed. At varying-speed CF-LVAD assistance, the pump was driven such that the same mean pump output was generated. For synchronization purposes, an algorithm was developed to trigger the CF-LVAD each heartbeat. The pump flow rate was selected as the control variable and a reference model was used for regulating the CF-LVAD speed. Continuous and varying-speed CF-LVAD assistance provided the same mean arterial pressure and flow rate, while the index of pulsatility doubled in both arterial pressure and pump flow rate signals under pulsatile pump speed support. This study shows the possibility of improving the pulsatility in CF-LVAD support by regulating pump speed over a cardiac cycle without compromising the overall level of support.
*impactfactor: 1.839*

**Sels JE**

**The relationship between fractional flow reserve, platelet reactivity and platelet leukocyte complexes in stable coronary artery disease**

Sels JW*, Rutten B, van Holten TC, Hillaert MA, Waltenberger J, Pijls NH*, Pasterkamp G, de Groot PG, Roest M

PLoS One. 2013 Dec 31;8(12):e83198

BACKGROUND: The presence of stenoses that significantly impair blood flow and cause myocardial ischemia negatively affects prognosis of patients with stable coronary artery disease. Altered platelet reactivity has been associated with impaired prognosis of stable coronary artery disease. Platelets are activated and form complexes with leukocytes in response to microshear gradients caused by friction forces on the arterial wall or flow separation. We hypothesized that the presence of significantly flow-limiting stenoses is associated with altered platelet reactivity and formation of platelet-leukocyte complexes.

METHODS: One hundred patients with stable angina were studied. Hemodynamic significance of all coronary stenoses was assessed with Fractional Flow Reserve (FFR). Patients were classified FFR-positive (at least one lesion with FFR=0.75) or FFR-negative (all lesions FFR>0.80). Whole blood samples were stimulated with increasing concentrations of ADP, TRAP, CRP and Iloprost with substimulatory ADP. Expression of P-selectin as platelet activation marker and platelet-leukocyte complexes were measured by flowcytometry. Patients were stratified on clopidogrel use. FFR positive and negative patient groups were compared on platelet reactivity and platelet-leukocyte complexes.

RESULTS: Platelet reactivity between FFR-positive patients and FFR-negative patients did not differ. A significantly lower percentage of circulating platelet-neutrophil complexes in FFR-

positive patients and a similar non-significant decrease in percentage of circulating platelet-monocyte complexes in FFR-positive patients was observed.

CONCLUSION: The presence of hemodynamically significant coronary stenoses does not alter platelet reactivity but is associated with reduced platelet-neutrophil complexes in peripheral blood of patients with stable coronary artery disease.

*impactfactor:* --

**Tonino WA**

**Fractional flow reserve-guided PCI for stable coronary artery disease**

De Bruyne B, Fearon WF, Pijls NH*, Barbato E, Tonino P*, Piroth Z, Jagic N, Mobius-Winckler S, Rioufol G, Witt N, Kala P, MacCarthy P, Engström T, Oldroyd K, Mavromatis K, Manoharan G, Verlee P, Frobert O, Curzen N, Johnson JB, Limacher A, Nüesch E, Jüni P; FAME 2 Trial Investigators

N Engl J Med. 2014 Sep 25;371(13):1208-17

*Voor abstract zie:* *Cardiologie - Pijls NH*

*impactfactor:* *54.42*

**Tonino WA**

**Prognostic value of fractional flow reserve: linking physiologic severity to clinical outcomes**

Johnson NP, Tóth GG, Lai D, Zhu H, Açar G, Agostoni P, Appelman Y, Arslan F, Barbato E, Chen SL, Di Serafino L, Domínguez-Franco AJ, Dupouy P, Esen AM, Esen OB, Hamilos M, Iwasaki K, Jensen LO, Jiménez-Navarro MF, Katritsis DG, Kocaman SA, Koo BK, López-Palop R, Lorin JD, Miller LH, Muller O, Nam CW, Oud N, Puymirat E, Rieber J, Rioufol G, Rodés-Cabau J, Sedlis SP, Takeishi Y, Tonino PA*, Van Belle E, Verna E, Werner GS, Fearon WF, Pijls NH*, De Bruyne B, Gould KL

J Am Coll Cardiol. 2014 Oct 21;64(16):1641-54

BACKGROUND: Fractional flow reserve (FFR) has become an established tool for guiding treatment, but its graded relationship to clinical outcomes as modulated by medical therapy versus revascularization remains unclear.

OBJECTIVES: The study hypothesized that FFR displays a continuous relationship between its numeric value and prognosis, such that lower FFR values confer a higher risk and therefore receive larger absolute benefits from revascularization.

METHODS: Meta-analysis of study- and patient-level data investigated prognosis after FFR measurement. An interaction term between FFR and revascularization status allowed for an outcomes-based threshold.

RESULTS: A total of 9,173 (study-level) and 6,961 (patient-level) lesions were included with a median follow-up of 16 and 14 months, respectively. Clinical events increased as FFR decreased, and revascularization showed larger net benefit for lower baseline FFR values. Outcomes-derived FFR thresholds generally occurred around the range 0.75 to 0.80, although limited due to confounding by indication. FFR measured immediately after stenting also showed an inverse relationship with prognosis (hazard ratio: 0.86, 95% confidence interval: 0.80 to 0.93; $p < 0.001$). An FFR-assisted strategy led to revascularization roughly half as often as an anatomy-based strategy, but with 20% fewer adverse events and 10% better angina relief.

CONCLUSIONS: FFR demonstrates a continuous and independent relationship with subsequent outcomes, modulated by medical therapy versus revascularization. Lesions with lower FFR values receive larger absolute benefits from revascularization. Measurement of

FFR immediately after stenting also shows an inverse gradient of risk, likely from residual diffuse disease. An FFR-guided revascularization strategy significantly reduces events and increases freedom from angina with fewer procedures than an anatomy-based strategy.

*impactfactor: 15.343*

**Tonino WA**

**Response to letter regarding article, "cost-effectiveness of percutaneous coronary intervention in patients with stable coronary artery disease and abnormal fractional flow reserve"**

Fearon WF, Shilane D, Pijls NH*, Boothroyd DB, Tonino PA*, Barbato E, Juni P, De Bruyne B, Hlatky MA; FAME 2 Investigators.

Circulation. 2014 Jun 24;129(25):e684

*Geen abstract beschikbaar*

*impactfactor: 15.202*

**Tonino WA**

**The impact of age on fractional flow reserve-guided percutaneous coronary intervention: A FAME (Fractional Flow Reserve versus Angiography for Multivessel Evaluation) trial substudy**

Lim HS, Tonino PA*, De Bruyne B, Yong AS, Lee BK, Pijls NH*, Fearon WF

Int J Cardiol. 2014 Nov 15;177(1):66-70. Epub 2014 Sep 20

BACKGROUND: Fractional flow reserve (FFR)-guided percutaneous coronary intervention (PCI) improved outcomes compared with an angiography-guided strategy in patients with multivessel coronary artery disease (CAD). However, the effect of age on FFR has not been well-studied. We aimed to evaluate the impact of age on the favorable results of routine FFR-guided PCI for multivessel CAD.

METHODS: We compared 1year outcomes between FFR-guided PCI and angiography-guided PCI in the 512 patients enrolled in the FAME study <65years old compared to the 493 patients =65years old. We also evaluated the effect of age on the FFR result of varying degrees of visually estimated coronary stenosis.

RESULTS: The 1-year rate of death, myocardial infarction or repeat revascularization in the angiography-guided group tended to be higher than in the FFR-guided group for both those patients <65 (17.2% vs. 12.0%, P=0.098) and those =65years old (19.7% vs. 14.3%, P=0.111) with no significant interaction based on age (P=0.920). Older patients had higher FFR in vessels with 50% to 70% stenosis (0.83±0.11 vs. 0.80±0.13, P=0.028) and in vessels with 71% to 90% stenosis (0.69±0.15 vs. 0.65±0.16, P=0.002). The proportion of functionally significant lesions (FFR=0.80) in vessels with 71% to 90% stenosis was significantly lower in elderly compared to younger patients (75.3% vs. 84.1%, P=0.013).

CONCLUSIONS: FFR-guided PCI is beneficial regardless of age, however, older patients have fewer functionally significant lesions, despite a similar angiographic appearance.

*impactfactor: 6.175*

**Ubachs JF**

**Regional wall function before and after acute myocardial infarction; an experimental study in pigs**

Pahlm US, Ubachs JF*, Heiberg E, Engblom H, Erlinge D, Götberg M, Arheden H BMC Cardiovasc Disord. 2014 Sep 13;14(1):118

BACKGROUND: Left ventricular function is altered during and after AMI. Regional function can be determined by cardiac magnetic resonance (CMR) wall thickening, and velocity encoded (VE) strain analysis. The aims of this study were to investigate how regional myocardial wall function, assessed by CMR VE-strain and regional wall thickening, changes after acute myocardial infarction, and to determine if we could differentiate between ischemic, adjacent and remote segments of the left ventricle.
METHODS: Ten pigs underwent baseline CMR study for assessment of wall thickening and VE-strain. Ischemia was then induced for 40-minutes by intracoronary balloon inflation in the left anterior descending coronary artery. During occlusion, 99mTc tetrofosmin was administered intravenously and myocardial perfusion SPECT (MPS) was performed for determination of the ischemic area, followed by a second CMR study. Based on ischemia seen on MPS, the 17 AHA segments of the left ventricle was divided into 3 different categories (ischemic, adjacent and remote). Regional wall function measured by wall thickening and VE-strain analysis was determined before and after ischemia.
RESULTS: Mean wall thickening decreased significantly in the ischemic (from 2.7 mm to 0.65 mm, p?<?0.001) and adjacent segments (from 2.4 to 1.5 mm p?<?0.001). In remote segments, wall thickening increased significantly (from 2.4 mm to 2.8 mm, p?<?0.01). In ischemic and adjacent segments, both radial and longitudinal strain was significantly decreased after ischemia (p?<?0.001). In remote segments there was a significant increase in radial strain (p?=?0.002) while there was no difference in longitudinal strain (p?=?0.69). ROC analysis was performed to determine thresholds distinguishing between the different regions. Sensitivity for determining ischemic segments ranged from 70-80%, and specificity from 72%-77%. There was a 9% increase in left ventricular mass after ischemia.
CONCLUSION: Differentiation thresholds for wall thickening and VE-strain could be established to distinguish between ischemic, adjacent and remote segments but will, have limited applicability due to low sensitivity and specificity. There is a slight increase in radial strain in remote segments after ischemia. Edema was present mainly in the ischemic region but also in the combined adjacent and remote segments.
*impactfactor:* *1.50*

**Veer M van 't**

**Long-term comparison of sirolimus-eluting and bare-metal stents in ST-segment elevation myocardial infarction**

Wijnbergen I*, Tijssen J, Brueren G*, Peels K,* van Dantzig JM,* Veer MV,* Koolen JJ*, Michels R*, Pijls NH*

Coron Artery Dis. 2014 Aug;25(5):378-83

*Voor abstract zie:* *Cardiologie - Wijnbergen I*
*impactfactor:* *1.302*

**Veer M van 't**

**Multicenter Core Laboratory Comparison of the Instantaneous Wave-Free Ratio and Resting Pd/Pa with Fractional Flow Reserve: The RESOLVE Study**

Jeremias A, Maehara A, Généreux P, Asrress KN, Berry C, De Bruyne B, Davies JE, Escaned J, Fearon WF, Gould KL, Johnson NP, Kirtane AJ, Koo BK, Marques KM, Nijjer S, Oldroyd KG, Petraco R, Piek JJ, Pijls NH*, Redwood S, Siebes M, Spaan JA, Van't Veer M*, Mintz GS, Stone GW

J Am Coll Cardiol. 2014 Apr 8;63(13):1253-61. Epub 2013 Nov 6

*Voor abstract zie:* *Cardiologie - Pijls NH*
*impactfactor:* *15.343*

**Veer M van 't**

**Volume quantification by contrast-enhanced ultrasound: an in-vitro comparison with true volumes and thermodilution**

Herold IH*, Russo G, Mischi M, Houthuizen P*, Saidov T, van het Veer M*, van Assen HC, Korsten HH*

Cardiovasc Ultrasound. 2013 Oct 17;11:36

*Voor abstract zie:* *Anesthesiologie - Herold IH*
*impactfactor:* *1.28*

**Voort PH van der**

**Attrition and adherence in a WEB-Based Distress Management Program for Implantable Cardioverter defibrillator Patients (WEBCARE): randomized controlled trial**

Habibovic M*, Cuijpers P, Alings M, van der Voort P*, Theuns D, Bouwels L, Herrman JP, Valk S, Pedersen S

J Med Internet Res. 2014 Feb 28;16(2):e52

*Voor abstract zie:* *Cardiologie - Habibovic M**
*impactfactor:* *4.7*

**Voort PH van der**

**E-Health to Manage Distress in Patients With an Implantable Cardioverter-Defibrillator: Primary Results of the WEBCARE Trial**

Habibovic M*, Denollet J, Cuijpers P, Spek VR, van den Broek KC, Warmerdam L*, van der Voort PH*, Herrman JP, Bouwels L, Valk SS, Alings M, Theuns DA, Pedersen SS Psychosom Med. 2014 Oct;76(8):593-602

*Voor abstract zie:* *Cardiologie - Habibovic M*
*impactfactor:* *4.085*

**Voort PH van der**

**Trajectories of Perceived Emotional and Physical Distress in Patients with an Implantable Cardioverter Defibrillator**

van den Broek KC, Kupper N, Voort PH van der*, Alings M, Denollet J, Nyklícek I. Int J Behav Med. 2014 Feb;21(1):149-59. epub 2012 Nov 17

BACKGROUND: Little is known about the course of emotional and physical distress in patients with an implantable cardioverter defibrillator (ICD).

PURPOSE: We examined (1) trajectories of emotional and physical distress in the first 18 months postimplantation and (2) predictors of these trajectories, including demographical, clinical, and personality factors.

METHODS: Dutch patients with an ICD (N?=?645) completed measures on anxiety, depression, somatic symptoms, and perceived disability at the time of implantation, and 2, 12, and 18 months postimplantation. Measures on Type D personality (tendency to inhibit the expression of negative emotions) and anxiety sensitivity (tendency to fear anxiety-related sensations) were also completed at baseline.

RESULTS: Latent class analysis (LatentGOLD) identified six to seven distinct trajectories, varying largely in overall levels of distress, and remaining relatively stable after a small initial decline. Multinomial regression showed that Type D personality and anxiety sensitivity were the most prominent predictors, particularly of trajectories that reflected higher distress

levels. Cardiac resynchronization therapy and coronary artery disease also increased the risk for distress, whereas ICD indication and shocks did not.

CONCLUSIONS: The course of emotional and physical distress may be relatively stable after ICD implantation. In clinical practice, identification of patients with high risk of higher levels of emotional and physical distress may be warranted; as such, patients with high levels of anxiety sensitivity or a Type D personality should be identified and offered behavioral support.

*impactfactor: 2.210*

**Wijnbergen I**

**Long-term comparison of sirolimus-eluting and bare-metal stents in ST-segment elevation myocardial infarction**

Wijnbergen I*, Tijssen J, Brueren G*, Peels K,* van Dantzig JM,* Veer MV,* Koolen JJ*, Michels R*, Pijls NH*

Coron Artery Dis. 2014 Aug;25(5):378-83

OBJECTIVES: We aimed to investigate, in patients with ST-segment elevation myocardial infarction (STEMI), whether the previously reported clinical benefits of sirolimus-eluting stent(s) (SES) in terms of reducing a major adverse cardiac and cerebrovascular event (MACCE) compared with bare-metal stent(s) (BMS) were maintained over a 5-year time period.

BACKGROUND: In the prospective single-centre randomized DEBATER trial, SES significantly reduced the rate of MACCE in STEMI patients within 1 year compared with BMS, mainly driven by a reduction of target lesion revascularization. Randomized data on the long-term safety and efficacy of SES in STEMI patients are conflicting and limited. PATIENTS AND METHODS: Between January 2006 and May 2008, a total of 907 STEMI patients were randomized to receive SES or BMS. The primary endpoint was MACCE defined as the composite of death, myocardial infarction, stroke, repeat revascularization and bleeding. Five-year follow-up data were collected by reviewing hospital records, telephone calls and a written questionnaire.

RESULTS: At 5 years, the rate of MACCE between the SES group and the BMS group was no longer significantly different (33.3 vs. 39.3%, P=0.12). The cumulative incidence of death and myocardial infarction was similar in both groups (11.0 vs. 9.7%, P=0.51). Repeat revascularization was performed in 21.1 and 25.8% of patients, respectively (P=0.12). The rate of very late stent thrombosis (1-5 years of follow-up) was very low in both groups (2.0 vs. 0.7%, P=0.12).

CONCLUSION: The benefits of SES in STEMI patients in terms of reducing MACCE faded over time. We found no safety concerns in terms of SES in the long term, with extremely low rates of very late stent thrombosis.

*impactfactor: 1.302*

**Wijnbergen I**

**[Shock in pregnancy: foetal distress may be the first symptom]**

Vergeldt TF*, Kortenhorst MS*, Hasaart TH*, Wijnberger LD*

Ned Tijdschr Geneeskd. 2014;158(1):A6606

*Voor abstract zie: Gynaecologie - Vergeldt TF*

*impactfactor: --*

**Zimmermann, F**
**A change of heart**
Zimmermann FM*, van Mierlo E*, Meijer A*, Dekker LR*
Neth Heart J. 2014 Aug;22(7-8):356, 359
*Geen abstract beschikbaar*
*impactfactor: 2.263*

**Zimmermann, F**
**Simultaneous massive pulmonary embolism and acute myocardial infarction, associated with patent foramen ovale**
Zimmermann FM*, Peels KH*
Eur Heart J. 2014 Aug 7;35(30):2046. Epub 2014 Apr 8
*Geen abstract beschikbaar*
*impactfactor: 14.723*

** = Werkzaam in het Catharina Ziekenhuis*

# Cardiothoracale chirurgie

**Boxtel AG van**

**Postoperative conduction disorders after implantation of the self-expandable sutureless Perceval S bioprosthesis**

van Boxtel AG*, Houthuizen P*, Hamad MA*, Sjatskig J, Tan E, Prinzen FW, van Straten AH*

J Heart Valve Dis. 2014 May;23(3):319-24

BACKGROUND AND AIM OF THE STUDY:

Minimally invasive techniques for aortic valve replacement (AVR) have been developed as an alternative to conventional AVR for patients with high operative risk. Yet, these techniques are still associated with an increased risk of postoperative conduction disorders. The study aim was to identify the incidence and fate of postoperative conduction disorders in patients undergoing sutureless (SU) AVR with the Perceval S bioprosthesis.

METHODS:

In this observational study, patients who underwent SU AVR with the Perceval S prosthesis at the Catharina Hospital, Eindhoven, were analyzed. Electrocardiograms (ECGs) recorded at baseline, within 24 h postoperatively, before hospital discharge and at follow up were collected by reviewing patients' records. The ECGs were analyzed by two independent investigators to record QRS-duration and conduction disorders.

RESULTS:

All patients (n = 31) who underwent implantation of the Perceval S bioprosthesis between September 2010 and September 2012 were included. At baseline, three patients (9.7%) had preexisting left bundle branch block (LBBB), and one patient (3.2%) had a permanent pacemaker (PPM). New-onset LBBB developed in 11 patients (39.3%), and was transient in three patients (10.7%). Postoperatively, four patients (13.3%) required PPM implantation because of total atrioventricular block; all of these patients had either pre-existing LBBB (n = 1) or new LBBB (n = 3).

CONCLUSION:

Sutureless AVR with the Perceval S bioprosthesis was frequently complicated by new LBBB, which was persistent in the majority of patients. A relatively high incidence of postoperative PPM implantation was also observed.

*impactfactor: 1.071*

**Boxtel AG van**

**Reply**

van Boxtel AG*, van Straten AH*, Soliman Hamad MA*

Ann Thorac Surg. 2014 Jun;97(6):2232 Comment on:

- Perioperative serum aspartate aminotransferase level as a predictor of survival after coronary artery bypass grafting. [Ann Thorac Surg. 2012]
- Aspartate aminotransferase and survival after cardiac surgical procedures. [Ann Thorac Surg. 2014]

*impactfactor: 3.631*

**Elenbaas TW**

**Patency of the internal mammary arteries after removal of the Nuss bar: an initial report**

Külcü K*, Elenbaas TW*, Nguyen DT*, Verhees RP*, Mihl C*, Verberkmoes NY*, van Straten AH*, Soliman Hamad MA*

Interact Cardiovasc Thorac Surg. 2014 Jul;19(1):6-9. Epub 2014 Mar 30

*Voor abstract zie: Cardiothoracale chirurgie - Külcü K*

*impactfactor: 1.109*

**Elenbaas TW**

**Preoperative hemoglobin level as a predictor of mortality after aortic valve replacement surgery: reply**

van Straten AH*, Houterman S*, Ibrahim Özdemir H*, Elenbaas TW*, Soliman Hamad MA*

J Cardiothorac Vasc Anesth. 2014 Aug;28(4):e36-7

*Geen abstract beschikbaar*

*impactfactor: 1.482*

**Koene BM**

**Can postoperative mean transprosthetic pressure gradient predict survival after aortic valve replacement?**

Koene BM*, Soliman Hamad MA*, Bouma W, Mariani MA, Peels KC*, van Dantzig JM*,van Straten AH*

Clin Res Cardiol. 2014 Feb;103(2):133-40. Epub 2013 Oct 18

BACKGROUND: In this study, we sought to determine the effect of the mean transprosthetic pressure gradient (TPG), measured at 6 weeks after aortic valve replacement (AVR) or AVR with coronary artery bypass grafting (CABG) on late all-cause mortality. METHODS: Between January 1998 and March 2012, 2,276 patients (mean age 68 ± 11 years) underwent TPG analysis at 6 weeks after AVR (n = 1,318) or AVR with CABG (n = 958) at a single institution. Mean TPG was 11.6 ± 7.8 mmHg and median TPG 11 mmHg. Based on the TPG, the patients were split into three groups: patients with a low TPG (<10 mmHg), patients with a medium TPG (10-19 mmHg) and patients with a high TPG (=20 mmHg). Cox proportional-hazard regression analysis was used to determine univariate predictors and multivariate independent predictors of late mortality.

RESULTS: Overall survival for the entire group at 1, 3, 5, and 10 years was 97, 93, 87 and 67 %, respectively. There was no significant difference in long-term survival between patients with a low, medium or high TPG (p = 0.258). Independent predictors of late mortality included age, diabetes, peripheral vascular disease, renal dysfunction, chronic obstructive pulmonary disease, a history of a cerebrovascular accident and cardiopulmonary bypass time. Prosthesis-patient mismatch (PPM), severe PPM and TPG measured at 6 weeks postoperatively were not significantly associated with late mortality. CONCLUSIONS: TPG measured at 6 weeks after AVR or AVR with CABG is not an independent predictor of all-cause late mortality and there is no significant difference in long-term survival between patients with a low, medium or high TPG.

*impactfactor: 4.167*

**Külcü K**

**Patency of the internal mammary arteries after removal of the Nuss bar: an initial report**

Külcü K*, Elenbaas TW*, Nguyen DT*, Verhees RP*, Mihl C*, Verberkmoes NY*, van Straten AH*, Soliman Hamad MA*

Interact Cardiovasc Thorac Surg. 2014 Jul;19(1):6-9. Epub 2014 Mar 30

OBJECTIVES: Surgical correction of pectus excavatum (PE) has shifted to the modern minimally invasive Nuss procedure, which proved to be safe and effective. In order to restore the dented deformity, custom-curved metal bars provide continuous retrosternal pressure but cross the habitat of the internal mammary arteries (IMAs) directly affecting their patency. In this initial report, we sought to assess the patency of the IMAs in the first 6 patients who underwent Nuss bar removal in our department.

METHODS: In 2010, we started to perform correction of PE using the Nuss bar technique. In 2013, observational analysis was performed on the first 6 patients who underwent removal of the Nuss bar. Computed tomography angiography (CTA) was performed in order to assess the patency of both IMAs directly after removal.

RESULTS: In 4 (67%) patients, IMA patency was affected unilaterally (total obstruction or highly decreased flow pattern) corresponding with the lowest retrosternal side. CONCLUSIONS: According to our preliminary results, the oppressive force of Nuss bars interferes with IMA patency and thereby compromises future usability in coronary artery bypass grafting (CABG). We recommend that patients undergoing CABG following the Nuss procedure undergo preoperative evaluation of IMA patency. This study will be continued to include a larger number of patients including follow-up CTA one year after removal of the bar.

*impactfactor: 1.109*

**Ozdemir HI**

**Preoperative hemoglobin level as a predictor of mortality after aortic valve replacement surgery: reply**

van Straten AH*, Houterman S*, Ibrahim Özdemir H*, Elenbaas TW*,
Soliman Hamad MA*

J Cardiothorac Vasc Anesth. 2014 Aug;28(4):e36-7.

*Geen abstract beschikbaar*

*impactfactor: 1.482*

**Sjatskig J**

**Postoperative conduction disorders after implantation of the self-expandable sutureless Perceval S bioprosthesis**

van Boxtel AG*, Houthuizen P*, Hamad MA*, Sjatskig J, Tan E, Prinzen FW,
van Straten AH*

J Heart Valve Dis. 2014 May;23(3):319-24

*Voor abstract zie: Cardiothoracale chirurgie - van Boxtel AG*

*impactfactor: 1.071*

**Soliman Hamad MA**

**Can postoperative mean transprosthetic pressure gradient predict survival after aortic valve replacement?**

Koene BM*, Soliman Hamad MA*, Bouma W, Mariani MA, Peels KC*, van Dantzig JM*, van Straten AH*

Clin Res Cardiol. 2014 Feb;103(2):133-40. Epub 2013 Oct 18

*Voor abstract zie: Cardiothoracale chirurgie - Koene BM*
*impactfactor: 4.167*

**Soliman Hamad MA**

**Improving the efficiency of the cardiac catheterization laboratories through understanding the stochastic behavior of the scheduled procedures**

Stepaniak P*, Soliman Hamad MA*, Dekker LR*, Koolen JJ*

Cardiol J. 2014;21(4):343-9. Epub 2013 Aug 30.

*Voor abstract zie: Operatie kamers - Stepaniak P*
*impactfactor: 1.215*

**Soliman Hamad MA**

**Patency of the internal mammary arteries after removal of the Nuss bar: an initial report**

Külcü K*, Elenbaas TW*, Nguyen DT*, Verhees RP*,
Mihl C*, Verberkmoes NY*, van Straten AH*, Soliman Hamad MA*

Interact Cardiovasc Thorac Surg. 2014 Jul;19(1):6-9. Epub 2014 Mar 30

*Voor abstract zie: Cardiothoracale chirurgie - Külcü K*
*impactfactor: 1.109*

**Soliman Hamad MA**

**Postoperative conduction disorders after implantation of the self-expandable sutureless Perceval S bioprosthesis**

van Boxtel AG*, Houthuizen P*, Hamad MA*, Sjatskig J, Tan E, Prinzen FW,
van Straten AH*

J Heart Valve Dis. 2014 May;23(3):319-24

*Voor abstract zie: Cardiothoracale chirurgie - van Boxtel AG*
*impactfactor: 1.071*

**Soliman Hamad MA**

**Preoperative hemoglobin level as a predictor of mortality after aortic valve replacement surgery: reply**

van Straten AH*, Houterman S*, Ibrahim Özdemir H*, Elenbaas TW*,
Soliman Hamad MA*

J Cardiothorac Vasc Anesth. 2014 Aug;28(4):e36-7

*Geen abstract beschikbaar*
*impactfactor: 1.482*

**Soliman Hamad MA**

**Reply**

van Boxtel AG*, van Straten AH*, Soliman Hamad MA*

Ann Thorac Surg. 2014 Jun;97(6):2232

*Geen abstract beschikbaar*

*impactfactor: 3.631*

**Soliman Hamad MA**

**STOP-Bang and the effect on patient outcome and length of hospital stay when patients are not using continuous positive airway pressure**

Proczko MA, Stepaniak PS*, de Quelerij M, van der Lely FH*, Smulders JF, Kaska L, Soliman Hamad MA*

J Anesth. 2014 Dec;28(6):891-7. Epub 2014 May 29

*Voor abstract zie: Operatiekamers - Stepaniak PS*

*impactfactor: 1.117*

**Soliman Hamad MA**

**The Impact of Postoperative Renal Replacement Therapy on Long-Term Outcome After Cardiac Surgery Increases with Age**

Haanschoten MC*, van Straten AH*, Bouwman A*, Bindels AJ*, van Zundert AA*, Soliman Hamad MA*

J Card Surg. 2014 Jul;29(4):464-9. Epub 2014 Apr 18

*Voor abstract zie: Anesthesiologie - Haanschoten MC*

*impactfactor: 0.888*

**Straten AH van**

**Can postoperative mean transprosthetic pressure gradient predict survival after aortic valve replacement?**

Koene BM*, Soliman Hamad MA*, Bouma W, Mariani MA, Peels KC*, van Dantzig JM*, van Straten AH*

Clin Res Cardiol. 2014 Feb;103(2):133-40. Epub 2013 Oct 18

*Voor abstract zie: Cardiothoracale chirurgie - Koene BM*

*impactfactor: 4.167*

**Straten AH van**

**Healthcare failure mode effect analysis of a miniaturized extracorporeal bypass circuit** Overdevest E*, van Hees J*, Lagerburg V*, Kloeze C*, van Straten A*

Perfusion, 2014, 29(4):301-306

*Voor abstract zie: ECC - Overdevest E*

*impactfactor: 1.083*

**Straten AH van**

**Patency of the internal mammary arteries after removal of the Nuss bar: an initial report**

Külcü K*, Elenbaas TW*, Nguyen DT*, Verhees RP*, Mihl C*, Verberkmoes NY*, van Straten AH*, Soliman Hamad MA*

Interact Cardiovasc Thorac Surg. 2014 Jul;19(1):6-9. Epub 2014 Mar 30

*Voor abstract zie: Cardiothoracale chirurgie - Külcü K*

*impactfactor: 1.109*

**Straten AH van**

**Postoperative conduction disorders after implantation of the self-expandable sutureless Perceval S bioprosthesis**

van Boxtel AG*, Houthuizen P*, Hamad MA*, Sjatskig J, Tan E, Prinzen FW, van Straten AH*

J Heart Valve Dis. 2014 May;23(3):319-24

*Voor abstract zie: Cardiothoracale chirurgie - van Boxtel AG*

*impactfactor: 1.071*

**Straten AH van**

**Preoperative hemoglobin level as a predictor of mortality after aortic valve replacement surgery: reply**

van Straten AH*, Houterman S*, Ibrahim Özdemir H*, Elenbaas TW*, Soliman Hamad MA*

J Cardiothorac Vasc Anesth. 2014 Aug;28(4):e36-7

*Geen abstract beschikbaar*

*impactfactor: 1.482*

**Straten AH van**

**Reply**

van Boxtel AG*, van Straten AH*, Soliman Hamad MA*

Ann Thorac Surg. 2014 Jun;97(6):2232

*Geen abstract beschikbaar*

*impactfactor: 3.631*

**Straten AH van**

**The Impact of Postoperative Renal Replacement Therapy on Long-Term Outcome After Cardiac Surgery Increases with Age**

Haanschoten MC*, van Straten AH*, Bouwman A*, Bindels AJ*, van Zundert AA*, Soliman Hamad MA*

J Card Surg. 2014 Jul;29(4):464-9. Epub 2014 Apr 18

*Voor abstract zie: Anesthesiologie - Haanschoten MC*

*impactfactor: 0.888*

**Tan ME**

**Postoperative conduction disorders after implantation of the self-expandable sutureless Perceval S bioprosthesis**

van Boxtel AG*, Houthuizen P*, Hamad MA*, Sjatskig J, Tan E, Prinzen FW, van Straten AH*

J Heart Valve Dis. 2014 May;23(3):319-24

*Voor abstract zie: Cardiothoracale chirurgie - van Boxtel AG*
*impactfactor: 1.071*

**Verberkmoes NJ**

**Patency of the internal mammary arteries after removal of the Nuss bar: an initial report**

Külcü K*, Elenbaas TW*, Nguyen DT*, Verhees RP*, Mihl C*, Verberkmoes NY*, van Straten AH*, Soliman Hamad MA*

Interact Cardiovasc Thorac Surg. 2014 Jul;19(1):6-9. Epub 2014 Mar 30

*Voor abstract zie: Cardiothoracale chirurgie - Külcü K*
*impactfactor: 1.109*

** = Werkzaam in het Catharina Ziekenhuis*

# Chirurgie

**Bendermacher BL**

**Physical Activity Monitoring in Patients with Intermittent Claudication**

Lauret GJ*, Fokkenrood HJ*, Bendermacher BL*, Scheltinga MR, Teijink JA* Eur J Vasc Endovasc Surg. 2014 Jun;47(6):656-63. Epub 2014 Apr 13

*Voor abstract zie: Chirurgie - Lauret G*

*impactfactor: 3.070*

**Bendermacher BL**

**Risk factors for mortality and failure of conservative treatment after aortic type B dissection**

Grommes J, Greiner A, Bendermacher B*, Erlmeier M, Frech A, Belau P, Kennes LN, Fraedrich G, Schurink GW, Jacobs MJ, Klocker J

J Thorac Cardiovasc Surg. 2014 Nov;148(5):2155-2160.e1. Epub 2014 Apr 4.

BACKGROUND: Despite medical treatment, one third of patients with uncomplicated type B aortic dissections experience severe late complications. The aim of this study was to identify patients at high risk of mortality during follow-up

METHODS: A total of 183 patients with acute Stanford type B dissection were treated in one of the university hospitals (Aachen [Germany], Maastricht [The Netherlands], and Innsbruck [Austria]) between 1997 and 2010. Records indicated that 120 patients were treated conservatively. Of these patients, 16 were lost to follow-up. The maximum diameter, extent of the dissection, and patency of the side branches were determined from computed tomography angiography data. Survival and treatment failure were analyzed by univariate and multivariate Cox regression analysis. The univariate analysis investigated the influence of aortic diameter (=41 vs <41 mm) on survival, and the multivariate analysis investigated the influence of aortic diameter, age, sex, and surgery on survival.

RESULTS: During the follow-up period, the initial treatment was converted to surgical treatment in 21 patients (20.2%). Sixteen of the 104 patients (15.4%) died after a mean of 845.5 ± 805.9 days. The mean maximum aortic transversal diameter at admission was 41.2 ± 8.7 mm. The multivariate analysis identified aortic diameter (P = .004; hazard ratio, 1.07) and age (P = .038; hazard ratio, 1.05) as risk factors that significantly reduce survival.

CONCLUSIONS: Our study revealed both early aortic dilatation and older age as risk factors for increased mortality after conservative treatment of type B dissection.

*impactfactor: 3.991*

**Bosman S J**

**Abdominosacral resection: Long-term outcome in 86 patients with locally advanced or locally recurrent rectal cancer**

Bosman SJ*, Vermeer TA*, Dudink RL*, de Hingh IH*, Nieuwenhuijzen GA*, Rutten HJ* Eur J Surg Oncol. 2014 Jun;40(6):699-705. Epub 2014 Feb 28

AIMS: The purpose of this study is to evaluate the outcome of abdominosacral resections (ASR) in patients with locally advanced or recurrent rectal cancer.

METHODS: From 1994 until 2012 patients with locally advanced rectal cancer (LARC) and locally recurrent rectal cancer (LRRC) underwent a curative ASR and were enrolled in a database. The postoperative complication rates, predictive factors on oncological outcome and survival rates were registered.

RESULTS: Seventy-two patients with LRRC (mean age 63; 44 male, 28 female) and 14 patients with LARC (mean age 65; 6 male, 8 female) underwent ASR. R0 resection was achieved in 37 patients with LRRC and 11 patients with LARC. Twenty-seven patients underwent an R1

resection (3 in the LARC group). Eight patients had an R2 resection, compared to no patients in the LARC group. In respectively 26 and 1 patients of the LRRC and LARC groups a grade 3 or 4 complication occurred and the 30-days mortality rate was respectively 3% and 7%. The 5-years overall survival was 28% and 24% respectively.

CONCLUSION: En bloc radical resection remains the primary goal in the treatment of dorsally located (recurrent) rectal cancer. After thorough patient selection, ASR is a safe procedure to perform, shows acceptable morbidity rates and leads to a good oncological outcome.

KEYWORDS: Abdominosacral resection, Complications, Locally advanced rectal cancer, Locally recurrent rectal cancer, Oncological outcome.

*impactfactor: 2.892*

**Bosman S J**

**Feasibility of reirradiation in the treatment of locally recurrent rectal cancer**

Bosman SJ*, Holman FA*, Nieuwenhuijzen GA*, Martijn H*, Creemers GJ*, Rutten HJ*

Br J Surg. 2014 Sep;101(10):1280-9. Epub 2014 Jul 22

BACKGROUND: Many patients with locally recurrent rectal cancer receive radiotherapy for the treatment of the primary tumour. It is unclear whether reirradiation is safe and effective when a local recurrence develops. The aim of this study was to evaluate the toxicity and oncological outcome of reirradiation in patients with locally recurrent rectal carcinoma.

METHODS: From March 1994 until December 2013, data on patients with locally recurrent rectal cancer (without distant metastasis) were entered into a database. Patients were reirradiated with a reduced dose of 30?Gy and received an intraoperative electron radiotherapy boost during surgery. Morbidity associated with radiotherapy, postoperative complications and oncological outcome were evaluated.

RESULTS: Clear margins (R0) were obtained in 75 (55·6 per cent) of the 135 patients who were reirradiated. Forty-six patients developed serious postoperative complications and the 30-day mortality rate was 4·6 per cent. Multivariable analysis showed that margin status was the main factor influencing oncological outcome (hazard ratio for overall survival 2·51 for R1 and 3·19 for R2 versus R0 resection; both $P < 0·001$). There was no significant difference in survival between the reirradiated group and a group of 113 patients who had full-course irradiation (5-year overall survival rate 34·1 and 39·1 per cent respectively; $P = 0·278$). Both reirradiation and full-course irradiation were associated with better survival than no irradiation in a historical control group of 24 patients (5-year overall survival rate 23 per cent; $P = 0·225$ and $P = 0·062$).

CONCLUSION:Reirradiation (with concomitant chemotherapy) has few side-effects and complements radical resection of recurrent rectal cancer.

*impactfactor: 5.21*

**Bosman S J**

**Measuring the health-related quality of life and sexual functioning of patients with rectal cancer: Does type of treatment matter?**

Traa MJ, Orsini RG*, Oudsten BL, Vries JD, Roukema JA, Bosman SJ*, Dudink RL*, Rutten HJ*

Int J Cancer. 2014 Feb;134(4):979-87. Epub 2013 Sep 4

*Voor abstract zie: Chirurgie - Orsini RG*

*impactfactor: 5.007*

**Brinkman WM**

**Evaluation of the Educational Value of a Virtual Reality TURP Simulator According to a Curriculum-based Approach**

Tjiam IM*, Berkers CH*, Schout BM, Brinkman WM*, Witjes JA, Scherpbier AJ, Hendrikx AJ*, Koldewijn EL*

Simul Healthc. 2014 Oct;9(5):288-94

*Voor abstract zie: Urologie - Tjiam IM*
*impactfactor: 1.593*

**Brinkman WM**

**Results of the European Basic Laparoscopic Urological Skills Examination.**

Brinkman WM*, Tjiam IM*, Schout BM, Muijtjens AM, Van Cleynenbreugel B, Koldewijn EL*, Witjes JA.

Eur Urol. 2014 Feb;65(2):490-6. Epub 2013 Nov 6.

BACKGROUND: In 2011, the European Basic Laparoscopic Urological Skills (E-BLUS) examination was introduced as a pilot for the examination of final-year urologic residents.

OBJECTIVE: In this study, we aimed to answer the following research questions: What level of laparoscopic skills do final-year residents in urology have in Europe, and do the participants of the E-BLUS pass the examination according to the validated criteria?

DESIGN, SETTING, AND PARTICIPANTS: Participants of the examination were final-year urology residents from different European countries taking part in the European Urology Residents Education Program in 2011 and 2012.

SURGICAL PROCEDURE: The E-BLUS exam consists of five tasks validated for the training of basic urologic laparoscopic skills.

OUTCOME MEASUREMENTS AND STATISTICAL ANALYSIS: Performances of the tasks were recorded on DVD and analysed by an objective rater. Time and number of errors made in tasks 1-4 were noted. Furthermore, all expert laparoscopic urologists were asked to score participants on a global rating scale (1-5) based on three items: depth perception, bimanual dexterity, and efficiency. Participants were asked to complete a questionnaire on prior training and laparoscopic experience.

RESULTS AND LIMITATIONS: Seventy DVD recordings were analysed. Most participants did not pass the time criteria on task 4 (90%), task 2 (85.7%), task 1 (74.3%), and task 5 (71.4%). Task 3 was passed by 84.3%. The overall quality score was passed by 64%. When combining time and quality, only three participants (4.2%) passed the examination according to the validated criteria. According to the questionnaire, 61% did not have the opportunity to train in laparoscopic skills.

CONCLUSIONS: The results of the E-BLUS examination show that the level of basic laparoscopic skills among European residents is low. Although quality of performance is good, most residents do not pass the validated time criteria. Regular laparoscopic training or a dedicated fellowship should improve the laparoscopic level of residents in urology.

*impactfactor: 12.480*

**Broos PP**

**Rationale and design of the EAGLE Registry: EVAR with the Endurant in challenging anatomy**

Stokmans RA*, Broos P*, Cuypers PW*, Forbes TL, Vahl AC, Swartbol P, van Sambeek M*, Teijink JA*

J Cardiovasc Surg (Torino). 2014 Oct;55(5):699-704. Epub 2014 May 21

*Voor abstract zie: Chirurgie - Stokmans RA*

*impactfactor: 1.365*

**Castelijns PS**

**Intra-abdominal esophageal duplication cyst: A case report and review of the literature**

Castelijns PS*, Woensdregt K*, Hoevenaars B*, Nieuwenhuijzen GA*

World J Gastrointest Surg. 2014 Jun 27;6(6):112-6

Intra-abdominal esophageal duplications are rare entities in adults. They are mostly asymptomatic, but since they can lead to complications surgical excision is advised for all duplication cysts. We present a case of a 20-year-old male with colic-like abdominal pain, mimicking symptoms of cholecystolithiasis. However after cholecystectomy the symptoms were still present. A computed tomography-scan of the abdomen and an endoscopic ultrasound revealed a cyst of the esophagus of 3.0 cm × 2.3 cm in size. Diagnostic laparoscopy was planned, during which we observed a para-esophageal cyst at the gastro-esophageal junction. Laparoscopic excision of this cyst was performed. Pathophysiological examination revealed an esophageal duplication cyst. We report a rare case of a symptomatic intra-abdominal esophageal duplication cyst in an adult. One must consider this diagnosis when more common diagnoses to account for the patient's symptoms are excluded. Removal of duplication cysts can be done laparoscopically.

*impactfactor: --*

**Cuypers Ph W**

**Editor's choice--Use of disposable radiation-absorbing surgical drapes results in significant dose reduction during EVAR procedures**

Kloeze C*, Klompenhouwer EG*, Brands PJ*, van Sambeek MR*, Cuypers PW*, Teijink JA*

Eur J Vasc Endovasc Surg. 2014 Mar;47(3):268-72

*Voor abstract zie: Klinische Fysica - Kloeze C*

*impactfactor: 3.070*

**Cuypers Ph W**

**How should I treat a symptomatic post dissection carotid aneurysm?**

Rouchaud A, Klein I, Amarenco P, Mazighi M, Pacchioni A, Torsello G, Reimers B, van Sambeek MR*, Tielbeek AV*, Teijink JA*, Cuypers PW*

EuroIntervention. 2014 Jan 22;9(9):1121-3

*Geen abstract beschikbaar*

*impactfactor: 3.758*

**Cuypers Ph W**

**Rationale and design of the EAGLE Registry: EVAR with the Endurant in challenging anatomy**

Stokmans RA*, Broos P*, Cuypers PW*, Forbes TL, Vahl AC, Swartbol P, van Sambeek M*, Teijink JA*

J Cardiovasc Surg (Torino). 2014 Oct;55(5):699-704. Epub 2014 May 21

*Voor abstract zie:* *Chirurgie - Stokmans RA*
*impactfactor:* *1.365*

**Cuypers Ph W**

**Statin Therapy is associated with improved survival after endovascular and open aneurysm repair**

De Bruin Jl, Baas AF, Heymans MW, Buimer MG, Prinssen M, Grobbee DE, Blankensteijn JD; DREAM Study Group: Cuypers PW, van Sambeek MRHM, Tielbeek AV, Teijink JA

J Vasc Surg 2014;59:39-44

BACKGROUND: The relationship between numerous risk factors and perioperative mortality after cardiovascular surgery has been studied extensively. While improved perioperative survival and fewer cardiovascular events have been related to statin therapy, its effect on long-term survival after aneurysm repair remains to be elucidated. The aim of this study is to determine the effect of statin therapy on long-term survival after open and endovascular aneurysm repair and to identify other cardiovascular and patient-related risk factors in this respect.

METHODS: A post-hoc analysis of a randomized trial comparing open and endovascular abdominal aortic aneurysm repair was performed. In this multicenter trial, 351 patients were randomly assigned to undergo either open abdominal aortic aneurysm repair or endovascular repair. Patients who were on lipid-lowering medication at their inclusion in the trial (n = 135) were compared with those who were not (n = 216).

RESULTS: During 6 years of follow-up, 118 (33.6%) patients died after randomization. Statin therapy, baseline characteristics, Society for Vascular Surgery/International Society for Cardiovascular Surgery risk factors, aneurysm size, reinterventions, antiplatelet or anticoagulant agents, and ß-blockers were used to identify prognostic factors influencing survival. After identification of significant factors in a Kaplan-Meier analysis, a multivariable Cox regression analysis was applied. Statin therapy at inclusion in the trial was independently associated with better overall survival after open or endovascular aneurysm repair (hazard ratio [HR], 0.5; 95% confidence interval [CI], 0.3-0.8; P = .004). Statins were especially associated with fewer cardiovascular deaths (HR, 0.4; 95% CI, 0.2-0.9; P = .025). Several risk factors were associated with poor survival after open and endovascular aneurysm repair: age >70 (HR, 3.4; 95% CI, 2.2-5.0; P < .001), a history of cardiac disease at baseline (HR, 1.9; 95% CI, 1.3-2.8; P = .001), and moderate/severe tobacco use (HR, 1.7; 95% CI, 1.2-2.5; P = .004). Gender, aneurysm size, the need for reintervention, pulmonary disease, renal disease, carotid disease, hypertension, diabetes mellitus, antiplatelet or anticoagulant agents, and ß-blockers were not significantly associated with impaired long-term survival (P > .05).

CONCLUSIONS: Despite the limitations of a post-hoc analysis of a prospectively maintained trial, we conclude that statin therapy at the beginning of the trial is independently associated with improved long-term survival after open or endovascular aneurysm repair,

while age above 70 years, a history of cardiovascular disease, and tobacco use are associated with decreased long-term survival.

*impactfactor: 2.980*

**Daams F**

**Anastomotic leakage and presacral abscess formation after locally advanced rectal cancer surgery: Incidence, risk factors and treatment**

Vermeer TA*, Orsini RG*, Daams F*, Nieuwenhuijzen GA*, Rutten HJ*

Eur J Surg Oncol. 2014 Nov;40(11):1502-9. Epub 2014 Apr 4

*Voor abstract zie: Chirurgie - Vermeer TA*

*impactfactor: 2.892*

**Daams F**

**Critical analysis of cyanoacrylate in intestinal and colorectal anastomosis**

Wu Z, Boersema GS, Vakalopoulos KA, Daams F*, Sparreboom CL, Kleinrensink GJ, Jeekel J, Lange JF

J Biomed Mater Res B Appl Biomater. 2014 Apr;102(3):635-42. Epub 2013 Oct 24

BACKGROUND: Although cyanoacrylate glue (CA) has been widely used in various kinds of medical applications, its application in gastrointestinal anastomosis remains limited, and outcomes of experimental studies have not been satisfactory. This systematic review summarizes research regarding CA application in intestinal and colorectal anastomosis, and correlates methodological aspects to experimental outcomes. METHODS: A systematic literature search was performed using Medline, Embase, Cochrane, and Web-of-Science libraries. Articles were selected if CA was applied to intestinal or colorectal anastomoses. Included articles were categorized according to CA molecular structure; the method details in each study were extracted and analyzed. RESULTS: Twenty-two articles were included. More than half of the inclusions reported positive outcomes (seven articles) or neutral outcomes (eight articles). Analysis of the methods revealed that methodological details such as CA dosage, time of polymerization were not consistently reported. Porcine studies, inverted anastomosis, and n-butyl-cyanoacrylate studies showed more positive outcomes; everted anastomosis, and oversized sutures might negatively influence the outcomes. CONCLUSIONS: Owing to the positive outcome from the porcine studies, application of CA in gastrointestinal (GI) anastomosis still seems promising. To achieve a better consistency, more methodological details need to be provided in future studies. Optimizing the dosage of CA, choice of animal model, inverted anastomosis construction, and other method details may improve intestinal and colorectal anastomoses with CA application in future studies.

*impactfactor: 2.328*

**Daams F**

**Identification of anastomotic leakage after colorectal surgery using microdialysis of the peritoneal cavity**

Daams F*, Wu Z, Cakir H, Karsten TM, Lange JF

Tech Coloproctol. 2014 Jan;18(1):65-71. Epub 2013 Apr 30

BACKGROUND: Early detection of colorectal anastomotic leakage (AL) may lead to better outcome. AL may be preceded by change in local metabolism and local ischaemia. Microdialysis of the peritoneal cavity is able to measure these changes in real-time and is minimally invasive. The aim of this prospective cohort study was to compare values of

intraperitoneal microdialysis in patients with AL to patients without AL after open and laparoscopic colorectal surgery.

METHODS: Twenty-four patients underwent surgery for left-sided, sigmoid and rectal carcinoma with creation of an anastomosis. Intraoperatively a juxta-anastomotical intraperitoneal and subcutaneous microdialysis catheter was placed. The levels of lactate, pyruvate, glucose and glycerol in the dialysate were measured every 4 h during the first 5 post-operative days, and mean values and area under the curve (AUC) were calculated. RESULTS: Mortality was 0 % and morbidity 38 %. In 3 patients (17 %), AL occurred. In patients with AL, post-operative peritoneal lactate level was 3.2 mmol/l (standard deviation (SD) 0.9) for patients without AL, compared to 4.4 mmol/l (SD 1.5) in case of AL (p = 0.03 for AUC). Intraperitoneal glucose levels were 8.1 mmol/l (SD 1.3), compared to 7.8 mmol/l (SD 2.2) in the complicated course (ns for AUC). Mean intraperitoneal lactate/pyruvate-ratio was 19.2 (SD 3) after colorectal surgery without AL compared to 25 (SD 4.7) in case of AL (non-significant (ns) for AUC). No significant differences were observed between patients who underwent laparoscopic resection and those who underwent open resection

CONCLUSIONS: Anastomotic leakage was preceded by a significantly higher AUC and mean value of lactate levels during the first 5 post-operative days. To identify cut-off values for clinical use, pooling of data is necessary.

*impactfactor: 1.344*

**Daams F**

**Prediction and diagnosis of colorectal anastomotic leakage: A systematic review of literature**

Daams F*, Wu Z, Lahaye MJ, Jeekel J, Lange JF

World J Gastrointest Surg. 2014 Feb 27;6(2):14-26

Although many studies have focused on the preoperative risk factors of anastomotic leakage after colorectal surgery (CAL), postoperative delay in diagnosis is common and harmful. This review provides a systematic overview of all available literature on diagnostic tools used for CAL. A systematic search of literature was undertaken using Medline, Embase, Cochrane and Web-of-Science libraries. Articles were selected when a diagnostic or prediction tool for CAL was described and tested. Two reviewers separately assessed the eligibility and level of evidence of the papers. Sixty-nine articles were selected (clinical methods: 11, laboratory tests: 12, drain fluid analysis: 12, intraoperative techniques: 22, radiology: 16). Clinical scoring leads to early awareness of probability of CAL and reduces delay of diagnosis. C-reactive protein measurement at postoperative day 3-4 is helpful. CAL patients are characterized by elevated cytokine levels in drain fluid in the very early postoperative phase in CAL patients. Intraoperative testing using the air leak test allows intraoperative repair of the anastomosis. Routine contrast enema is not recommended. If CAL is clinically suspected, rectal contrast-computer tomography is recommended by a few studies. In many studies a "no-test" control group was lacking, furthermore no golden standard for CAL is available. These two factors contributed to a relatively low level of evidence in the majority of the papers. This paper provides a systematic overview of literature on the available tools for diagnosing CAL. The study shows that colorectal surgery patients could benefit from some diagnostic interventions that can easily be performed in daily postoperative care.

*impactfactor: 2.433*

**Dudink RL**

**Abdominosacral resection: Long-term outcome in 86 patients with locally advanced or locally recurrent rectal cancer**

Bosman SJ*, Vermeer TA*, Dudink RL*, de Hingh IH*, Nieuwenhuijzen GA*, Rutten HJ*

Eur J Surg Oncol. 2014 Jun;40(6):699-705. Epub 2014 Feb 28

*Voor abstract zie:* *Chirurgie - Bosman SJ*

*impactfactor:* *2.892*

**Dudink RL**

**Measuring the health-related quality of life and sexual functioning of patients with rectal cancer: Does type of treatment matter?**

Traa MJ, Orsini RG*, Oudsten BL, Vries JD, Roukema JA, Bosman SJ*, Dudink RL*, Rutten HJ*

Int J Cancer. 2014 Feb;134(4):979-87. Epub 2013 Sep 4

*Voor abstract zie:* *Chirurgie - Orsini RG*

*impactfactor:* *5.007*

**Fokkenrood HJ**

**Bicycle Testing as an Alternative Diagnostic Tool in Patients Suspected of Intermittent Claudication**

Fokkenrood HJ*, Houterman S*, Schep G, Teijink JA*, Scheltinga MR

Ann Vasc Surg. 2014 Apr;28(3):614-9. Epub 2013 Oct 9

BACKGROUND: The ankle-brachial index (ABI) obtained after a treadmill challenge is often used to confirm the diagnosis of intermittent claudication (IC). However, some patients fail treadmill testing due to (temporary) orthopedic or neurologic comorbidity or fear of falling. The aim of this study was to evaluate the role of bicycle testing as an alternative for treadmill testing. It was hypothesized that ABIs obtained after bicycle tests were not different compared with values after standard treadmill testing.

METHODS: In this validation study, newly diagnosed IC patients (Rutherford 1-3) underwent a standard treadmill test (TT, "gold standard") and two bicycle protocols, one with a continuous resistance submaximal character (submaximal bicycle test, SBT) and a second with an incremental ramp form having a maximal character (maximal bicycle test, MBT). ABIs of both legs were obtained before and twice after each of these three different exercise tests. Healthy individuals matched for age and gender served as controls.

RESULTS: The study population consisted of 32 patients (68 ± 11 years, 21 men). ABIs of each leg (n = 64) obtained after TT correlated significantly with values obtained after either bicycle test (TT vs. SBT: $r = 0.90$, $P < 0.001$; TT vs. MBT: $r = 0.88$, $P < 0.001$). Drops in ABI after both types of exercise were significantly correlated (TT vs. SBT: $r = 0.66$, $P < 0.001$; TT vs. MBT: $r = 0.32$, $P < 0.01$). A 98% sensitivity and 86% specificity for diagnosis of IC was observed after the SBT. After the MBT, these values were 98% and 43%, respectively. Healthy controls (n = 13) demonstrated ABI values >0.9 after cycling in all tests.

CONCLUSIONS: Both submaximal and a maximal bicycle tests may serve as alternative noninvasive tools for detecting intermittent claudication. Bicycle tests can potentially be used for patients unable to perform a treadmill test.

*impactfactor:* *1.029*

**Fokkenrood HJ**

**Modes of exercise training for intermittent claudication**

Lauret GJ*, Fakhry F, Fokkenrood HJ*, Hunink MG, Teijink JA*, Spronk S

Cochrane Database Syst Rev. 2014 Jul 4;7:CD009638

*Voor abstract zie: Chirurgie - Lauret GJ*

*impactfactor: --*

**Fokkenrood HJ**

**Physical Activity Monitoring in Patients with Intermittent Claudication**

Lauret GJ*, Fokkenrood HJ*, Bendermacher BL*, Scheltinga MR, Teijink JA*

Eur J Vasc Endovasc Surg. 2014 Jun;47(6):656-63. Epub 2014 Apr 13

*Voor abstract zie: Chirurgie - Lauret G*

*impactfactor: 3.070*

**Fokkenrood HJ**

**Physical Activity Monitoring in Patients with Peripheral Arterial Disease: Validation of an Activity Monitor**

Fokkenrood HJ*, Verhofstad N*, van den Houten MM*, Lauret GJ*, Wittens C, Scheltinga MR, Teijink JA*

Eur J Vasc Endovasc Surg. 2014 Aug;48(2):194-200. Epub 2014 May 28

OBJECTIVES: The daily life physical activity (PA) of patients with peripheral arterial disease (PAD) may be severely hampered by intermittent claudication (IC). From a therapeutic, as well as research, point of view, it may be more relevant to determine improvement in PA as an outcome measure in IC. The aim of this study was to validate daily activities using a novel type of tri-axial accelerometer (Dynaport MoveMonitor) in patients with IC.

METHODS: Patients with IC were studied during a hospital visit. Standard activities (locomotion, lying, sitting, standing, shuffling, number of steps and "not worn" detection) were video recorded and compared with activities scored by the MoveMonitor. Inter-rater reliability (expressed in intraclass correlation coefficients [ICC]), sensitivity, specificity, and positive predictive values (PPV) were calculated for each activity.

RESULTS: Twenty-eight hours of video observation were analysed (n = 21). Our video annotation method (the gold standard method) appeared to be accurate for most postures (ICC > 0.97), except for shuffling (ICC = 0.38). The MoveMonitor showed a high sensitivity (>86%), specificity (>91%), and PPV (>88%) for locomotion, lying, sitting, and "not worn" detection. Moderate accuracy was found for standing (46%), while shuffling appeared to be undetectable (18%). A strong correlation was found between video recordings and the MoveMonitor with regard to the calculation of the "number of steps" (ICC = 0.90).

CONCLUSIONS: The MoveMonitor provides accurate information on a diverse set of postures, daily activities, and number of steps in IC patients. However, the detection of low amplitude movements, such as shuffling and "sitting to standing" transfers, is a matter of concern. This tool is useful in assessing the role of PA as a novel, clinically relevant outcome parameter in IC.

*impactfactor: 3.070*

**Fokkenrood HJ**

**Significant Savings with a Stepped Care Model for Treatment of Patients with Intermittent Claudication**

Fokkenrood HJ*, Scheltinga MR, Koelemay MJ, Breek JC, Hasaart F, Vahl AC, Teijink JA*

Eur J Vasc Endovasc Surg. 2014 Oct;48(4):423-9. Epub 2014 Jun 18

OBJECTIVES: International guidelines recommend supervised exercise therapy (SET) as primary treatment for intermittent claudication (IC). The aim of this study was to calculate treatment costs in patients with IC and to estimate nationwide annual savings if a stepped care model (SCM, primary SET treatment followed by revascularization in case of SET failure) was followed

METHODS: Invoice data of all patients with IC in 2009 were obtained from a Dutch health insurance company (3.4 million members). Patients were divided into three groups based on initial treatment after diagnosis (t0). The SET group received SET initiated at any time between 12 months before and up to 3 months after t0. The intervention group (INT) underwent endovascular or open revascularization between t0 and t+3 months. The third group (REST) received neither SET nor any intervention. All peripheral arterial disease related invoices were recorded during 2 years and average costs per patient were calculated. Savings following use of a SCM were calculated for three scenarios.

RESULTS: Data on 4954 patients were analyzed. Initial treatment was SET (n = 701, 14.1%), INT (n = 1363, 27.5%), or REST (n = 2890, 58.3%). Within 2 years from t0, invasive revascularization in the SET group was performed in 45 patients (6.4%). Additional interventions (primary at other location and/or re-interventions) were performed in 480 INT patients (35.2%). Some 431 REST patients received additional SET (n = 299, 10.3%) or an intervention (n = 132, 4.5%). Mean total IC related costs per patient were €2,191, €9851 and €824 for SET, INT, and REST, respectively. Based on a hypothetical worst, moderate, and best case scenario, some 3.8, 20.6, or 33.0 million euros would have been saved per annum if SCM was implemented in the Dutch healthcare system.

CONCLUSION: Implementation of a SCM treatment for patients with IC may lead to significant savings of health care resources.

*impactfactor: 3.070*

**Fokkenrood HJ**

**The Effect of Supervision on Walking Distance in Patients with Intermittent Claudication: A Meta-analysis**

Gommans LN*, Saarloos R*, Scheltinga MR, Houterman S*, de Bie RA, Fokkenrood HJ*, Teijink JA*

Eur J Vasc Endovasc Surg. 2014 Aug;48(2):169-84. Epub 2014 Jun 10

*Voor abstract zie: Chirurgie - Gommans LN*

*impactfactor: 3.070*

**Gommans L**

**The Effect of Supervision on Walking Distance in Patients with Intermittent Claudication: A Meta-analysis**

Gommans LN*, Saarloos R*, Scheltinga MR, Houterman S*, de Bie RA, Fokkenrood HJ*, Teijink JA*

Eur J Vasc Endovasc Surg. 2014 Aug;48(2):169-84. Epub 2014 Jun 10

BACKGROUND: A number of reviews have reported the influence of exercise therapy (ET) for the treatment of intermittent claudication (IC). However, a complete overview of different

types of ET is lacking. The aim of this meta-analysis was to study the effect of supervision on walking capacity in patients with IC. It was hypothesized that there was a positive treatment effect in relation to the intensity of supervision and improvement in walking capacity (i.e., a "dose-response" hypothesis).

METHODS: A systematic search in the Cochrane Central Register of Controlled Trials, MEDLINE, and EMBASE databases was performed. Only randomized controlled trials (RCTs) evaluating the efficacy of an ET in IC were included. Type of supervision, treadmill protocol, length of ET, total training volume, and change in walking distance were extracted. RCTs were categorised according to type of support: no exercise, walking advice, home-based exercise (HB-ET), and supervised exercise therapy (SET). A standardised mean difference between pre- and post-training maximal walking distance (MWD) and pain-free walking distance (PFWD) was calculated for all subgroups at 6 weeks, and 3 and 6 months of follow up.

RESULTS: Thirty studies involving 1406 patients with IC were included. The overall quality was moderate-to-good, although number of included patients varied widely (20-304). The intensity of supervision was directly related to MWD and PFWD. SET was superior to other conservative treatment regimens with respect to improvement in walking distances at all follow-ups. However, the difference between HB-ET and SET at 6 months of follow up was not significant.

CONCLUSION: Supervised exercise therapy for intermittent claudication is superior to all other forms of exercise therapy. Intensity of supervision is related to improved walking distance.

*impactfactor: 3.070*

**Heesakkers F**

**Reduction of Postoperative Ileus by Early Enteral Nutrition in Patients Undergoing Major Rectal Surgery: Prospective, Randomized, Controlled Trial**

Boelens PG, Heesakkers FF*, Luyer MD*, van Barneveld KW, de Hingh IH*, Nieuwenhuijzen GA*, Roos AN*, Rutten HJ*

Ann Surg. 2014 Apr;259(4):649-55

BACKGROUND:: The current trend in postoperative nutrition is to promote a normal oral diet as early as possible. However, postoperative ileus is a frequent and common problem after major abdominal surgery. This study was designed to investigate whether early enteral nutrition (EEN), as a bridge to a normal diet, can reduce postoperative ileus.

METHODS:: Patients undergoing major rectal surgery for locally advanced primary or recurrent rectal carcinoma (after neoadjuvant (chemo)-radiation, with or without intraoperative radiotherapy) were randomly assigned to EEN (n = 61) or early parenteral nutrition (EPN, n = 62) in addition to an oral diet. Early nutrition was started 8 hours after surgery. Early parenteral nutrition was given as control nutrition to obtain caloric equivalence and minimize confounding. The primary endpoint was time to first defecation; secondary outcomes were morbidity, other ileus symptoms, and length of hospital stay.

RESULTS:: Baseline characteristics were similar for both groups. In intention-to-treat analysis, the time to first defecation was significantly shorter in the enteral nutrition arm than in the control arm (P = 0.04). Moreover, anastomotic leakage occurred significantly less frequently in the enteral group (1 patient) compared with parenteral supplementation (9 patients, P = 0.009). Mean length of stay in the enteral group was 13.4 ± 2.2 days versus 16.7 ± 2.3 days in the parenteral group (P = 0.007).

CONCLUSIONS:: Early enteral nutrition is safe and associated with significantly less ileus. Early enteral nutrition is associated with less anastomotic leakage in patients undergoing extensive rectal surgery.

*impactfactor: 7.188*

**Hingh IH de**

**A multicystic tumor causing intermittent pain in a young man**

Madsen EV, de Hingh IH*

Gastroenterology. 2014 Dec;147(6):e11-2. Epub 2014 Oct 27.

*impactfactor: 12.821*

**Hingh IH de**

**Abdominosacral resection: Long-term outcome in 86 patients with locally advanced or locally recurrent rectal cancer**

Bosman SJ*, Vermeer TA*, Dudink RL*, de Hingh IH*, Nieuwenhuijzen GA*, Rutten HJ*

Eur J Surg Oncol. 2014 Jun;40(6):699-705. Epub 2014 Feb 28

*Voor abstract zie: Chirurgie - Bosman SJ*

*impactfactor: 2.892*

**Hingh IH de**

**Antecolic versus retrocolic route of the gastroenteric anastomosis after pancreatoduodenectomy: a randomized controlled trial**

Eshuis WJ, van Eijck CH, Gerhards MF, Coene PP, de Hingh IH*, Karsten TM, Bonsing BA, Gerritsen JJ, Bosscha K, Spillenaar Bilgen EJ, Haverkamp JA, Busch OR, van Gulik TM, Reitsma JB, Gouma DJ.

Ann Surg. 2014 Jan;259(1):45-51

OBJECTIVE: To investigate the relationship between the route of gastroenteric (GE) reconstruction after pancreatoduodenectomy (PD) and the postoperative incidence of delayed gastric emptying (DGE).

BACKGROUND: DGE is one of the most common complications after PD. Recent studies suggest that an antecolic route of the GE reconstruction leads to a lower incidence of DGE, compared to a retrocolic route. In a nonrandomized comparison within our trial center, we found no difference in DGE after antecolic or retrocolic GE reconstruction. METHODS: Ten middle- to high-volume centers participated in the patient inclusion. Patients scheduled for PD who gave written informed consent were included and randomized during surgery after resection. Standard operation was a pylorus-preserving PD. Primary endpoint was DGE. Secondary endpoints included other complications and length of hospital stay. RESULTS: There were 125 patients in the retrocolic group, and 121 patients in the antecolic group. Baseline and treatment characteristics did not differ between the study groups. In the retrocolic group, 45 patients (36%) developed clinically relevant DGE compared with 41 (34%) in the antecolic group (absolute risk difference: 2.1%; 95% confidence interval: -9.8% to 14.0%). There were no differences in need for postoperative (par)enteral nutritional support, other complications, hospital mortality, and median length of hospital stay. CONCLUSIONS: The route of GE reconstruction after PD does not influence the postoperative incidence of DGE or other complications. The etiology and treatment of DGE, which occurs frequently after both procedures, need further investigation. The GE reconstruction after PD should be routed according to the surgeon's preference.

*impactfactor: 7.188*

**Hingh IH de**

**Chemotherapy as palliative treatment for peritoneal carcinomatosis of gastric origin**

Thomassen I*, Bernards N*, van Gestel YR, Creemers GJ*, Jacobs EM, Lemmens VE, de Hingh IH*

Acta Oncol. 2014 Mar;53(3):429-32. Epub 2013 Dec 5

*Geen abstract beschikbaar*

*impactfactor: 3.71*

**Hingh IH de**

**Cytoreduction and Hyperthermic Intraperitoneal Chemotherapy: A Feasible and Effective Option for Colorectal Cancer Patients After Emergency Surgery in the Presence of Peritoneal Carcinomatosis**

van Oudheusden TR*, Braam HJ, Nienhuijs SW*, Wiezer MJ, van Ramshorst B, Luyer MD*, Lemmens VE, de Hingh IH*

Ann Surg Oncol. 2014 Aug;21(8):2621-6. Epub 2014 Mar 27

*Voor abstract zie: Chirurgie - van Oudheusden TR*

*impactfactor: 3.943*

**Hingh IH de**

**Development and Clinical Implementation of a Hemostatic Balloon Device for Rectal Cancer Surgery**

Holman FA, van der Pant N, de Hingh IH*, Martijnse I*, Jakimowicz J*, Rutten HJ*, Goossens RH

Surg Innov. June 2014 21: 297-302. Epub 2013 Oct 30

Background. Surgery for locally advanced and recurrent rectal carcinoma can be associated with major blood loss. Objective. We developed a promising technique using a hemostatic balloon to stop uncontrollable bleeding. Design. Models were developed using pelvic magnetic resonance imaging scans, and these models were tested in a cadaveric study. Eventually a model was tested in a clinical setting. The Hemostatic Balloon Device was placed in patients in whom during surgery uncontrollable bleeding from the venous presacral plexus occurred. Settings. A tertiary referral hospital for locally advanced and recurrent rectal cancer. Patients. Patients receiving multimodality treatment for primary or recurrent locally advanced rectal carcinomas. Main Outcome Measures. First the developed prototypes were tested in a cadaveric study where the developing pressure on the pelvic wall was measured. Second, the Hemostatic Balloon Device was placed in patients in whom during surgery uncontrollable bleeding from the venous presacral plexus occurred. Results. The balloon was used in 9 patients. Median volume of blood loss was 7500 mL. In 8 patients treatment with the hemostatic balloon was successful. In 1 patient the balloon was dislocated cranially and the pelvis was packed with surgical gauzes. Limitations. These first results are promising but further research is needed to evaluate how effective the balloon is in controlling massive bleeding during rectal cancer surgery. Future perspectives include a possibly thinner silicon rubber that can be stretched more easily with a lower inflated volume. Discussion. The hemostatic balloon is a new and promising technique for accomplishing hemostasis with controllable pressure on the pelvic cavity wall and can be removed without the need for a second laparotomy.

*impactfactor: 1.338*

**Hingh IH de**

**Impact of centralization of pancreatic cancer surgery on resection rates and survival**

Gooiker GA, Lemmens VE, Besselink MG, Busch OR, Bonsing BA, Molenaar IQ, Tollenaar RA, de Hingh IH*, Wouters MW

Br J Surg. 2014 Jul;101(8):1000-5

BACKGROUND: Centralization of pancreatic surgery has been shown to reduce postoperative mortality. It is unknown whether resection rates and survival have also improved. The aim of this study was to analyse the impact of nationwide centralization of pancreatic surgery on resection rates and long-term survival.

METHODS: All patients diagnosed in the Netherlands between 2000 and 2009 with cancer of the pancreatic head were identified in the Netherlands Cancer Registry. Changes in referral pattern, resection rates and survival after pancreatoduodenectomy were analysed. Multivariable regression analysis was used to assess the impact of hospital volume (20 or more procedures per year) on survival after resection.

RESULTS: Between 2000 and 2009, 11?160 patients were diagnosed with cancer of the pancreatic head. The resection rate increased from 10·7 per cent in 2000-2004 to 15·3 per cent in 2005-2009 (P?=?0·001). No significant difference in survival after resection was observed between the two intervals (P?=?0·135), although survival was significantly better in high-volume hospitals (median survival 18?months versus 16?months in low/medium-volume hospitals; P?=?0·017). After adjustment for patient and tumour characteristics, high hospital volume remained associated with better overall survival after resection (hazard ratio 0·70, 95 per cent confidence interval 0·58 to 0·84; P?<?0·001).

CONCLUSION: Centralization of pancreatic cancer surgery led to increased resection rates. High-volume centres had significantly better survival rates. Centralization improves patient outcomes and should be encouraged.

*impactfactor: 5.21*

**Hingh IH de**

**Massive surgical emphysema following transanal endoscopic microsurgery**

Simkens GA*, Nienhuijs SW*, Luyer MD*, de Hingh IH*

World J Gastrointest Surg. 2014 Aug 27;6(8):160-3

*Voor abstract zie: Chirurgie - Simkens GA*

*impactfactor: --*

**Hingh IH de**

**Metachronous peritoneal carcinomatosis after curative treatment of colorectal cancer**

van Gestel YR, Thomassen I*, Lemmens VE, Pruijt JF, van Herk-Sukel MP, Rutten HJ*, Creemers GJ*, de Hingh IH*

Eur J Surg Oncol. 2014 Aug;40(8):963-9. Epub 2013 Oct 16

*Voor abstract zie: Chirurgie - Thomassen I*

*impactfactor: 2.892*

**Hingh IH de**

**Morbidity Associated with Colostomy Reversal After Cytoreductive Surgery and HIPEC**

de Cuba EM, Verwaal VJ, de Hingh IH* van Mens LJ, Nienhuijs SW*, Aalbers AG, Bonjer HJ, Te Velde EA

Ann Surg Oncol. 2014 Mar;21(3):883-90. Epub 2013 Nov 18

BACKGROUND: Cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) has improved the survival in selected colorectal cancer patients with peritoneal metastases. In these patients, the risk of a low anastomosis is sometimes diminished through the creation of a colostomy. Currently, the morbidity and mortality associated with the reversal of the colostomy in this population is unknown.

METHODS: Our study involved two prospectively collected databases including all patients who underwent CRS-HIPEC. We identified all consecutive patients who had a colostomy and requested a reversal. The associations between four clinical and ten treatment-related factors with the outcome of the reversal procedure were determined by univariate analysis.

RESULTS: 21 of 336 patients (6.3 %) with a stoma with a mean age of 50.8 (standard deviation 10.2) years underwent a reversal procedure. One patient was classified as American Society of Anesthesiologists (ASA) grade III, 6 as ASA grade II, and the remaining as ASA grade I. Median time elapsed between HIPEC and reversal was 394 days (range 133-1194 days). No life-threatening complications or mortality were observed after reversal. The reversal-related morbidity was 67 %. Infectious complications were observed in 7 patients (33 %). Infectious complications after HIPEC were negatively correlated with the ultimate restoration of bowel continuity (P = 0.05). Bowel continuity was successfully restored in 71 % of the patients.

CONCLUSIONS: Although the restoration of bowel continuity after CRS-HIPEC was successful in most patients, a relatively high complication rate was observed. Patients with infectious complications after HIPEC have a diminished chance of successful restoration of bowel continuity.

*impactfactor: 3.943*

**Hingh IH de**

**Patterns of metachronous metastases after curative treatment of colorectal cancer**

van Gestel YR, de Hingh IH*, van Herk-Sukel MP, van Erning FN, Beerepoot LV, Wijsman JH, Slooter GD, Rutten HJ*, Creemers GJ*, Lemmens VE

Cancer Epidemiol. 2014 Aug;38(4):448-54.Epub 2014 May 17

BACKGROUND: This study aimed to provide information on timing, anatomical location, and predictors for metachronous metastases of colorectal cancer based on a large consecutive series of non-selected patients.

METHODS: All patients operated on with curative intent for colorectal cancer (TanyNanyM0) between 2003 and 2008 in the Dutch Eindhoven Cancer Registry were included (N=5671). By means of active follow-up by the Cancer Registry staff within ten hospitals, data on development of metastatic disease were collected. Median follow-up was 5.0 years.

RESULTS: Of the 5671 colorectal cancer patients, 1042 (18%) were diagnosed with metachronous metastases. Most common affected sites were the liver (60%), lungs (39%), extra-regional lymph nodes (22%), and peritoneum (19%). 86% of all metastases was diagnosed within three years and the median time to diagnosis was 17 months (interquartile range 10-29 months). Male gender (HR=1.2, 95%CI 1.03-1.32), an advanced primary T-stage (T4 vs. T3 HR=1.6, 95%CI 1.32-1.90) and N-stage (N1 vs. N0 HR=2.8, 95%CI 2.42-3.30 and N2 vs. N0 HR=4.5, 95%CI 3.72-5.42), high-grade tumour differentiation (HR=1.4, 95%CI 1.17-

1.62), and a positive (HR=2.1, 95%CI 1.68-2.71) and unknown (HR=1.7, 95%CI 1.34-2.22) resection margin were predictors for metachronous metastases.
CONCLUSIONS: Different patterns of metastatic spread were observed for colon and rectal cancer patients and differences in time to diagnosis were found. Knowledge on these patterns and predictors for metachronous metastases may enhance tailor-made follow-up schemes leading to earlier detection of metastasized disease and increased curative treatment options.

*Impactfactor: 2.558*

**Hingh IH de**

**Patterns of recurrence following complete cytoreductive surgery and hyperthermic intraperitoneal chemotherapy in patients with peritoneal carcinomatosis of colorectal cancer**

Braam HJ, van Oudheusden TR*, de Hingh IH*, Nienhuijs SW*, Boerma D, Wiezer MJ, van Ramshorst B. Surg Oncol. 2014 Jun;109(8):841-7. Epub 2014 Mar 12

*Voor abstract zie: Chirurgie - van Oudheusden TR*
*impactfactor: 2.843*

**Hingh IH de**

**Peritoneal carcinomatosis is less frequently diagnosed during laparoscopic surgery compared to open surgery in patients with colorectal cancer**

Thomassen I*, van Gestel YR, Aalbers AG, van Oudheusden TR*, Wegdam JA, Lemmens VE, de Hingh IH*

Eur J Surg Oncol. 2014 May;40(5):511-4

*Voor abstract zie: Chirurgie - Thomassen I*
*impactfactor: 2.892*

**Hingh IH de**

**Peritoneal carcinomatosis of gastric origin: A population-based study on incidence, survival and risk factors**

Thomassen I*, van Gestel YR, van Ramshorst B, Luyer MD*, Bosscha K, Nienhuijs SW*, Lemmens VE, de Hingh IH*

Int J Cancer. 2014 Feb 1;134(3):622-8

*Voor abstract zie: Chirurgie - Thomassen I*
*impactfactor: 5.007*

**Hingh IH de**

**Population-based incidence, treatment and survival of patients with peritoneal metastases of unknown origin**

Thomassen I*, Verhoeven RH, van Gestel YR, van de Wouw AJ, Lemmens VE, de Hingh IH*

Eur J Cancer. 2014 Jan;50(1):50-6.

*Voor abstract zie: Chirurgie - Thomassen I*
*impactfactor: 4.819*

**Hingh IH de**

**Preoperative Characteristics of Patients with Presumed Pancreatic Cancer but Ultimately Benign Disease: A Multicenter Series of 344 Pancreatoduodenectomies**

Gerritsen A, Molenaar IQ, Bollen TL, Nio CY, Dijkgraaf MG, van Santvoort HC, Offerhaus GJ, Brosens LA, Biermann K, Sieders E, de Jong KP, van Dam RM, van der Harst E, van Goor H, van Ramshorst B, Bonsing BA, de Hingh IH*, Gerhards MF, van Eijck CH, Gouma DJ, Borel Rinkes IH, Busch OR, Besselink MG; Dutch Pancreatic Cancer Group
Ann Surg Oncol. 2014 Nov;21(12):3999-4006. Epub 2014 May 29

BACKGROUND: Preoperative differentiation between malignant and benign pancreatic tumors can be difficult. Consequently, a proportion of patients undergoing pancreatoduodenectomy for suspected malignancy will ultimately have benign disease. The aim of this study was to compare preoperative clinical and diagnostic characteristics of patients with unexpected benign disease after pancreatoduodenectomy with those of patients with confirmed (pre)malignant disease.

METHODS: We performed a multicenter retrospective cohort study in 1,629 consecutive patients undergoing pancreatoduodenectomy for suspected malignancy between 2003 and 2010 in 11 Dutch centers. Preoperative characteristics were compared in a benign:malignant ratio of 1:3. Malignant cases were selected from the entire cohort by using a random number list. A multivariable logistic regression prediction model was constructed to predict benign disease.

RESULTS: Of 107 patients (6.6 %) with unexpected benign disease after pancreatoduodenectomy, 86 fulfilled the inclusion criteria and were compared with 258 patients with (pre)malignant disease. Patients with benign disease presented more often with pain (56 vs. 38 %; P = 0.004), but less frequently with jaundice (60 vs. 80 %; P < 0.01), a pancreatic mass (13 vs. 54 %, P < 0.001), or a double duct sign on computed tomography (21 vs. 47 %; P < 0.001). In a prediction model using these parameters, only 19 % of patients with benign disease were correctly predicted, and 1.4 % of patients with malignant disease were missed.

CONCLUSIONS: Nearly 7 % of patients undergoing pancreatoduodenectomy for suspected malignancy were ultimately diagnosed with benign disease. Although some preoperative clinical and imaging characteristics might indicate absence of malignancy, their discriminatory value is insufficient for clinical use.

*impactfactor: 3.943*

**Hingh IH de**

**Reduction of Postoperative Ileus by Early Enteral Nutrition in Patients Undergoing Major Rectal Surgery: Prospective, Randomized, Controlled Trial**

Boelens PG, Heesakkers FF*, Luyer MD*, van Barneveld KW, de Hingh IH*, Nieuwenhuijzen GA*, Roos AN*, Rutten HJ*
Ann Surg. 2014 Apr;259(4):649-55.Epub 2013 Oct 28.

*Voor abstract zie: Chirurgie - Heesakkers F*
*impactfactor: 7.188*

**Holman F**

**Feasibility of reirradiation in the treatment of locally recurrent rectal cancer**

Bosman SJ*, Holman FA*, Nieuwenhuijzen GA*, Martijn H*, Creemers GJ*, Rutten HJ*
Br J Surg. 2014 Sep;101(10):1280-9. Epub 2014 Jul 22
*Voor abstract zie:* *Chirurgie - Bosman SJ*
*impactfactor:* *5.21*

**Houten MM van den**

**Physical Activity Monitoring in Patients with Peripheral Arterial Disease: Validation of an Activity Monitor**

Fokkenrood HJ*, Verhofstad N*, van den Houten MM*, Lauret GJ*, Wittens C, Scheltinga MR, Teijink JA*
Eur J Vasc Endovasc Surg. 2014 Aug;48(2):194-200. Epub 2014 May 28
*Voor abstract zie:* *Chirurgie - Fokkenrood HJ*
*impactfactor:* *3.070*

**Jakimowicz JJ**

**Development and Clinical Implementation of a Hemostatic Balloon Device for Rectal Cancer Surgery**

Holman FA, van der Pant N, de Hingh IH*, Martijnse I*, Jakimowicz J*, Rutten HJ*, Goossens RH
Surg Innov. June 2014 21: 297-302. Epub 2013 Oct 30
*Voor abstract zie:* *Chirurgie - de Hingh IH*
*impactfactor:* *1.338*

**Jakimowicz JJ**

**Face Validation of a Portable Ergonomic Laparoscopy Skills Simulator for Single-incision Laparoscopic Surgery Training**

Xiao DJ, Albayrak A, Buzink SN, Jakimowicz JJ*, Goossens RH
Surg Technol Int. 2014 Mar;24:19-25

In recent years, many efforts have been made to reduce the trauma of surgical access further by the use of single-incision laparoscopic surgery (SILS). The Ergo-Lap (ergonomic laparoscopic) simulator was taken to the 20th International Congress of the European Association for Endoscopic Surgery (EAES) in 2012 in Brussels, Belgium. During the congress, the simulator was assessed by 13 general surgeons with different SILS experience using a standardized questionnaire to determine the usability of the Ergo-Lap simulator training for basic SILS skills. Eleven of the 13 participants rated the simulator as an attractive simulator (attractive here means arousing interest of the trainees).

*impactfactor:* --

**Jakimowicz JJ**

**Face, content, and construct validity of a novel portable ergonomic simulator for basic laparoscopic skills**

Xiao D, Jakimowicz JJ*, Albayrak A, Buzink SN, Botden SM, Goossens RH
J Surg Educ. 2014 Jan-Feb;71(1):65-72.

OBJECTIVE: Laparoscopic skills can be improved effectively through laparoscopic simulation. The purpose of this study was to verify the face and content validity of a new portable

Ergonomic Laparoscopic Skills simulator (Ergo-Lap simulator) and assess the construct validity of the Ergo-Lap simulator in 4 basic skills tasks.

DESIGN: Four tasks were evaluated: 2 different translocation exercises (a basic bimanual exercise and a challenging single-handed exercise), an exercise involving tissue manipulation under tension, and a needle-handling exercise. Task performance was analyzed according to speed and accuracy. The participants rated the usability and didactic value of each task and the Ergo-Lap simulator along a 5-point Likert scale.

SETTING: Institutional academic medical center with its affiliated general surgery residency.

PARTICIPANTS: Forty-six participants were allotted into 2 groups: a Novice group (n = 26, <10 clinical laparoscopic procedures) and an Experienced group (n = 20, >50 clinical laparoscopic procedures).

RESULTS: The Experienced group completed all tasks in less time than the Novice group did ($p < 0.001$, Mann-Whitney U test). The Experienced group also completed tasks 1, 2, and 4 with fewer errors than the Novice group did ($p < 0.05$). Of the Novice participants, 96% considered that the present Ergo-Lap simulator could encourage more frequent practice of laparoscopic skills. In addition, 92% would like to purchase this simulator. All of the experienced participants confirmed that the Ergo-Lap simulator was easy to use and useful for practicing basic laparoscopic skills in an ergonomic manner. Most (95%) of these respondents would recommend this simulator to other surgical trainees.

CONCLUSIONS: This Ergo-Lap simulator with multiple tasks was rated as a useful training tool that can distinguish between various levels of laparoscopic expertise. The Ergo-Lap simulator is also an inexpensive alternative, which surgical trainees could use to update their skills in the skills laboratory, at home, or in the office.

*impactfactor:* --

**Jakimowicz JJ**

**Immersive training: breaking the bubble and measuring the heat**

Pluyter JR, Rutkowski AF, Jakimowicz JJ*

Surg Endosc. 2014 May;28(5):1545-54

BACKGROUND: Minimal access surgery and, lately, single-incision laparoscopic procedures are challenging and demanding with regard to the skills of the surgeon performing the procedures. This article presents the results of an investigation of the performance and attention focus of 21 medical interns and surgical residents training in an immersive context. That is, training 'in situation', representing more realistically the demands imposed on the surgeons during minimal access surgery.

METHODS: Twenty-one medical interns and surgical residents participated in simulation trainings in an integrated operating room for laparoscopic surgery. Various physiological measures of body heat expenditure were gathered as indicators of mental strain and attention focus.

RESULTS: The results of the Mann-Whitney test indicated that participants with a poor performance in the two laparoscopic cholecystectomy cases had a significantly ($U = 3$, $p = 0.038$) higher heat flux at the start of the procedure (mean 107.08, standard deviation [SD] 24.34) than those who excelled in the two cases (mean 62.64, SD 23.41). Also, the average frontal head temperature of the participants who failed at the task was significantly lower (mean 33.27, SD 0.52) than those who performed well (mean 33.92, SD 0.27).

CONCLUSIONS: Surgeons cannot operate in a bubble; thus, they should not be trained in one. Combining heat flux and frontal head temperature could be a good measure of deep involvement and attentional focus during performance of simulated surgical tasks.

*impactfactor: 3.313*

**Koëter M**

**Hospital of diagnosis and probability to receive a curative treatment for oesophageal cancer**

Koëter M*, van Steenbergen LN, Lemmens VE, Rutten HJ*, Roukema JA, Wijnhoven BP, Nieuwenhuijzen GA*

Eur J Surg Oncol. 2014 Oct;40(10):1338-45. Epub 2014 Jan 18

BACKGROUND: Surgical treatment of oesophageal cancer in the Netherland is performed in high volume centres. However, the decision to refer patients for curative surgery is made in the referring hospital of diagnosis. The objective of this study was to determine the influence of hospital of diagnosis on the probability of receiving a curative treatment and survival. MATERIAL AND METHOD: All patients with resectable oesophageal cancer (cT1-3, cN0-3, cM0-1A) diagnosed between 2003 and 2010 (n = 849) were selected from the population-based Eindhoven Cancer Registry, an area with ten non-academic hospitals. Multivariate logistic regression analysis was conducted to examine the independent influence of hospital of diagnosis on the probability to receive curative treatment. Furthermore, the effect of hospital of diagnosis on overall survival was examined using multivariate Cox regression analysis.

RESULTS: 849 patients were included in the study. A difference in proportion of patients referred for surgery was observed ranging from 33% to 67% (p = 0.002) between hospitals of diagnosis. Multivariate logistic regression analysis confirmed the effect of hospital of diagnosis on the chance of undergo curative treatment (OR 0.1, 95% CI 0.1-0.4). Multivariate Cox regression analysis showed that hospital of diagnosis also had an effect on overall survival, up to hazard ratio (HR) 2.2 (95% CI 1.3-3.7).

CONCLUSION: There is a strong relation between hospital of diagnosis and the chance of referring patients with oesophageal cancer for a curative treatment as well as overall survival. Patients diagnosed with oesophageal cancer should be discussed within a regional multidisciplinary expert panel.

*impactfactor: 2.892*

**Kusters M**

**T4 rectal cancer: do we always need an exenteration?**

Vermeer TA*, Kusters M*, Rutten HJ*

Recent Results Cancer Res. 2014;203:69-94

*Voor abstract zie: Chirurgie - Vermeer TA*

*impactfactor: --*

**Lauret GJ**

**Modes of exercise training for intermittent claudication**

Lauret GJ*, Fakhry F, Fokkenrood HJ*, Hunink MG, Teijink JA*, Spronk S

Cochrane Database Syst Rev. 2014 Jul 4;7:CD009638

BACKGROUND: According to international guidelines and literature, all patients with intermittent claudication should receive an initial treatment of cardiovascular risk modification, lifestyle coaching, and supervised exercise therapy. In most studies, supervised

exercise therapy consists of treadmill or track walking. However, alternative modes of exercise therapy have been described and yielded similar results to walking. Therefore, the following question remains: Which exercise mode gives the most beneficial results? OBJECTIVES: Primary objective: To assess the effects of different modes of supervised exercise therapy on the maximum walking distance (MWD) of patients with intermittent claudication.Secondary objectives: To assess the effects of different modes of supervised exercise therapy on pain-free walking distance (PFWD) and health-related quality of life scores (HR-QoL) of patients with intermittent claudication.

SEARCH METHODS: The Cochrane Peripheral Vascular Diseases Group Trials Search Co-ordinator searched the Cochrane Peripheral Vascular Diseases Group Specialised Register (July 2013); CENTRAL (2013, Issue 6), in The Cochrane Lib rary; and clinical trials databases. The authors searched the MEDLINE (1946 to July 2013) and Embase (1973 to July 2013) databases and reviewed the reference lists of identified articles to detect other relevant citations.

SELECTION CRITERIA: Randomised controlled trials of studies comparing alternative modes of exercise training or combinations of exercise modes with a control group of supervised walking exercise in patients with clinically determined intermittent claudication. The supervised walking programme needed to be supervised at least twice a week for a consecutive six weeks of training.

DATA COLLECTION AND ANALYSIS: Two authors independently selected studies, extracted data, and assessed the risk of bias for each study. Because of different treadmill test protocols to assess the maximum or pain-free walking distance, we converted all distances or walking times to total metabolic equivalents (METs) using the American College of Sports Medicine (ACSM) walking equation.

MAIN RESULTS: In this review, we included a total of five studies comparing supervised walking exercise and alternative modes of exercise. The alternative modes of exercise therapy included cycling, strength training, and upper-arm ergometry. The studies represented a sample size of 135 participants with a low risk of bias. Overall, there was no clear evidence of a difference between supervised walking exercise and alternative modes of exercise in maximum walking distance (8.15 METs, 95% confidence interval (CI) -2.63 to 18.94, P = 0.14, equivalent of an increase of 173 metres, 95% CI -56 to 401) on a treadmill with no incline and an average speed of 3.2 km/h, which is comparable with walking in daily life.Similarly, there was no clear evidence of a difference between supervised walking exercise and alternative modes of exercise in pain-free walking distance (6.42 METs, 95% CI -1.52 to 14.36, P = 0.11, equivalent of an increase of 136 metres, 95% CI -32 to 304). Sensitivity analysis did not alter the results significantly. Quality of life measures showed significant improvements in both groups; however, because of skewed data and the very small sample size of the studies, we did not perform a meta-analysis for health-related quality of life and functional impairment.

AUTHORS' CONCLUSIONS: There was no clear evidence of differences between supervised walking exercise and alternative exercise modes in improving the maximum and pain-free walking distance of patients with intermittent claudication. More studies with larger sample sizes are needed to make meaningful comparisons between each alternative exercise mode and the current standard of supervised treadmill walking. The results indicate that alternative exercise modes may be useful when supervised walking exercise is not an option for the patient.

*impactfactor:* --

**Lauret GJ**

**Physical Activity Monitoring in Patients with Intermittent Claudication**

Lauret GJ*, Fokkenrood HJ*, Bendermacher BL*, Scheltinga MR, Teijink JA*

Eur J Vasc Endovasc Surg. 2014 Jun;47(6):656-63. Epub 2014 Apr 13

OBJECTIVES: Reduced physical activity (PA) is associated with a higher mortality rate and more rapid functional decline in patients with intermittent claudication (IC). The newest generation of accelerometers can assess both direction and intensity of activities three-dimensionally and may also adequately calculate energy expenditure in daily life. The aim of this study was to quantify daily PA level and energy expenditure of newly diagnosed patients with IC and healthy controls. PA outcomes are compared with contemporary public health physical activity guidelines.

METHODS: Before initiating treatment, 94 patients with newly diagnosed IC and 36 healthy controls were instructed to wear a tri-axial seismic accelerometer for 1 week. Daily PA levels (in metabolic equivalents, METs) were compared with the ACSM/AHA public health PA minimum recommendations (=64 METs·min·day, in bouts of =10 minutes). A subgroup analysis assessed the effect of functional impairment on daily PA levels.

RESULTS: Data from 56 IC patients and 27 healthy controls were available for analysis. Patients with IC demonstrated significantly lower mean daily PA levels (±SD) than controls (387 ± 198 METs·min vs. 500 ± 156 METs·min, p = .02). This difference was solely attributable to a subgroup of IC patients with the largest functional impairment (WIQ-score < 0.4). Only 45% of IC patients met the public health physical activity guidelines compared with 74% of the healthy controls (p = .01).

CONCLUSIONS: More than half of patients with IC do not meet recommended standards of PA. Considering the serious health risks associated with low PA levels, these findings underscore the need for more awareness to improve physical exercise in patients with IC.

*Impactfactor: 3.070*

**Lauret GJ**

**Physical Activity Monitoring in Patients with Peripheral Arterial Disease: Validation of an Activity Monitor**

Fokkenrood HJ*, Verhofstad N*, van den Houten MM*, Lauret GJ*, Wittens C, Scheltinga MR, Teijink JA*

Eur J Vasc Endovasc Surg. 2014 Aug;48(2):194-200. Epub 2014 May 28

*Voor abstract zie: Chirurgie - Fokkenrood HJ*
*impactfactor: 3.070*

**Luyer MD**

**Cytoreduction and Hyperthermic Intraperitoneal Chemotherapy: A Feasible and Effective Option for Colorectal Cancer Patients After Emergency Surgery in the Presence of Peritoneal Carcinomatosis**

van Oudheusden TR*, Braam HJ, Nienhuijs SW*, Wiezer MJ, van Ramshorst B, Luyer MD*, Lemmens VE, de Hingh IH*

Ann Surg Oncol. 2014 Aug;21(8):2621-6. Epub 2014 Mar 27

*Voor abstract zie: Chirurgie - van Oudheusden TR*
*impactfactor: 3.943*

**Luyer MD**

**Massive surgical emphysema following transanal endoscopic microsurgery**

Simkens GA*, Nienhuijs SW*, Luyer MD*, de Hingh IH*

World J Gastrointest Surg. 2014 Aug 27;6(8):160-3

*Voor abstract zie: Chirurgie - Simkens GA*

*impactfactor: 2.433*

**Luyer MD**

**Peritoneal carcinomatosis of gastric origin: A population-based study on incidence, survival and risk factors**

Thomassen I*, van Gestel YR, van Ramshorst B, Luyer MD*, Bosscha K, Nienhuijs SW*, Lemmens VE, de Hingh IH*

Int J Cancer. 2014 Feb 1;134(3):622-8

*Voor abstract zie: Chirurgie - Thomassen I*

*impactfactor: 5.007*

**Luyer MD**

**Reduction of Postoperative Ileus by Early Enteral Nutrition in Patients Undergoing Major Rectal Surgery: Prospective, Randomized, Controlled Trial**

Boelens PG, Heesakkers FF*, Luyer MD*, van Barneveld KW, de Hingh IH*, Nieuwenhuijzen GA*, Roos AN*, Rutten HJ*

Ann Surg. 2014 Apr;259(4):649-55.Epub 2013 Oct 28.

*Voor abstract zie: Chirurgie - Heesakkers F*

*impactfactor: 7.188*

**Luyer MD**

**Study protocol for the nutritional route in oesophageal resection trial: a single-arm feasibility trial (NUTRIENT trial)**

Weijs TJ*, Nieuwenhuijzen GA*, Ruurda JP, Kouwenhoven EA, Rosman C, Sosef M, V Hillegersberg R, Luyer MD*

BMJ Open. 2014;4:e004557

*Voor abstract zie: Chirurgie - Weijs TJ*

*impactfactor: 2.063*

**Martijnse IS**

**Development and Clinical Implementation of a Hemostatic Balloon Device for Rectal Cancer Surgery**

Holman FA, van der Pant N, de Hingh IH*, Martijnse I*, Jakimowicz J*, Rutten HJ*, Goossens RH

Surg Innov. June 2014 21: 297-302. Epub 2013 Oct 30

*Voor abstract zie: Chirurgie - de Hingh IH*

*impactfactor: 1.338*

**Martijnse IS**

**Differences in Circumferential Resection Margin Involvement After Abdominoperineal Excision and Low Anterior Resection No Longer Significant**

van Leersum N, Martijnse I*, den Dulk M, Kolfschoten N, Le Cessie S, van de Velde C, Tollenaar R, Wouters M, Rutten HJ*

Ann Surg. 2014 Jun;259(6):1150-5

OBJECTIVE:: The aim of this study was to evaluate whether the abdominoperineal excision (APE) is associated with an increased risk of circumferential resection margin (CRM) involvement after rectal cancer surgery in comparison with low anterior resection (LAR). BACKGROUND:: The oncologic inferiority of the APE technique in comparison with LAR has been widely reported in literature. However, because of large evolvement in rectal cancer care, outcomes after APE may have improved since then.

METHODS:: The population-based dataset of the Dutch Surgical Colorectal Audit was used selecting 5017 patients with primary rectal cancer undergoing surgery in 2010 to 2011. Propensity scores were calculated for the likelihood of performing an APE given relevant patient and tumor characteristics, and used in the multivariate analysis of CRM involvement. RESULTS:: The APE was associated with a slight, nonsignificant, increased risk of CRM involvement [odds ratio (OR) = 1·33; confidence interval (CI) = 0.93-1.90]. Absolute percentages of CRM involvement were 8% and 12% after LAR and APE, respectively.In the subgroup analysis, advanced rectal tumors (cT3-4) were associated to a higher risk of CRM involvement after APE (OR = 1.61; CI = 1.05-1.90), whereas smaller tumors (cT1-2) were not (OR = 0.62; CI = 0.27-1.40).

CONCLUSIONS:: The results suggest that on a national level the APE procedure itself is not a strong predictor anymore for CRM involvement after rectal cancer surgery. However, in advanced tumors, results after APE are inferior to LAR.

*impactfactor: 7.188*

**Montfort G van**

**Relax, It's Just Laparoscopy! A Prospective Randomized Trial on Heart Rate Variability of the Surgeon in Robot-Assisted versus Conventional Laparoscopic Cholecystectomy**

Heemskerk J, Zandbergen HR, Keet SW, Martijnse I, van Montfort G*, Peters RJ, Svircevic V*, Bouwman RA*, Baeten CG, Bouvy ND

Dig Surg. 2014;31(3):225-32. Epub 2014 Sep 25

Background: Laparoscopic surgery might be beneficial for the patient, but it imposes increased physical and mental strain on the surgeon. Robot-assisted laparoscopic surgery addresses some of the laparoscopic drawbacks and may potentially reduce mental strain. This could reduce the risk of surgeon's fatigue, mishaps and strain-induced illnesses, which may eventually improve the safety of laparoscopic surgical procedures. Methods: To test this hypothesis, a randomized study was performed, comparing both heart rate and heart rate variability (HRV) of the surgeon as a measure of total and mental strain, respectively, during conventional and robot-assisted laparoscopic cholecystectomy. Results: Both heart rate and HRV (the low-frequency band/high-frequency band ratio) were significantly decreased when using robotic assistance. Conclusions: These data suggest the use of the daVinci® Surgical System leads to less physical and mental strain of the surgeon during surgery. However, assessing mental strain by means of HRV is cumbersome since there is no clear cutoff point or scale for maximum tolerated strain levels and its related effects on surgeon's

*impactfactor: 1.742*

**Nienhuijs SW**

**Cytoreduction and Hyperthermic Intraperitoneal Chemotherapy: A Feasible and Effective Option for Colorectal Cancer Patients After Emergency Surgery in the Presence of Peritoneal Carcinomatosis**

van Oudheusden TR*, Braam HJ, Nienhuijs SW*, Wiezer MJ, van Ramshorst B, Luyer MD*, Lemmens VE, de Hingh IH*

Ann Surg Oncol. 2014 Aug;21(8):2621-6. Epub 2014 Mar 27

*Voor abstract zie: Chirurgie - van Oudheusden TR*
*impactfactor: 3.943*

**Nienhuijs SW**

**Massive surgical emphysema following transanal endoscopic microsurgery**

Simkens GA*, Nienhuijs SW*, Luyer MD*, de Hingh IH*

World J Gastrointest Surg. 2014 Aug 27;6(8):160-3

*Voor abstract zie: Chirurgie - Simkens GA*
*impactfactor: --*

**Nienhuijs SW**

**Mesh Or Patch for Hernia on Epigastric and Umbilical Sites (MORPHEUS trial): study protocol for a multi-centre patient blinded randomized controlled trial**

Ponten JE*, Leenders BJ, Charbon JA, Lettinga-van de Poll T, Heemskerk J, Martijnse IS, Konsten JL, Nienhuijs SW*

BMC Surg. 2014 May 22;14(1):33

*Voor abstract zie: Chirurgie - Ponten JE*
*impactfactor: 1.24*

**Nienhuijs SW**

**Morbidity Associated with Colostomy Reversal After Cytoreductive Surgery and HIPEC**

de Cuba EM, Verwaal VJ, de Hingh IH* van Mens LJ, Nienhuijs SW*, Aalbers AG, Bonjer HJ, Te Velde EA

Ann Surg Oncol. 2014 Mar;21(3):883-90. Epub 2013 Nov 18

*Voor abstract zie: Chirurgie - de Hingh IH*
*impactfactor: 3.943*

**Nienhuijs SW**

**Nutrient Deficiencies Before and After Sleeve Gastrectomy**

van Rutte PW*, Aarts EO, Smulders JF*, Nienhuijs SW*

Obes Surg. 2014 Oct;24(10):1639-46

*Voor abstract zie: Chirurgie - Rutte PW van*
*impactfactor: 3.739*

**Nienhuijs SW**

**Outcome of sleeve gastrectomy as a primary bariatric procedure**

van Rutte PW*, Smulders JF*, de Zoete JP*, Nienhuijs SW*

Br J Surg. 2014 May;101(6):661-8

*Voor abstract zie: Chirurgie - Rutte PW van*
*impactfactor: 5.21*

**Nienhuijs SW**

**Patterns of recurrence following complete cytoreductive surgery and hyperthermic intraperitoneal chemotherapy in patients with peritoneal carcinomatosis of colorectal cancer**

Braam HJ, van Oudheusden TR*, de Hingh IH*, Nienhuijs SW*, Boerma D, Wiezer MJ, van Ramshorst

B. Surg Oncol. 2014 Jun;109(8):841-7. Epub 2014 Mar 12

*Voor abstract zie: Chirurgie - van Oudheusden TR*
*impactfactor: 2.843*

**Nienhuijs SW**

**Peritoneal carcinomatosis of gastric origin: A population-based study on incidence, survival and risk factors**

Thomassen I*, van Gestel YR, van Ramshorst B, Luyer MD*, Bosscha K, Nienhuijs SW*, Lemmens VE, de Hingh IH*

Int J Cancer. 2014 Feb 1;134(3):622-8

*Voor abstract zie: Chirurgie - Thomassen I*
*impactfactor: 5.007*

**Nienhuijs SW**

**Preoperative exercise therapy for elective major abdominal surgery: A systematic review**

Pouwels S*, Stokmans RA*, Willigendael EM, Nienhuijs SW*, Rosman C, van Ramshorst B, Teijink JA*

Int J Surg. 2014;12(2):134-40.. Epub 2013 Dec 87

*Voor abstract zie: Chirurgie - Pouwels S*
*impactfactor: 1.650*

**Nienhuijs SW**

**Randomized clinical trial comparing self-gripping mesh with suture fixation of lightweight polypropylene mesh in open inguinal hernia repair**

Sanders DL, Nienhuijs S*, Ziprin P, Miserez M, Gingell-Littlejohn M, Smeds S.

Br J Surg. 2014 Oct;101(11):1373-82; discussion 1382. Epub 2014 Aug 21

BACKGROUND: Postoperative pain is an important adverse event following inguinal hernia repair. The aim of this trial was to compare postoperative pain within the first 3 months and 1 year after surgery in patients undergoing open mesh inguinal hernia repair using either a self-gripping lightweight polyester mesh or a polypropylene lightweight mesh fixed with sutures.

METHODS: Adult men undergoing Lichtenstein repair for primary inguinal hernia were randomized to ProGrip™ self-gripping mesh or standard sutured lightweight polypropylene

mesh.

RESULTS: In total 557 men were included in the final analysis (self-gripping mesh 270, sutured mesh 287). Early postoperative pain scores were lower with self-gripping mesh than with sutured lightweight mesh: mean visual analogue pain score relative to baseline +1·3 and +8·6 respectively at discharge (P?=?0·033), and mean surgical pain scale score relative to baseline +4·2 and +9·7 respectively on day 7 (P?=?0·027). There was no significant difference in mid-term (1?month) and long-term (3?months and 1 year) pain scores between the groups. Surgery was significantly quicker with self-gripping mesh (mean difference 7·6?min; P?<?0·001). There were no significant differences in reported mesh handling, analgesic consumption, other wound complications, patient satisfaction or hernia recurrence between the groups.

CONCLUSION: Self-gripping mesh for open inguinal hernia repair was well tolerated and reduced early postoperative pain (within the first week), without increasing the risk of early recurrence. It did not reduce chronic pain.

*impactfactor: 5.21*

**Nieuwenhuijzen GA**

**A Model to Predict Pathologic Complete Response of Axillary Lymph Nodes to Neoadjuvant Chemo(Immuno)Therapy in Patients With Clinically Node-Positive Breast Cancer**

Schipper RJ, Moossdorff M, Nelemans PJ, Nieuwenhuijzen GA*, de Vries B, Strobbe LJ, Roumen RM, van den Berkmortel F, Tjan-Heijnen VC, Beets-Tan RG, Lobbes MB, Smidt ML

Clin Breast Cancer. 2014 Oct;14(5):315-22. Epub 2014 Jan

BACKGROUND: Between 20% and 42% of patients with clinically node-positive breast cancer achieve a pathologic complete response (pCR) of axillary lymph nodes after neoadjuvant chemotherapy or immunotherapy, or both, (chemo[immuno]therapy). Hypothetically, axillary lymph node dissection (ALND) may be safely omitted in these patients. This study aimed to develop a model for predicting axillary pCR in these patients.

PATIENTS AND METHODS: We retrospectively identified patients with clinically node-positive breast cancer who were treated with neoadjuvant chemo(immuno)therapy and ALND between 2005 and 2012 in 5 hospitals. Patient and tumor characteristics, neoadjuvant chemo(immuno)therapy regimens, and pathology reports were extracted. Binary logistic regression analysis was used to predict axillary pCR with the following variables: age, tumor stage and type, hormone receptor and human epidermal growth factor receptor 2 (HER2) status, and administration of taxane and trastuzumab. The model was internally validated by bootstrap resampling. The overall performance of the model was assessed by the Brier score and the discriminative performance by receiver operating characteristic (ROC) curve analysis.

RESULTS: A model was developed based on 291 patients and was internally validated with a scaled Brier score of 0.14. The area under the ROC curve of this model was 0.77 (95% confidence interval [CI], 0.71-0.82). At a cutoff value of predicted probability = 0.50, the model demonstrated specificity of 88%, sensitivity of 43%, positive predictive value (PPV) of 65%, and negative predictive value (NPV) of 75%.

CONCLUSION: This prediction model shows reasonable accuracy for predicting axillary pCR. However, omitting axillary treatment based solely on the nomogram score is not justified. Further research is warranted to noninvasively identify patients with axillary pCR.

*impactfactor: 2.628*

**Nieuwenhuijzen GA**

**Abdominosacral resection: Long-term outcome in 86 patients with locally advanced or locally recurrent rectal cancer**

Bosman SJ*, Vermeer TA*, Dudink RL*, de Hingh IH*, Nieuwenhuijzen GA*, Rutten HJ*
Eur J Surg Oncol. 2014 Jun;40(6):699-705. Epub 2014 Feb 28
*Voor abstract zie: Chirurgie - Bosman SJ*
*impactfactor: 2.892*

**Nieuwenhuijzen GA**

**Anastomotic leakage and presacral abscess formation after locally advanced rectal cancer surgery: Incidence, risk factors and treatment**

Vermeer TA*, Orsini RG*, Daams F*, Nieuwenhuijzen GA*, Rutten HJ*
Eur J Surg Oncol. 2014 Nov;40(11):1502-9. Epub 2014 Apr 4
*Voor abstract zie: Chirurgie - Vermeer TA*
*impactfactor: 2.892*

**Nieuwenhuijzen GA**

**Efficacy of six month neoadjuvant endocrine therapy in postmenopausal, hormone receptor-positive breast cancer patients - A phase II trial**

Fontein DB, Charehbili A, Nortier JW, Meershoek-Klein Kranenbarg E, Kroep JR, Putter H, van Riet Y*, Nieuwenhuijzen GA*, de Valk B, Terwogt JM, Algie GD, Liefers GJ, Linn S, van de Velde CJ
Eur J Cancer. 2014 Sep;50(13):2190-200. Epub 2014 Jun 23
*Voor abstract zie: Chirurgie - van Riet EA*
*impactfactor: 4.819*

**Nieuwenhuijzen GA**

**Feasibility of reirradiation in the treatment of locally recurrent rectal cancer**

Bosman SJ*, Holman FA*, Nieuwenhuijzen GA*, Martijn H*, Creemers GJ*, Rutten HJ*
Br J Surg. 2014 Sep;101(10):1280-9. Epub 2014 Jul 22
*Voor abstract zie: Chirurgie - Bosman SJ*
*impactfactor: 5.21*

**Nieuwenhuijzen GA**

**Hospital of diagnosis and probability to receive a curative treatment for oesophageal cancer**

Koëter M*, van Steenbergen LN, Lemmens VE, Rutten HJ*, Roukema JA, Wijnhoven BP, Nieuwenhuijzen GA*
Eur J Surg Oncol. 2014 Oct;40(10):1338-45. Epub 2014 Jan 18
*Voor abstract zie: Chirurgie - Koëter M*
*impactfactor: 2.892*

**Nieuwenhuijzen GA**

**Intra-abdominal esophageal duplication cyst: A case report and review of the literature**

Castelijns PS*, Woensdregt K*, Hoevenaars B*, Nieuwenhuijzen GA*

World J Gastrointest Surg. 2014 Jun 27;6(6):112-6

*Voor abstract zie:* *Chirurgie - Castelijns PS*

*impactfactor:* --

**Nieuwenhuijzen GA**

**Lymph node retrieval during esophagectomy with and without neoadjuvant chemoradiotherapy: prognostic and therapeutic impact on survival**

Koen Talsma A, Shapiro J, Looman CW, van Hagen P, Steyerberg EW, van der Gaast A, van Berge Henegouwen MI, Wijnhoven BP, van Lanschot JJ; CROSS Study Group, Hulshof MC, van Laarhoven HW, Nieuwenhuijzen GA*, Hospers GA, Bonenkamp JJ, Cuesta MA, Blaisse RJ, Busch OR, ten Kate FJ, Creemers GJ, Punt CJ, Plukker JT, Verheul HM, van Dekken H, van der Sangen MJ, Rozema T, Biermann K, Beukema JC, Piet AH, van Rij CM, Reinders JG, Tilanus HW.

Ann Surg. 2014 Nov;260(5):786-92; discussion 792-

OBJECTIVES: We aimed to examine the association between total number of resected nodes and survival in patients after esophagectomy with and without nCRT.

BACKGROUND: Most studies concerning the potentially positive effect of extended lymphadenectomy on survival have been performed in patients who underwent surgery alone. As nCRT is known to frequently "sterilize" regional nodes, it is unclear whether extended lymphadenectomy after nCRT is still useful.

METHODS: Patients from the randomized CROSS-trial who completed the entire protocol (ie, surgery alone or chemoradiotherapy + surgery) were included. With Cox regression models, we compared the impact of number of resected nodes as well as resected positive nodes on survival in both groups.

RESULTS: One hundred sixty-one patients underwent surgery alone, and 159 patients received multimodality treatment. The median (interquartile range) number of resected nodes was 18 (12-27) and 14 (9-21), with 2 (1-6) and 0 (0-1) resected positive nodes, respectively. Persistent lymph node positivity after nCRT had a greater negative prognostic impact on survival as compared with lymph node positivity after surgery alone. The total number of resected nodes was significantly associated with survival for patients in the surgery-alone arm (hazard ratio per 10 additionally resected nodes, 0.76; P=0.007), but not in the multimodality arm (hazard ratio 1.00; P=0.98).

CONCLUSIONS: The number of resected nodes had a prognostic impact on survival in patients after surgery alone, but its therapeutic value is still controversial. After nCRT, the number of resected nodes was not associated with survival. These data question the indication for maximization of lymphadenectomy after nCRT.

*impactfactor:* *7.188*

**Nieuwenhuijzen GA**

**Oncological outcome of malignant colonic obstruction in the Dutch Stent-In 2 trial**

Sloothaak DA, van den Berg MW, Dijkgraaf MG, Fockens P, Tanis PJ, van Hooft JE, Bemelman WA; collaborative Dutch Stent-In study group: Gilissen LP, Nieuwenhuijzen GA Br J Surg. 2014 Dec;101(13):1751-7. Epub 2014 Oct 9

*Voor abstract zie: Inwendige geneeskunde / Maag-darm-leverziekten – Gilissen LP*
*impactfactor: 5.21*

**Nieuwenhuijzen GA**

**Prognostic factors for medium- and long-term survival of esophageal cancer patients in the Netherlands**

Bus P, Lemmens VE, van Oijen MG, Creemers GJ*, Nieuwenhuijzen GA*, van Baal JW, Siersema PD J Surg Oncol. 2014 Apr;109(5):465-71.

*Voor abstract zie: Inwendige geneeskunde - Creemers GJ*
*impactfactor: 2.843*

**Nieuwenhuijzen GA**

**Prolonged time to surgery after neoadjuvant chemoradiotherapy increases histopathological response without affecting survival in patients with esophageal or junctional cancer**

Shapiro J, van Hagen P, Lingsma HF, Wijnhoven BP, Biermann K, ten Kate FJ, Steyerberg EW, van der Gaast A, van Lanschot JJ; CROSS Study Group. (Nieuwenhuijzen GA, Creemers GJ, van der Sangen MJ)

Ann Surg. 2014 Nov;260(5):807-13; discussion 813-4

OBJECTIVE: To determine the relation between time to surgery (TTS) after neoadjuvant chemoradiotherapy (nCRT) and pathologically complete response (pCR), surgical outcome, and survival in patients with esophageal cancer.

BACKGROUND: Standard treatment for potentially curable esophageal cancer is nCRT plus surgery after 4 to 6 weeks. In rectal cancer patients, evidence suggests that prolonged TTS is associated with a higher pCR rate and possibly with better survival.

METHODS: We identified patients treated with nCRT plus surgery for esophageal cancer between 2001 and 2011. TTS (last day of radiotherapy to day of surgery) varied mainly for logistical reasons. Minimal follow-up was 24 months. The effect of TTS on pCR rate, postoperative complications, and survival was determined with (ordinal) logistic, linear, and Cox regression, respectively.

RESULTS: In total, 325 patients were included. Median TTS was 48 days (p25-p75=40-60). After 45 days, TTS was associated with an increased probability of pCR [odds ratio (OR)=1.35 per additional week of TSS, P=0.0004] and a small increased risk of postoperative complications (OR=1.20, P<0.001). Prolonged TTS had no effect on disease-free and overall survivals (HR=1.00 and HR=1.06 per additional week of TSS, P=0.976 and P=0.139, respectively).

CONCLUSIONS: Prolonged TTS after nCRT increases the probability of pCR and is associated with a slightly increased probability of postoperative complications, without affecting disease-free and overall survivals. We conclude that TTS can be safely prolonged from the usual 4 to 6 weeks up to at least 12 weeks, which facilitates a more conservative wait-and-see strategy after neoadjuvant chemoradiotherapy to be tested.

*impactfactor: 7.188*

**Nieuwenhuijzen GA**

**Radiotherapy or surgery of the axilla after a positive sentinel node in breast cancer**

Donker M, van Tienhoven G, Straver ME, Meijnen P, van de Velde CJ, Mansel RE, Cataliotti L, Westenberg AH, Klinkenbijl JH, Orzalesi L, Bouma WH, van der Mijle HC, Nieuwenhuijzen GA*, Veltkamp SC, Slaets L, Duez NJ, de Graaf PW, van Dalen T, Marinelli A Rijna H, Snoj M, Bundred NJ, Merkus JW, Belkacemi Y, Petignat P, Schinagl DA, Coens C, Messina CG, Bogaerts J, Rutgers EJ

Lancet Oncol. 2014 Nov;15(12):1303-10

BACKGROUND: If treatment of the axilla is indicated in patients with breast cancer who have a positive sentinel node, axillary lymph node dissection is the present standard. Although axillary lymph node dissection provides excellent regional control, it is associated with harmful side-effects. We aimed to assess whether axillary radiotherapy provides comparable regional control with fewer side-effects.

METHODS: Patients with T1-2 primary breast cancer and no palpable lymphadenopathy were enrolled in the randomised, multicentre, open-label, phase 3 non-inferiority EORTC 10981-22023 AMAROS trial. Patients were randomly assigned (1:1) by a computer-generated allocation schedule to receive either axillary lymph node dissection or axillary radiotherapy in case of a positive sentinel node, stratified by institution. The primary endpoint was non-inferiority of 5-year axillary recurrence, considered to be not more than 4% for the axillary radiotherapy group compared with an expected 2% in the axillary lymph node dissection group. Analyses were by intention to treat and per protocol. The AMAROS trial is registered with ClinicalTrials.gov, number NCT00014612.

FINDINGS: Between Feb 19, 2001, and April 29, 2010, 4823 patients were enrolled at 34 centres from nine European countries, of whom 4806 were eligible for randomisation. 2402 patients were randomly assigned to receive axillary lymph node dissection and 2404 to receive axillary radiotherapy. Of the 1425 patients with a positive sentinel node, 744 had been randomly assigned to axillary lymph node dissection and 681 to axillary radiotherapy; these patients constituted the intention-to-treat population. Median follow-up was 6·1 years (IQR 4·1-8·0) for the patients with positive sentinel lymph nodes. In the axillary lymph node dissection group, 220 (33%) of 672 patients who underwent axillary lymph node dissection had additional positive nodes. Axillary recurrence occurred in four of 744 patients in the axillary lymph node dissection group and seven of 681 in the axillary radiotherapy group. 5-year axillary recurrence was 0·43% (95% CI 0·00-0·92) after axillary lymph node dissection versus 1·19% (0·31-2·08) after axillary radiotherapy. The planned non-inferiority test was underpowered because of the low number of events. The one-sided 95% CI for the underpowered non-inferiority test on the hazard ratio was 0·00-5·27, with a non-inferiority margin of 2. Lymphoedema in the ipsilateral arm was noted significantly more often after axillary lymph node dissection than after axillary radiotherapy at 1 year, 3 years, and 5 years.

INTERPRETATION: Axillary lymph node dissection and axillary radiotherapy after a positive sentinel node provide excellent and comparable axillary control for patients with T1-2 primary breast cancer and no palpable lymphadenopathy. Axillary radiotherapy results in significantly less morbidity.

*impactfactor: 24.725*

**Nieuwenhuijzen GA**

**Reduction of Postoperative Ileus by Early Enteral Nutrition in Patients Undergoing Major Rectal Surgery: Prospective, Randomized, Controlled Trial**

Boelens PG, Heesakkers FF*, Luyer MD*, van Barneveld KW, de Hingh IH*, Nieuwenhuijzen GA*, Roos AN*, Rutten HJ*

Ann Surg. 2014 Apr;259(4):649-55.Epub 2013 Oct 28.

*Voor abstract zie: Chirurgie - Heesakkers F*
*impactfactor: 7.188*

**Nieuwenhuijzen GA**

**Study protocol for the nutritional route in oesophageal resection trial: a single-arm feasibility trial (NUTRIENT trial)**

Weijs TJ*, Nieuwenhuijzen GA*, Ruurda JP, Kouwenhoven EA, Rosman C, Sosef M, V Hillegersberg R, Luyer MD*

BMJ Open. 2014;4:e004557

*Voor abstract zie: Chirurgie - Weijs TJ*
*impactfactor: 2.063*

**Nieuwenhuijzen GA**

**The individual and combined effect of colorectal cancer and diabetes on health-related quality of life and sexual functioning: results from the PROFILES registry**

Vissers PA, Thong MS, Pouwer F, den Oudsten BL, Nieuwenhuijzen GA*, van de Poll-Franse LV

Support Care Cancer. 2014 Nov;22(11):3071-9.Epub 2014 Jun 20

PURPOSE: This study examined the individual and combined effect of having colorectal cancer (CRC) and diabetes mellitus (DM) on health-related quality of life (HRQoL) and sexual functioning.

METHODS: Data from questionnaires collected in 2010 among CRC patients and a sample of the general Dutch population were used. All persons older than 60 years were included in this study. DM prevalence among the CRC sample as well as the sample of the general population was self-reported. HRQoL was measured using the European Organization for Research and Treatment of Cancer (EORTC) Quality of Life Questionnaire version 3.0 (QLQ-C30), and sexual functioning was assessed with four scales from the EORTC-QLQ-CR38. RESULTS: In total 624 persons without CRC and DM, 78 persons with DM only, 1,731 with CRC only, and 328 with both CRC and DM were included. Having both CRC and DM did not result in lower HRQoL and sexual functioning than the sum of the individual effects of both diseases. CRC, irrespective of having DM, was associated with lower scores on most EORTC-QLQ-C30 subscales, except global health, pain, and appetite loss. CRC was also independently associated with more erection problems among males. DM, irrespective of having CRC, was associated with lower physical functioning and more symptoms of dyspnea. CONCLUSIONS: Having both CRC and DM did not result in lower HRQoL and sexual functioning than the sum of the individual effects of both diseases. As CRC was found to be consistently associated with lower functioning and more symptoms, CRC and its treatment seem to contribute stronger to lower HRQoL and sexual functioning compared with DM.

*impactfactor: 2.495*

**Orsini RG**

**Anastomotic leakage and presacral abscess formation after locally advanced rectal cancer surgery: Incidence, risk factors and treatment**

Vermeer TA*, Orsini RG*, Daams F*, Nieuwenhuijzen GA*, Rutten HJ*

Eur J Surg Oncol. 2014 Nov;40(11):1502-9. Epub 2014 Apr 4

*Voor abstract zie: Chirurgie - Vermeer TA*
*impactfactor: 2.892*

**Orsini RG**

**Measuring the health-related quality of life and sexual functioning of patients with rectal cancer: Does type of treatment matter?**

Traa MJ, Orsini RG*, Oudsten BL, Vries JD, Roukema JA, Bosman SJ*, Dudink RL*, Rutten HJ*

Int J Cancer. 2014 Feb;134(4):979-87. Epub 2013 Sep 4

The literature on the health-related quality of life (HRQOL) after rectal cancer is growing, however, a comparison between patients with nonadvanced disease (NAD), locally advanced rectal cancer (LARC), locally recurrent rectal cancer (LRRC) and a normative population has not been made. Data on the sexual functioning of patient groups is also scarce. We compared (i) the HRQOL of patients with NAD, LARC, or LRRC, with a special focus on sexual functioning and (ii) the HRQOL of the three treatment groups with a normative population. The EORTC QLQ-C30 and QLQ-CR38 were completed by 80 patients with NAD, 292 LARC patients and 67 LRRC patients. The normative population (n = 350) completed the EORTC QLQ-C30 and the Sexual Functioning and Sexual Enjoyment scales of the CR38. LRRC patients reported a lower Physical Function, Social Function, Future Perspective, Sexual Functioning and more Pain compared with LARC and NAD patients. Also, LRRC patients had a worse Body image than NAD patients and a lower Male Sexual Functioning than LARC patients. More than 75% of men and 50% of women were sexually active preoperative, compared with less than 50% and less than 35% postoperative. Male LRRC patients had more problems with erectile or ejaculatory functioning and felt less masculine than NAD or LARC patients. Women did not differ on Lubrication, Dyspareunia and Body Image. About 10% of patients used aids in order to improve erectile functioning (men) or lubrication (women). The treatment groups reported a lower HRQOL and sexual functioning compared with the normative population.

*impactfactor: 5.007*

**Orsini RG**

**Surgery for Rectal Cancer-What is on the Horizon?**

Vermeer TA,* Orsini RG*, Rutten HJ*

Curr Oncol Rep. 2014 Mar;16(3):372

*Voor abstract zie: Chirurgie - Vermeer TA*
*impactfactor: 2.868*

**Oudheusden TR van**

**Cytoreduction and Hyperthermic Intraperitoneal Chemotherapy: A Feasible and Effective Option for Colorectal Cancer Patients After Emergency Surgery in the Presence of Peritoneal Carcinomatosis**

van Oudheusden TR*, Braam HJ, Nienhuijs SW*, Wiezer MJ, van Ramshorst B, Luyer MD*, Lemmens VE, de Hingh IH*

Ann Surg Oncol. 2014 Aug;21(8):2621-6. Epub 2014 Mar 27

BACKGROUND: When peritoneal carcinomatosis (PC) is diagnosed during emergency surgery for colorectal cancer (CRC), further treatment with curative intent may seem futile given the known poor prognosis of both PC and emergency surgery. The aim of the current study was to investigate the feasibility and effectiveness of cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) for CRC patients who previously underwent emergency surgery in the presence of PC.

METHODS: All patients with synchronous PC of CRC referred to two tertiary centers between April 2005 and November 2013 were included in this study. Operative, postoperative and survival details were compared between patients presenting in an emergency or elective setting.

RESULTS: In total, 149 patients with synchronous PC underwent CRS and HIPEC. Amongst these patients, 36 (24.2 %) initially presented with acute symptoms requiring emergency surgery. Acute presentation did not result in a longer interval between the initial operation and HIPEC (2.2 vs. 2.1 months; P = 0.09). When comparing operative outcomes, no significant differences were found in blood loss (P = 0.47), operation time (P = 0.39), or completeness of cytoreduction (P = 0.97). In addition, complication rates, degree and types of complication did not differ between the groups. Median survival was 36.1 months for emergency presentation compared with 32.1 in the elective group (P = 0.73). CONCLUSION: CRS + HIPEC may be performed safely in patients with PC of colorectal origin presenting with acute symptoms requiring emergency surgery. More importantly, the 5-year survival rate in these patients was equal to elective cases. This should be regarded as promising and therefore considered for these patients.

*impactfactor: 3.943*

**Oudheusden TR van**

**Patterns of recurrence following complete cytoreductive surgery and hyperthermic intraperitoneal chemotherapy in patients with peritoneal carcinomatosis of colorectal cancer**

Braam HJ, van Oudheusden TR*, de Hingh IH*, Nienhuijs SW*, Boerma D, Wiezer MJ, van Ramshorst

B. J Surg Oncol. 2014 Jun;109(8):841-7. Epub 2014 Mar 12

Background and Objectives CytoReductive Surgery (CRS) combined with Hyperthermic IntraPEritoneal Chemotherapy (HIPEC) has an established role in the treatment of peritoneally metastasized colorectal cancer. The aim of the study was to describe the recurrence patterns and to evaluate treatment options and related survival. Methods Patients treated with CRS?+?HIPEC in two tertiary referral centers between April 2005 and March 2013 were analyzed retrospectively. The prognostic value of several parameters was calculated using Cox Regression. Results One hundred thirty two of 287 patients (46%) with peritoneal carcinomatosis treated with complete CRS and HIPEC were diagnosed with recurrent disease, after a median disease-free interval of 11.4 months. Recurrence were locoregional (43%), distant metastases (26%) or both (31%). Thirty-two of the 132 patients

with recurrences (24%) were treated surgically with curative intent, which extended the median survival from 12 months to 43 months, compared to palliative treatment (best supportive care or chemotherapy; P?<?0.001). Initial nodal status (P?=?0.01) and the number of affected regions at initial CRS (P?=?0.02) were significantly correlated to survival after disease recurrence. Conclusion Disease recurrence after CRS and HIPEC is common; in selected patients, an aggressive surgical approach may be beneficial and extend survival.

*impactfactor: 2.843*

**Oudheusden TR van**

**Peritoneal carcinomatosis is less frequently diagnosed during laparoscopic surgery compared to open surgery in patients with colorectal cancer**

Thomassen I*, van Gestel YR, Aalbers AG, van Oudheusden TR*, Wegdam JA, Lemmens VE, de Hingh IH*

Eur J Surg Oncol. 2014 May;40(5):511-4

*Voor abstract zie: Chirurgie - Thomassen I*

*impactfactor: 2.892*

**Pouwels S**

**Preoperative exercise therapy for elective major abdominal surgery: A systematic review**

Pouwels S*, Stokmans RA*, Willigendael EM, Nienhuijs SW*, Rosman C, van Ramshorst B, Teijink JA*

Int J Surg. 2014;12(2):134-40.. Epub 2013 Dec 8

OBJECTIVES: The impact of postoperative complications after Major Abdominal Surgery (MAS) is substantial, especially when socio-economical aspects are taken into account. This systematic review focuses on the effects of preoperative exercise therapy (PEXT) on physical fitness prior to MAS, length of hospital admission and postoperative complications in patients eligible for MAS, and on what is known about the most effective kind of exercise regime.

METHODS: A systematic search identified randomised controlled trials on exercise therapy and pulmonary physiotherapy prior to MAS. The methodological quality of the included studies was rated using the 'Delphi List For Quality Assessment of Randomised Clinical Trials'. The level of agreement between the two reviewers was estimated with Cohen's kappa. RESULTS: A total of 6 studies were included, whose methodological quality ranged from moderate to good. Cohen's kappa was 0.90. Three studies reported on improving physical fitness prior to MAS with the aid of PEXT. Two studies reported on the effect of training on postoperative complications, showing contradictory results. Three studies focused on the effect of preoperative chest physiotherapy on postoperative lung function parameters after MAS. While the effects seem positive, the optimal training regime is still unclear. CONCLUSION: Preoperative exercise therapy might be effective in improving the physical fitness of patients prior to major abdominal surgery, and preoperative chest physiotherapy seems effective in reducing pulmonary complications. However consensus on training method is lacking. Future research should focus on the method and effect of PEXT before high-risk surgical procedures.

*impactfactor: 1.650*

**Riet EA van**

**Efficacy of six month neoadjuvant endocrine therapy in postmenopausal, hormone receptor-positive breast cancer patients - A phase II trial**

Fontein DB, Charehbili A, Nortier JW, Meershoek-Klein Kranenbarg E, Kroep JR, Putter H, van Riet Y*, Nieuwenhuijzen GA*, de Valk B, Terwogt JM, Algie GD, Liefers GJ, Linn S, van de Velde CJ

Eur J Cancer. 2014 Sep;50(13):2190-200. Epub 2014 Jun 23

BACKGROUND: Neoadjuvant hormonal therapy (NHT) is playing an increasing role in the clinical management of breast cancer (BC) and may improve surgical outcomes for postmenopausal, oestrogen receptor (ER)-positive BC patients. However, there is currently no consensus on the optimal duration of NHT before surgery. Here, we present the outcomes of the TEAM IIA trial, a multicentre, phase II trial investigating the efficacy of six months of neoadjuvant exemestane in postmenopausal, strong ER-positive (ER+, ?50%) BC patients.

METHODS: 102 patients (stage T2-T4ac) were included in the study after exclusion of ineligible patients. Primary end-point was clinical response at 3 and 6months as measured by palpation. Secondary end-point was radiological response as measured by magnetic resonance imaging (MRI), mammography and/or ultrasound. Linear mixed models (95% confidence interval (CI)) were used to compare changes in mean tumour size (in mm) between baseline, 3 and 6months after the start of endocrine therapy. Conversion rates from mastectomy to breast conserving surgery (BCS) were evaluated.

RESULTS: Median age of all patients was 72years (range 53-88). Overall response rate by clinical palpation was 64.5% in all patients with a final palpation measurement. Four patients had clinically progressive disease. 63 patients had both 3-month and >3-month palpation measurements. Overall response was 58.7% at 3months and 68.3% at final palpation (>3months). Mean tumour size by clinical palpation at T=0 was 39.1mm (95% CI 34.8-43.4mm), and decreased to 23.0mm (95% CI 18.7-27.2mm) and 16.7mm (95% CI 12.6-20.8) at T=3 and T>3months, respectively (p=0.001). Final radiological response rates at the end of treatment for MRI (n=37), ultrasound (n=77) and mammography (n=56) were 70.3%, 41.6% and 48.2%, respectively. Feasibility of BCS improved from 61.8% to 70.6% (McNemar p=0.012).

CONCLUSION: 6months of neoadjuvant exemestane therapy helps reduce mean tumour size further in strongly ER-positive BC patients without significant side-effects compared to 3 months. Nevertheless, some patients still experience disease progression under exemestane. Feasibility of breast conservation rates improved by almost 10%.

*impactfactor: 4.819*

**Rutte PW van**

**Nutrient Deficiencies Before and After Sleeve Gastrectomy**

van Rutte PW*, Aarts EO, Smulders JF*, Nienhuijs SW*

Obes Surg. 2014 Oct;24(10):1639-46

BACKGROUND: Obesity is associated with nutritional deficiencies. Bariatric surgery could worsen these deficiencies. Fewer nutritional deficiencies would be seen after sleeve gastrectomy compared to the Roux-en-Y gastric bypass, but sleeve gastrectomy would also cause further deterioration of the deficiencies. The aim of this study was to determine the amount of pre-operative nutrient deficiencies in sleeve gastrectomy patients and assess the evolution of the nutritional status during the first post-operative year.

METHODS: Four hundred seven sleeve gastrectomy patients were assigned to a standardized follow-up program. Data of interest were weight loss, pre-operative nutrient status and

evolution of nutrient deficiencies during the first post-operative year. Deficiencies were supplemented when found.

RESULTS: Two hundred patients completed blood withdrawal pre-operatively and in the first post-operative year. pre-operatively, 5 % of the patients were anemic, 7 % had low serum ferritin and 24 % had low folic acid. Hypovitaminosis D was present in 81 %. Vitamin A had excessive levels in 72 %. One year post-operatively, mean excess weight loss was 70 %. Anemia was found in 6 %. Low-ferritin levels were found in 8 % of the patients. Folate deficiency decreased significantly and hypovitaminosis D was still found in 36 %. CONCLUSIONS: In this study, a considerable amount of patients suffered from a deficient micronutrient status pre-operatively. One year after surgery, micronutrient deficiencies persisted or were found de novo in a considerable amount of patients, despite significant weight loss and supplementation. Significant reductions were seen only for folate and vitamin D.

*impactfactor: 3.739*

**Rutte PW van**

**Outcome of sleeve gastrectomy as a primary bariatric procedure**

van Rutte PW*, Smulders JF*, de Zoete JP*, Nienhuijs SW*

Br J Surg. 2014 May;101(6):661-8

BACKGROUND: Sleeve gastrectomy is being performed increasingly in Europe. Data on long-term outcome would be helpful in defining the role of sleeve gastrectomy. The aim of this study was to evaluate the outcome of sleeve gastrectomy as a primary bariatric procedure.

METHODS: Medical charts of all patients who underwent a primary sleeve gastrectomy at the authors' institution between August 2006 and December 2012 were reviewed retrospectively using a prospective online data registry. For evolution of weight loss and co-morbidity, only patients with follow-up of at least 1?year were included. A subgroup analysis was done to compare patients with an intended stand-alone procedure and those with an intended two-stage procedure.

RESULTS: A total of 1041 primary sleeve gastrectomies were performed in the study period. Median duration of surgery was 47?min, and median hospital stay was 2?days. Intra-abdominal bleeding occurred in 27 patients (2·6 per cent) and staple-line leakage in 24 (2·3 per cent). Some 866 patients had at least 1?year of follow-up. Mean excess weight loss was 68·4 per cent after 1?year (P?<?0·001) and 67·4 per cent after 2?years. Smaller groups of patients achieved a mean excess weight loss of 69·3 per cent (163 patients), 70·5 per cent (62) and 58·3 per cent (19) after 3, 4 and 5?years respectively. No difference in postoperative complications was found between the subgroups. Seventy-one (8·2 per cent) of 866 patients had a revision of the sleeve gastrectomy; reflux or dysphagia was the indication in 34 (48 per cent) of these patients.

CONCLUSION: Sleeve gastrectomy is a safe and effective bariatric procedure. Maximum weight loss was achieved after 4?years. Long-term results regarding weight loss and co-morbidities were satisfactory.

*impactfactor: 5.21*

**Rutten HJ**

**Abdominosacral resection: Long-term outcome in 86 patients with locally advanced or locally recurrent rectal cancer**

Bosman SJ*, Vermeer TA*, Dudink RL*, de Hingh IH*, Nieuwenhuijzen GA*, Rutten HJ*
Eur J Surg Oncol. 2014 Jun;40(6):699-705. Epub 2014 Feb 28
*Voor abstract zie: Chirurgie - Bosman SJ*
*impactfactor: 2.892*

**Rutten HJ**

**Anastomotic leakage and presacral abscess formation after locally advanced rectal cancer surgery: Incidence, risk factors and treatment**

Vermeer TA*, Orsini RG*, Daams F*, Nieuwenhuijzen GA*, Rutten HJ*
Eur J Surg Oncol. 2014 Nov;40(11):1502-9. Epub 2014 Apr 4
*Voor abstract zie: Chirurgie - Vermeer TA*
*impactfactor: 2.892*

**Rutten HJ**

**Conditional survival for long-term colorectal cancer survivors in the Netherlands: who do best?**

van Erning FN, van Steenbergen LN, Lemmens VE, Rutten HJ*, Martijn H*, van Spronsen DJ, Janssen-Heijnen ML
Eur J Cancer. 2014 Jul;50(10):1731-9

AIM: With the increase in the number of long-term colorectal cancer (CRC) survivors, there is a growing need for subgroup-specific analysis of conditional survival.

METHODS: All 137,030 stage I-III CRC patients diagnosed in the Netherlands between 1989 and 2008 aged 15-89 years were selected from the Netherlands Cancer Registry. We determined conditional 5-year relative survival rates, according to age, subsite and tumour stage for each additional year survived up to 15 years after diagnosis as well as trends in absolute risks for and distribution of causes of death during follow-up.

RESULTS: Minimal excess mortality (conditional 5-year relative survival >95%) was observed 1 year after diagnosis for stage I colon cancer patients, while for rectal cancer patients this was seen after 6 years. For stage II and III CRC, minimal excess mortality was seen 7 years after diagnosis for colon cancer, while for rectal cancer this was 12years. The differences in conditional 5-year relative survival between colon and rectal cancer diminished over time for all patients, except for stage III patients aged 60-89 years. The absolute risk to die from CRC diminished sharply over time and was below 5% after 5 years. The proportion of patients dying from CRC decreased over time after diagnosis while the proportions of patients dying from other cancers, cardiovascular disease and other causes increased.

CONCLUSION: Prognosis for CRC survivors improved with each additional year survived, with the largest improvements in the first years after diagnosis. Quantitative insight into conditional relative survival estimates is useful for caregivers to inform and counsel patients with stage I-III colon and rectal cancer during follow-up.

*impactfactor: 4.819*

**Rutten HJ**

**Development and Clinical Implementation of a Hemostatic Balloon Device for Rectal Cancer Surgery**

Holman FA, van der Pant N, de Hingh IH*, Martijnse I*, Jakimowicz J*, Rutten HJ*, Goossens RH

Surg Innov. June 2014 21: 297-302. Epub 2013 Oct 30

*Voor abstract zie: Chirurgie - de Hingh IH*
*impactfactor: 1.338*

**Rutten HJ**

**Differences in Circumferential Resection Margin Involvement After Abdominoperineal Excision and Low Anterior Resection No Longer Significant**

van Leersum N, Martijnse I*, den Dulk M, Kolfschoten N, Le Cessie S, van de Velde C, Tollenaar R, Wouters M, Rutten HJ*

Ann Surg. 2014 Jun;259(6):1150-5

*Voor abstract zie: Chirurgie - Martijnse I*
*impactfactor: 7.188*

**Rutten HJ**

**EURECCA colorectal: Multidisciplinary management: European consensus conference colon & rectum**

van de Velde CJ, Boelens PG, Borras JM, Coebergh JW, Cervantes A, Blomqvist L, Beets-Tan RG, van den Broek CB, Brown G, Van Cutsem E, Espin E, Haustermans K, Glimelius B, Iversen LH, van Krieken JH, Marijnen CA, Henning G, Gore-Booth J, Meldolesi E, Mroczkowski P, Nagtegaal I, Naredi P, Ortiz H, Påhlman L, Quirke P, Rödel C, Roth A, Rutten H*, Schmoll HJ, Smith JJ, Tanis PJ, Taylor C, Wibe A, Wiggers T, Gambacorta MA, Aristei C, Valentini V.

Eur J Cancer. 2014 Jan;50(1): 1.e1-1.e34. Epub 2013 Oct 31

BACKGROUND: Care for patients with colon and rectal cancer has improved in the last 20years; however considerable variation still exists in cancer management and outcome between European countries. Large variation is also apparent between national guidelines and patterns of cancer care in Europe. Therefore, EURECCA, which is the acronym of European Registration of Cancer Care, is aiming at defining core treatment strategies and developing a European audit structure in order to improve the quality of care for all patients with colon and rectal cancer. In December 2012, the first multidisciplinary consensus conference about cancer of the colon and rectum was held. The expert panel consisted of representatives of European scientific organisations involved in cancer care of patients with colon and rectal cancer and representatives of national colorectal registries. METHODS: The expert panel had delegates of the European Society of Surgical Oncology (ESSO), European Society for Radiotherapy & Oncology (ESTRO), European Society of Pathology (ESP), European Society for Medical Oncology (ESMO), European Society of Radiology (ESR), European Society of Coloproctology (ESCP), European CanCer Organisation (ECCO), European Oncology Nursing Society (EONS) and the European Colorectal Cancer Patient Organisation (EuropaColon), as well as delegates from national registries or audits. Consensus was achieved using the Delphi method. For the Delphi process, multidisciplinary experts were invited to comment and vote three web-based online voting rounds and to lecture on the subjects during the meeting (13th-15th December 2012). The sentences in the consensus document were available during the meeting and a televoting round during the

conference by all participants was performed. This manuscript covers all sentences of the consensus document with the result of the voting. The consensus document represents sections on diagnostics, pathology, surgery, medical oncology, radiotherapy, and follow-up where applicable for treatment of colon cancer, rectal cancer and metastatic colorectal disease separately. Moreover, evidence based algorithms for diagnostics and treatment were composed which were also submitted to the Delphi process. RESULTS: The total number of the voted sentences was 465. All chapters were voted on by at least 75% of the experts. Of the 465 sentences, 84% achieved large consensus, 6% achieved moderate consensus, and 7% resulted in minimum consensus. Only 3% was disagreed by more than 50% of the members.

CONCLUSIONS: Multidisciplinary consensus on key diagnostic and treatment issues for colon and rectal cancer management using the Delphi method was successful. This consensus document embodies the expertise of professionals from all disciplines involved in the care for patients with colon and rectal cancer. Diagnostic and treatment algorithms were developed to implement the current evidence and to define core treatment guidance for multidisciplinary team management of colon and rectal cancer throughout Europe.

*impactfactor: 4.819*

**Rutten HJ**

**Experts reviews of the multidisciplinary consensus conference colon and rectal cancer 2012: science, opinions and experiences from the experts of surgery**

van de Velde CJ, Boelens PG, Tanis PJ, Espin E, Mroczkowski P, Naredi P, Pahlman L, Ortiz H, Rutten HJ*, Breugom AJ, Smith JJ, Wibe A, Wiggers T, Valentini V

Eur J Surg Oncol. 2014 Apr;40(4):454-68

The first multidisciplinary consensus conference on colon and rectal cancer was held in December 2012, achieving a majority of consensus for diagnostic and treatment decisions using the Delphi Method. This article will give a critical appraisal of the topics discussed during the meeting and in the consensus document by well-known leaders in surgery that were involved in this multidisciplinary consensus process. Scientific evidence, experience and opinions are collected to support multidisciplinary teams (MDT) with arguments for medical decision-making in diagnosis, staging and treatment strategies for patients with colon or rectal cancer. Surgery is the cornerstone of curative treatment for colon and rectal cancer. Standardizing treatment is an effective instrument to improve outcome of multidisciplinary cancer care for patients with colon and rectal cancer. In this article, a review of the following focuses; Perioperative care, age and colorectal surgery, obstructive colorectal cancer, stenting, surgical anatomical considerations, total mesorectal excision (TME) surgery and training, surgical considerations for locally advanced rectal cancer (LARC) and local recurrent rectal cancer (LRRC), surgery in stage IV colorectal cancer, definitions of quality of surgery, transanal endoscopic microsurgery (TEM), laparoscopic colon and rectal surgery, preoperative radiotherapy and chemoradiotherapy, and how about functional outcome after surgery?

*impactfactor: 2.892*

**Rutten HJ**

**Feasibility of reirradiation in the treatment of locally recurrent rectal cancer**

Bosman SJ*, Holman FA*, Nieuwenhuijzen GA*, Martijn H*, Creemers GJ*, Rutten HJ*

Br J Surg. 2014 Sep;101(10):1280-9. Epub 2014 Jul 22

*Voor abstract zie: Chirurgie - Bosman SJ*

*impactfactor: 5.21*

**Rutten HJ**

**Hospital of diagnosis and probability to receive a curative treatment for oesophageal cancer**

Koëter M*, van Steenbergen LN, Lemmens VE, Rutten HJ*, Roukema JA, Wijnhoven BP, Nieuwenhuijzen GA*

Eur J Surg Oncol. 2014 Oct;40(10):1338-45. Epub 2014 Jan 18

*Voor abstract zie: Chirurgie - Koëter M*
*impactfactor: 2.892*

**Rutten HJ**

**Measuring the health-related quality of life and sexual functioning of patients with rectal cancer: Does type of treatment matter?**

Traa MJ, Orsini RG*, Oudsten BL, Vries JD, Roukema JA, Bosman SJ*, Dudink RL*, Rutten HJ*

Int J Cancer. 2014 Feb;134(4):979-87. Epub 2013 Sep 4

*Voor abstract zie: Chirurgie - Orsini RG*
*impactfactor: 5.007*

**Rutten HJ**

**Metachronous peritoneal carcinomatosis after curative treatment of colorectal cancer**

van Gestel YR, Thomassen I*, Lemmens VE, Pruijt JF, van Herk-Sukel MP, Rutten HJ*, Creemers GJ*, de Hingh IH*

Eur J Surg Oncol. 2014 Aug;40(8):963-9. Epub 2013 Oct 16

*Voor abstract zie: Chirurgie - Thomassen I*
*impactfactor: 2.892*

**Rutten HJ**

**No change in lymph node positivity rate despite increased lymph node yield and improved survival in colon cancer**

van Erning FN, Crolla RM, Rutten HJ*, Beerepoot LV, van Krieken JH, Lemmens VE

Eur J Cancer. 2014 Nov 1;50(18):3221-3229

AIM: To analyse trends over time in the number of lymph nodes evaluated and in the proportion of node positivity and to investigate the impact on survival for patients with colon cancer.

PATIENTS AND METHODS: 8616 patients resected for M0 colon cancer diagnosed in the Southern Netherlands between 2000 and 2011 were included in this study. Trends in nodal evaluation and node positivity were analysed. Multivariable logistic regressions were used to assess the influence of period of diagnosis on adequate nodal evaluation (?12lymph nodes) and node positivity after adjusting for patient and tumour characteristics. Crude 5-year relative survival was used as an estimate for disease-specific survival.

RESULTS: Overall, the proportion adequate nodal evaluation increased from 13% in 2000-2002 to 59% in 2009-2011 ($p<0.0001$), whereas the proportion node positivity remained similar across study periods (approximately 35%). Patients diagnosed in later periods were more likely to have received adequate nodal yield (adjusted Odds ratio (OR) 2009-2011 versus 2000-2002 9.8, 95% Confidence interval (CI) 8.3-11.6). However, the adjusted odds of having node positive disease did not differ between periods of diagnosis. Relative excess risk of dying was independently correlated with the number of lymph nodes evaluated (1-8LNs

versus ?12LNs, N0: 2.2, 95% CI 1.7-2.9; N+: 1.7, 95% CI 1.4-2.0) and period of diagnosis (2009-2011 versus 2000-2002, N+ only: 0.8, 95% CI 0.6-1.0).

CONCLUSION: The reason for improved survival with increased nodal yield is different from simple understaging as the proportion of lymph node positivity remained constant.

*impactfactor: 4.819*

**Rutten HJ**

**Patterns of metachronous metastases after curative treatment of colorectal cancer**

van Gestel YR, de Hingh IH*, van Herk-Sukel MP, van Erning FN, Beerepoot LV, Wijsman JH, Slooter GD, Rutten HJ*, Creemers GJ*, Lemmens VE

Cancer Epidemiol. 2014 Aug;38(4):448-54. Epub 2014 May 17

*Voor abstract zie: Chirurgie - de Hingh IH*

*impactfactor: 2.558*

**Rutten HJ**

**Randomized controlled multicentre study comparing biological mesh closure of the pelvic floor with primary perineal wound closure after extralevator abdominoperineal resection for rectal cancer (BIOPEX-study)**

Musters GD, Bemelman WA, Bosker RJ, Burger JW, van Duijvendijk P, van Etten B, van Geloven AA, de Graaf EJ, Hoff C, de Korte N, Leijtens JW, Rutten HJ*, Singh B, van de Ven A, Vuylsteke RJ, de Wilt JH, Dijkgraaf MG, Tanis PJ

BMC Surg. 2014 Aug 27;14:58

BACKGROUND: Primary perineal wound closure after conventional abdominoperineal resection (cAPR) for rectal cancer has been the standard of care for many years. Since the introduction of neo-adjuvant radiotherapy and the extralevator APR (eAPR), oncological outcome has been improved, but at the cost of increased rates of perineal wound healing problems and perineal hernia. This has progressively increased the use of biological meshes, although not supported by sufficient evidence. The aim of this study is to determine the effectiveness of pelvic floor reconstruction using a biological mesh after standardized eAPR with neo-adjuvant (chemo)radiotherapy compared to primary perineal wound closure.

METHODS/DESIGN: In this multicentre randomized controlled trial, patients with a clinical diagnosis of primary rectal cancer who are scheduled for eAPR after neo-adjuvant (chemo)radiotherapy will be considered eligible. Exclusion criteria are prior radiotherapy, sacral resection above S4/S5, allergy to pig products or polysorbate, collagen disorders, and severe systemic diseases affecting wound healing, except for diabetes. After informed consent, 104 patients will be randomized between standard care using primary wound closure of the perineum and the experimental arm consisting of suturing a biological mesh derived from porcine dermis in the pelvic floor defect, followed by perineal closure similar to the control arm. Patients will be followed for one year after the intervention and outcome assessors and patients will be blinded for the study treatment. The primary endpoint is the percentage of uncomplicated perineal wound healing, defined as a Southampton wound score of less than II on day 30. Secondary endpoints are hospital stay, incidence of perineal hernia, quality of life, and costs.

DISCUSSION: The BIOPEX-study is the first randomized controlled multicentre study to determine the additive value of using a biological mesh for perineal wound closure after eAPR with neo-adjuvant radiotherapy compared to primary perineal wound closure with regard to perineal wound healing and the occurrence of perineal hernia.

*impactfactor: 1.24*

**Rutten HJ**

**Reduction of Postoperative Ileus by Early Enteral Nutrition in Patients Undergoing Major Rectal Surgery: Prospective, Randomized, Controlled Trial**

Boelens PG, Heesakkers FF*, Luyer MD*, van Barneveld KW, de Hingh IH*, Nieuwenhuijzen GA*, Roos AN*, Rutten HJ*

Ann Surg. 2014 Apr;259(4):649-55.Epub 2013 Oct 28.

*Voor abstract zie:* *Chirurgie - Heesakkers F*
*impactfactor:* *7.188*

**Rutten HJ**

**Surgery for Rectal Cancer-What is on the Horizon?**

Vermeer TA,* Orsini RG*, Rutten HJ*

Curr Oncol Rep. 2014 Mar;16(3):372

*Voor abstract zie:* *Chirurgie - Vermeer TA*
*impactfactor:* *2.868*

**Rutten HJ**

**T4 rectal cancer: do we always need an exenteration?**

Vermeer TA*, Kusters M*, Rutten HJ*

Recent Results Cancer Res. 2014;203:69-94

*Voor abstract zie:* *Chirurgie - Vermeer TA*
*impactfactor:* *--*

**Rutten HJ**

**The sexual health care needs after colorectal cancer: the view of patients, partners, and health care professionals**

Traa MJ, De Vries J, Roukema JA, Rutten HJ*, Den Oudsten BL

Support Care Cancer. 2014 Mar;22(3):763-72. Epub 2013 Nov 16

PURPOSE: Sexual dysfunction among patients with colorectal cancer is frequently reported. Studies examining patients' sexual health care needs are rare. We examined the sexual health care needs after colorectal cancer treatment according to patients, partners, and health care professionals (HCPs). Factors that impede or facilitate the quality of this care were identified.

METHOD: Participants were recruited from three Dutch hospitals: St. Elisabeth, TweeSteden, and Catharina hospitals. Patients (n?=?21), partners (n?=?9), and 10 HCPs participated in eight focus groups.

RESULTS: It is important to regularly evaluate and manage sexual issues. This does not always occur. Almost all participants reported a lack of knowledge and feelings of embarrassment or inappropriateness as barriers to discuss sexuality. HCPs reported stereotypical assumptions regarding the need for care based on age, sex, and partner status. The HCPs debated on whose responsibility it is that sexuality is discussed with patients. Factors within the organization, such as insufficient re-discussion of sexuality during (long-term) follow-up and unsatisfactory (knowledge of the) referral system impeded sexual health care. The HCPs could facilitate adequate sexual health care by providing patient-tailored information and permission to discuss sex, normalizing sexual issues, and establishing an adequate referral system. It is up to the patients and partners to demarcate the extent of sexual health care needed.

CONCLUSIONS: Our findings illustrate the need for patient-tailored sexual health care and the complexity of providing/receiving this care. An adequate referral system and training are needed to help HCPs engage in providing satisfactory sexual health care.

*impactfactor: 2.495*

**Rutten HJ**

**Valt artsen onnadenkendheid te verwijten?**

Laar, EFJ van de*, Rutten HJ* en Peil J

Podium voor Bio-ethiek, 2014;21(2):22-25

*Geen abstract beschikbaar*

*impactfactor: --*

**Saarloos R**

**The Effect of Supervision on Walking Distance in Patients with Intermittent Claudication: A Meta-analysis**

Gommans LN*, Saarloos R*, Scheltinga MR, Houterman S*, de Bie RA, Fokkenrood HJ*, Teijink JA*

Eur J Vasc Endovasc Surg. 2014 Aug;48(2):169-84. Epub 2014 Jun 10

*Voor abstract zie: Chirurgie - Gommans LN*

*impactfactor: 3.070*

**Sambeek MR van**

**2014 ESC Guidelines on the diagnosis and treatment of aortic disease**

Erbel R, Aboyans V, Boileau C, Bossone E, Bartlomeo RD, Eggebrecht H, Evangilista A, Falk V, Frank H, Gaemperli O, Grabenwoger M, Havenich A, Iung B, Manolis AF, Meijboom F, Nienaber CA, Roffi M, Rousseau H, Sechtem U, Simens PA, Allmen RS, Vrints CJ, Collaborators (van Sambeek MRHM).

Eur Heart J 2014;35:2873-926

*Geen abstract beschikbaar*

*impactfactor: 14.723*

**Sambeek MR van**

**Association of sex with long-term outcomes after popliteal artery aneurysm repair**

Kropman RH, van Meurs A, Fioole B, Vos JA, van Santvoort HC, van Sambeek M*, Moll FL, de Vries JP

Ann Vasc Surg. 2014 Feb;28(2):338-44

BACKGROUND: We compared initial and long-term outcomes between men and women after endovascular and open repair of popliteal artery aneurysms (PAAs). METHODS: Between January 1993 and July 2011, 202 patients (185 men [92%]), underwent open (n = 186) or endovascular (n = 16) repair of a PAA. Data were retrospectively analyzed. RESULTS: Significant differences in baseline characteristics were determined between men and women with regard to aneurysm diameter (men: 30 mm [range: 14-90]; women: 26 mm [range: 13-70]; P = 0.02) and age (men: 66 ± 10 years; women: 71 ± 9 years; P = 0.05). The 30-day mortality rate was 0% in both groups. No significant differences were determined concerning 30-day complications. The median follow-up was 55 months (range: 1-121 months) in men, compared with 35 months (range: 1-183 months) in women (P = 0.74). The primary patency rates at 1, 3, and 5 years were 88%, 82%, and 76% in men compared with 64%, 64%, and 48% in women, respectively (P = 0.007). The limb salvage rates in men at 1, 3,

and 5 years were 97%, 97%, and 96%, and in women were 87%, 87%, and 87%, respectively (P = 0.07). When correcting for potential confounders with multivariable regression analysis, sex was independently associated with primary patency (hazard ratio: 2.98 [95% confidence interval: 1.39-6.42]; P = 0.005).

CONCLUSIONS: No significant differences between men and women were observed in 30-day mortality and morbidity rates after PAA repair. In the long run, women are associated with lower primary patency rates and a trend toward lower limb salvage rates compared to men.

*impactfactor: 1.029*

**Sambeek MR van**

**Echo-computed tomography strain imaging of healthy and diseased carotid specimens**

Boekhoven RW, Rutten MC, van Sambeek MR*, van de Vosse FN, Lopata RG

Ultrasound Med Biol. 2014 Jun;40(6):1329-42

To improve our understanding of the mechanical behavior of human atherosclerotic plaque tissue, fully 3-D geometrical, morphological and dynamical information is essential. For this purpose, four-dimensional (3-D+t) strain imaging using an ultrasound tomography approach (echo-computed tomography) was performed in carotid arteries in vitro. The method was applied to a carotid phantom (CPh), a porcine carotid artery (PC) and human carotid atherosclerotic plaque samples (HC, n = 5). Each sample was subjected to an intraluminal pressure, after which 2-D longitudinal ultrasound images were obtained for 36 angles along the circumferential direction. Local deformations were estimated using a 2-D strain algorithm, and 3-D radial strain data were reconstructed. At systole, median luminal strains of 15% (CPh) and 18% (PC) were found, which is in agreement with the stiffness of the material and applied pressure pulse. The elastographic signal-to-noise ratio was consistent in all directions and ranged from 16 to 36 dB. Furthermore, realistic but more complex strain patterns were found for the HC, with 99th percentile systolic strain values ranging from 0.1% to 18%

*impactfactor: 2.099*

**Sambeek MR van**

**Editor's choice--Use of disposable radiation-absorbing surgical drapes results in significant dose reduction during EVAR procedures**

Kloeze C*, Klompenhouwer EG*, Brands PJ*, van Sambeek MR*, Cuypers PW*, Teijink JA*

Eur J Vasc Endovasc Surg. 2014 Mar;47(3):268-72

*Voor abstract zie: Klinische Fysica - Kloeze C*

*impactfactor: 3.070*

**Sambeek MR van**

**How should I treat a symptomatic post dissection carotid aneurysm?**

Rouchaud A, Klein I, Amarenco P, Mazighi M, Pacchioni A, Torsello G, Reimers B, van Sambeek MR*, Tielbeek AV*, Teijink JA*, Cuypers PW*

EuroIntervention. 2014 Jan 22;9(9):1121-3

*Geen abstract beschikbaar*

*impactfactor: 3.758*

**Sambeek MR van**

**Predictors of acute and persisting ischemic brain lesions in patients randomized to carotid stenting or endarterectomy**

Rostamzadeh A, ZumbrunnT, Jongen LM, Nderkoorn PJ, Macdonald S, Lyrer PA, Kapelle LJ, Mali WP, Brown MM, van der Worp HB, Engelter ST, Bonati LH; ICSS-MRI Substudy Investigators: van Sambeek MRHM*

Stroke 2014;45:591-4.

BACKGROUND AND PURPOSE: We investigated predictors for acute and persisting periprocedural ischemic brain lesions among patients with symptomatic carotid stenosis randomized to stenting or endarterectomy in the International Carotid Stenting Study.

METHODS: We assessed acute lesions on diffusion-weighted imaging 1 to 3 days after treatment in 124 stenting and 107 endarterectomy patients and lesions persisting on fluid-attenuated inversion recovery after 1 month in 86 and 75 patients, respectively. RESULTS: Stenting patients had more acute (relative risk, 8.8; 95% confidence interval, 4.4-17.5; P<0.001) and persisting lesions (relative risk, 4.2; 95% confidence interval, 1.6-11.1; P=0.005) than endarterectomy patients. Acute lesion count was associated with age (by trend), male sex, and stroke as the qualifying event in stenting; high systolic blood pressure in endarterectomy; and white matter disease in both groups. The rate of conversion from acute to persisting lesions was lower in the stenting group (relative risk, 0.4; 95% confidence interval, 0.2-0.8; P=0.007), and was only predicted by acute lesion volume.

CONCLUSIONS: Stenting caused more acute and persisting ischemic brain lesions than endarterectomy. However, the rate of conversion from acute to persisting lesions was lower in the stenting group, most likely attributable to lower acute lesion volumes.

*impactfactor: 6.018*

**Sambeek MR van**

**Rationale and design of the EAGLE Registry: EVAR with the Endurant in challenging anatomy**

Stokmans RA*, Broos P*, Cuypers PW*, Forbes TL, Vahl AC, Swartbol P, van Sambeek M*, Teijink JA*

J Cardiovasc Surg (Torino). 2014 Oct;55(5):699-704. Epub 2014 May 21

*Voor abstract zie: Chirurgie - Stokmans RA*
*impactfactor: 1.365*

**Sambeek MR van**

**Statin Therapy is associated with improved survival after endovascular and open aneurysm repair**

De Bruin Jl, Baas AF, Heymans MW, Buimer MG, Prinssen M, Grobbee DE, Blankensteijn JD; DREAM Study Group (Cuypers PW, van Sambeek MRHM, Tielbeek AV, Teijink JA)

J Vasc Surg 2014;59:39-44

*Voor abstract zie: Chirurgie - Cuypers PW*
*impactfactor: 2.980*

**Sambeek MR van**

**Towards mechanical characterization of intact endarterectomy samples of carotid arteries during inflation using Echo-CT**

Boekhoven RW, Rutten MC, van Sambeek MR*, van de Vosse FN, Lopata RG J Biomech. 2014 Mar 3;47(4):805-14

In this study, an experimental framework is described that allows pressurization of intact, human atherosclerotic carotid samples (inflation testing), in combination with ultrasound imaging. Eight fresh human carotid endarterectomy samples were successfully pressurized and tested. About 36 2-D (+t) ultrasound datasets were acquired by rotating the vessel in 10° steps (Echo-CT), from which both 3-D geometry and 3-D strain data were obtained. Both geometry and morphology were assessed with micro-CT imaging, identifying calcified and lipid rich regions. US-based and CT-based geometries were matched for comparison and were found to show good agreement, with an average similarity index of 0.71. Realistic pressure-volume relations were found for 6 out of 9 samples. 3-D strain datasets were reconstructed, revealing realistic strain patterns and magnitudes, although the data did suffer from a relatively high variability. The percentage of fat and calcifications (micro-CT) were compared with the median, 75th and 99th percentile strain values (Echo-CT). A moderate trend was observed for 75th and 99th percentile strains, higher strains were found for more lipid rich plaques, where lower strains were found for highly calcified plaques. However, an inverse numerical modeling technique is necessary for proper mechanical characterization the of plaque components, using the geometry, morphology and wall deformation as input.

*impactfactor: 2.496*

**Simkens GA**

**Massive surgical emphysema following transanal endoscopic microsurgery**

Simkens GA*, Nienhuijs SW*, Luyer MD*, de Hingh IH*

World J Gastrointest Surg. 2014 Aug 27;6(8):160-3

We describe an impressive and rare case of surgical emphysema after minimally invasive rectal surgery. This case reports on a patient who developed massive retroperitoneal, intraperitoneal and subcutaneous emphysema directly following a transanal endoscopic microsurgery (TEM) procedure for a rectal intramucosal carcinoma. Free intra-abdominal air after gastro-intestinal surgery can be a sign of a bowel perforation or anastomotic leakage. This is a serious complication often requiring immediate surgery. In our patient an abdominal computed tomography-scan with rectal contrast showed no signs of a rectal perforation. Therefore this emphysema was caused by the insufflation of CO2 gas in the rectum during the TEM-procedure. Conservative treatment resulted in an uneventful recovery. With the increasing usage of TEM for rectal lesions we expect this complication to occur more often. After ruling out a full thickness rectal wall perforation in patients with surgical emphysema following TEM, conservative treatment is the treatment of choice.

*impactfactor: 2.433*

**Smulders JF**

**Effect of Sleeve Gastrectomy on Gastroesophageal Reflux**

Burgerhart JS, Schotborgh CA*, Schoon EJ*, Smulders JF*, van de Meeberg PC, Siersema PD, Smout AJ

Obes Surg. 2014 Sep;24(9):1436-41

*Voor abstract zie: Maag-darm-leverziekten - Schotborgh C*
*impactfactor: 3.739*

**Smulders JF**

**Nutrient Deficiencies Before and After Sleeve Gastrectomy**

van Rutte PW*, Aarts EO, Smulders JF*, Nienhuijs SW*

Obes Surg. 2014 Oct;24(10):1639-46

*Voor abstract zie: Chirurgie - Rutte PW van*
*impactfactor: 3.739*

**Smulders JF**

**Outcome of sleeve gastrectomy as a primary bariatric procedure**

van Rutte PW*, Smulders JF*, de Zoete JP*, Nienhuijs SW*

Br J Surg. 2014 May;101(6):661-8

*Voor abstract zie: Chirurgie - Rutte PW van*
*impactfactor: 5.21*

**Smulders JF**

**STOP-Bang and the effect on patient outcome and length of hospital stay when patients are not using continuous positive airway pressure**

Proczko MA, Stepaniak PS*, de Quelerij M, van der Lely FH*, Smulders JF*, Kaska L, Soliman Hamad MA*

J Anesth. 2014 Dec;28(6):891-7. Epub 2014 May 29

*Voor abstract zie: Operatiekamers - Stepaniak PS*
*impactfactor: 1.117*

**Stokmans RA**

**Preoperative exercise therapy for elective major abdominal surgery: A systematic review**

Pouwels S*, Stokmans RA*, Willigendael EM, Nienhuijs SW*, Rosman C, van Ramshorst B, Teijink JA*

Int J Surg. 2014;12(2):134-40.. Epub 2013 Dec 8

*Voor abstract zie: Chirurgie - Pouwels S*
*impactfactor: 1.650*

**Stokmans RA**

**Rationale and design of the EAGLE Registry: EVAR with the Endurant in challenging anatomy**

Stokmans RA*, Broos P*, Cuypers PW*, Forbes TL, Vahl AC, Swartbol P, van Sambeek M*, Teijink JA*

J Cardiovasc Surg (Torino). 2014 Oct;55(5):699-704. Epub 2014 May 21

AIM: The aim of this study is to collect clinical information on the performance of the Endurant (II) Stent Graft System for endovascular repair in anatomically challenging infrarenal aneurysms, and to critically assess whether the current instructions for anatomic eligibility for endovascular treatment with this system are still applicable. METHODS: Initiated by doctors, EAGLE is a prospective, non-interventional study, aiming to enrol 250 patients in 20 experienced centres across several countries worldwide. EAGLE focuses on patients with challenging angulation or neck length. To minimize the risk of selection bias and enhance data quality, EAGLE eligibility will be determined by an independent core-lab and efforts will be made to secure consecutive enrolment of challenging cases. The EAGLE database is designed to merge with the on-going ENGAGE database, which enables comparative analysis of cases and results. The primary endpoint is treatment success at 30 days, 12 months and yearly up to 5 years post-implant DISCUSSION: Separate studies on the performance of EVAR in challenging anatomy are necessary to demonstrate safety and effectiveness of the latest generation stent grafts, which is essential in making a balanced judgment about the optimal management of AAAs.

*impactfactor: 1.365*

**Teijink JA**

**Bicycle Testing as an Alternative Diagnostic Tool in Patients Suspected of Intermittent Claudication**

Fokkenrood HJ*, Houterman S*, Schep G, Teijink JA*, Scheltinga MR.

Ann Vasc Surg. 2014 Apr;28(3):614-9. Epub 2013 Oct 9

*Voor abstract zie: Chirurgie - Fokkenrood HJ*

*impactfactor: 1.029*

**Teijink JA**

**Clinical application and early outcomes of the aortouni-iliac configuration for endovascular aneurysm repair**

Kiguchi MM, Forbes TL, Teijink JA*, Pliagas GA, Ellozy SH, Boeckler D, Makaroun MS

J Vasc Surg. 2014 Dec;60(6):1452-9. Epub 2014 Oct 3

OBJECTIVE: The objective of this study was to review the current anatomic indications for and early results of aortouni-iliac (AUI) devices for endovascular aneurysm repair. METHODS: A total of 128 patients receiving an Endurant (Medtronic Inc, Minneapolis, Minn) AUI device in the U.S. Investigational Device Exemption trial (44 patients) or the Endurant Stent Graft Natural Selection Global Postmarket Registry (84 patients) were reviewed. Preoperative computed tomography imaging of patients in the Investigational Device Exemption trial and case report forms of Registry patients were used to determine anatomic indications. Baseline characteristics and early results were compared with those of 1305 patients receiving a bifurcated (BIF) device in sister studies.

RESULTS: The indication for the AUI device was unclear from case report forms in two Registry cases. The remaining 126 patients had a unilateral iliac occlusion in 30 (23%), a severely narrowed aortic segment in 58 (45%), severe iliac occlusive disease in 28 (22%), severe iliac tortuosity in 29 (23%), or complex iliac aneurysms in 19 (15%). Two patients had a previous aortobifemoral graft; 38 patients (30%) had multiple indications. The AUI cohort included more women than the BIF group did (19% vs 10%; $P < .01$) and had more severe comorbidities. Successful deployment was achieved in all AUI cases. The 30-day mortality was 2% (BIF cohort, 1%; $P = .21$). More AUI patients underwent repair under general anesthesia (81% vs 64%; $P < .01$), and procedures were longer (110.9 ± 54.9 minutes vs 99.2 ± 44.3 minutes; $P = .02$). Except for longer intensive care unit stays (19.6 ± 80.0 hours vs 9.0

± 34.8 hours; P = .01) and higher myocardial infarction rates (4% vs 1%; P < .01), outcomes of the AUI cohort were similar to those of the BIF cohort. There were no migrations, ruptures, fractures, or open conversions at up to 1-year follow-up.
CONCLUSIONS: The AUI configuration extends endovascular aneurysm repair feasibility to several hostile anatomic conditions. Despite increased comorbidities in the recipient patient population and associated higher rates of postoperative myocardial infarction and respiratory complications, early outcomes with the new generation of AUI devices are acceptable and comparable to those after treatment with BIF configurations.
*impactfactor: 2.980*

**Teijink JA**
**Editor's choice--Use of disposable radiation-absorbing surgical drapes results in significant dose reduction during EVAR procedures**
Kloeze C*, Klompenhouwer EG*, Brands PJ*, van Sambeek MR*, Cuypers PW*, Teijink JA*
Eur J Vasc Endovasc Surg. 2014 Mar;47(3):268-72
*Voor abstract zie: Klinische Fysica - Kloeze C*
*impactfactor: 3.070*

**Teijink JA**
**How should I treat a symptomatic post dissection carotid aneurysm?**
Rouchaud A, Klein I, Amarenco P, Mazighi M, Pacchioni A, Torsello G, Reimers B, van Sambeek MR*, Tielbeek AV*, Teijink JA*, Cuypers PW*
EuroIntervention. 2014 Jan 22;9(9):1121-3
*Geen abstract beschikbaar*
*impactfactor: 3.758*

**Teijink JA**
**Modes of exercise training for intermittent claudication**
Lauret GJ*, Fakhry F, Fokkenrood HJ*, Hunink MG, Teijink JA*, Spronk S
Cochrane Database Syst Rev. 2014 Jul 4;7:CD009638
*Voor abstract zie: Chirurgie - Lauret GJ*
*impactfactor: --*

**Teijink JA**
**Physical Activity Monitoring in Patients with Intermittent Claudication**
Lauret GJ*, Fokkenrood HJ*, Bendermacher BL*, Scheltinga MR, Teijink JA*
Eur J Vasc Endovasc Surg. 2014 Jun;47(6):656-63. Epub 2014 Apr 13
*Voor abstract zie: Chirurgie - Lauret G*
*impactfactor: 3.070*

**Teijink JA**

**Physical Activity Monitoring in Patients with Peripheral Arterial Disease: Validation of an Activity Monitor**

Fokkenrood HJ*, Verhofstad N*, van den Houten MM*, Lauret GJ*, Wittens C, Scheltinga MR, Teijink JA*

Eur J Vasc Endovasc Surg. 2014 Aug;48(2):194-200. Epub 2014 May 28

*Voor abstract zie: Chirurgie - Fokkenrood HJ*
*impactfactor: 3.070*

**Teijink JA**

**Preoperative exercise therapy for elective major abdominal surgery: A systematic review**

Pouwels S*, Stokmans RA*, Willigendael EM, Nienhuijs SW*, Rosman C, van Ramshorst B, Teijink JA*

Int J Surg. 2014;12(2):134-40.. Epub 2013 Dec 8

*Voor abstract zie: Chirurgie - Pouwels S*
*impactfactor: 1.650*

**Teijink JA**

**Rationale and design of the EAGLE Registry: EVAR with the Endurant in challenging anatomy**

Stokmans RA*, Broos P*, Cuypers PW*, Forbes TL, Vahl AC, Swartbol P, van Sambeek M*, Teijink JA*

J Cardiovasc Surg (Torino). 2014 Oct;55(5):699-704. Epub 2014 May 21

*Voor abstract zie: Chirurgie - Stokmans RA*
*impactfactor: 1.365*

**Teijink JA**

**Serology in chronic Q fever is still surrounded by question marks**

Wegdam-Blans MC*, Tjhie HT, Korbeeck JM, Nabuurs-Franssen MN, Kampschreur LM, Sprong T, Teijink JA*, Koopmans MP

Eur J Clin Microbiol Infect Dis. 2014 Jul;33(7):1089-94

*Voor abstract zie: Pamm - Wegdam-Blans MC*
*impactfactor: 2.544*

**Teijink JA**

**Significant Savings with a Stepped Care Model for Treatment of Patients with Intermittent Claudication**

Fokkenrood HJ*, Scheltinga MR, Koelemay MJ, Breek JC, Hasaart F, Vahl AC, Teijink JA*

Eur J Vasc Endovasc Surg. 2014 Oct;48(4):423-9. Epub 2014 Jun 18

*Voor abstract zie: Chirurgie - Fokkenrood HJ*
*impactfactor: 3.070*

**Teijink JA**

**Statin Therapy is associated with improved survival after endovascular and open aneurysm repair**

De Bruin Jl, Baas AF, Heymans MW, Buimer MG, Prinssen M, Grobbee DE, Blankensteijn JD; DREAM Study Group (Cuypers PW, van Sambeek MRHM, Tielbeek AV, Teijink JA)

J Vasc Surg 2014;59:39-44

*Voor abstract zie: Chirurgie - Cuypers PW*
*impactfactor: 2.980*

**Teijink JA**

**The Effect of Supervision on Walking Distance in Patients with Intermittent Claudication: A Meta-analysis**

Gommans LN*, Saarloos R*, Scheltinga MR, Houterman S*, de Bie RA, Fokkenrood HJ*, Teijink JA*

Eur J Vasc Endovasc Surg. 2014 Aug;48(2):169-84. Epub 2014 Jun 10

*Voor abstract zie: Chirurgie - Gommans LN*
*impactfactor: 3.070*

**Teijink JA**

**Treatment of temporal artery pseudoaneurysms**

Thomassen I*, Klompenhouwer EG*, Willigendael EM*, Teijink JA*

Vascular. 2014 Aug;22(4):274-9. Epub 2013 Jun 11

*Voor abstract zie: Chirurgie - Thomassen I*
*impactfactor: 1.000*

**Thomassen I**

**Chemotherapy as palliative treatment for peritoneal carcinomatosis of gastric origin**

Thomassen I*, Bernards N*, van Gestel YR, Creemers GJ*, Jacobs EM, Lemmens VE, de Hingh IH*

Acta Oncol. 2014 Mar;53(3):429-32. Epub 2013 Dec 5

*Geen abstract beschikbaar*
*impactfactor: 3.71*

**Thomassen I**

**Metachronous peritoneal carcinomatosis after curative treatment of colorectal cancer**

van Gestel YR, Thomassen I*, Lemmens VE, Pruijt JF, van Herk-Sukel MP, Rutten HJ*, Creemers GJ*, de Hingh IH*

Eur J Surg Oncol. 2014 Aug;40(8):963-9. Epub 2013 Oct 16

INTRODUCTION: Population-based data on metachronous peritoneal carcinomatosis (PC) after curative resection of colorectal origin are scarce. The aim of this study was to investigate the incidence of and risk factors for developing metachronous PC from colorectal cancer as well as survival since diagnosis of PC.

METHODS: Data on metachronous metastases were collected between 2010 and 2011 for all patients diagnosed with M0 colorectal cancer between 2003 and 2008 in the Dutch

Eindhoven Cancer Registry. Median follow-up was 5.0 years. Survival was defined as time from metastases diagnosis to death.

RESULTS: Of the 5671 colorectal cancer patients, 1042 (18%) were diagnosed with metachronous metastases of whom 197 (19%) developed metachronous PC. The peritoneal surface was the only site of metastasis in 81 (41%) patients while 116 (59%) patients were diagnosed with both PC and metastases elsewhere. Median survival after diagnosis of PC was 6 months compared to 15 months for patients with distant metastases in other organs. Patients with an advanced primary tumour stage, positive lymph nodes at initial diagnosis, primary mucinous adenocarcinoma, positive resection margin and a primary tumour located in the colon were at increased risk of developing metachronous PC.

CONCLUSION: Of the colorectal cancer patients who developed metachronous metastases, approximately one fifth is diagnosed with PC. Prognosis of these patients is poor with a median survival of 6 months after diagnosis. Identifying patients at high risk for developing metachronous PC is important as it may contribute to more accurate patient information, tailor-made follow-up schemes, and more adequate treatment.

*impactfactor: 2.892*

**Thomassen I**

**Peritoneal carcinomatosis is less frequently diagnosed during laparoscopic surgery compared to open surgery in patients with colorectal cancer**

Thomassen I*, van Gestel YR, Aalbers AG, van Oudheusden TR*, Wegdam JA, Lemmens VE, de Hingh IH*

Eur J Surg Oncol. 2014 May;40(5):511-4

BACKGROUND: During resection of a colorectal tumor a careful inspection of the abdomen should be performed to detect metastases. The aim of the current study was to compare the proportions of patients diagnosed with peritoneal carcinomatosis (PC) during laparoscopic resection (LR) and open resection (OR).

METHODS: All patients who underwent resection for colorectal cancer in the Eindhoven Cancer Registry area between 2008 and 2012 were included. Proportions of patients with PC were compared between surgical techniques. Multivariate logistic regression analysis was performed.

RESULTS: 6687 Patients underwent resection for colorectal cancer, of whom 1631 patients (24%) underwent LR, 4665 patients (70%) underwent OR. Conversion took place in 391 patients (19% of laparoscopic treated patients). PC was diagnosed in 1.4% of patients undergoing LR, in 5.0% of patients undergoing OR, and in 3.3% of patients in whom LR was converted to OR ($p < 0.001$). After adjustment for patient and tumor characteristics (e.g., T- and N-stage), patients who were treated by LR had a lower chance to be diagnosed with PC during surgery than patients undergoing OR (odds ratio = 0.42, $p < 0.001$).

CONCLUSIONS: Patients undergoing surgery for colorectal cancer are less frequently diagnosed with PC during LR in comparison to OR. Since effective treatment is currently available for selected patients with PC, a thorough inspection of the peritoneum during surgery is of paramount importance to offer these patients a chance for long-term survival and even cure.

*impactfactor: 2.892*

**Thomassen I**

**Peritoneal carcinomatosis of gastric origin: A population-based study on incidence, survival and risk factors**

Thomassen I*, van Gestel YR, van Ramshorst B, Luyer MD*, Bosscha K, Nienhuijs SW*, Lemmens VE, de Hingh IH*.

Int J Cancer. 2014 Feb 1;134(3):622-8

Peritoneal carcinomatosis (PC) is an important cause of morbidity and mortality among patients with gastric cancer. The aim of the current study was to provide reliable population-based data on the incidence, risk factors and prognosis of PC of gastric origin. All patients diagnosed with gastric cancer in the area of the Eindhoven Cancer Registry between 1995 and 2011 were included. Incidence and survival were computed and risk factors for peritoneal carcinomatosis were determined using multivariate logistic regression analysis. In total, 5,220 patients were diagnosed with gastric cancer, of whom 2,029 (39%) presented with metastatic disease. PC was present in 706 patients (14%) of whom 491 patients (9%) had PC as the only metastatic site. Younger age (<60 yrs), female gender, advanced T- and N-stage, primary tumour of signet ring cells or linitis plastica, and primary tumours covering multiple anatomical locations of the stomach were all associated with a higher odds ratios of developing PC. Median survival of patients without metastases was 14 months, but only 4 months for patients with PC. PC is a frequent condition in patients presenting with gastric cancer, especially in younger patients with advanced tumour stages. Given the detrimental influence of PC on survival, efforts should be undertaken to further explore the promising results that were obtained in preventing or treating this condition with multi-modality strategies.

*impactfactor: 5.007*

**Thomassen I**

**Population-based incidence, treatment and survival of patients with peritoneal metastases of unknown origin**

Thomassen I*, Verhoeven RH, van Gestel YR, van de Wouw AJ, Lemmens VE, de Hingh IH*

Eur J Cancer. 2014 Jan;50(1):50-6

AIM: Until recently, peritoneal metastases (PM) were regarded as an untreatable condition, regardless of the organ of origin. Currently, promising treatment options are available for selected patients with PM from colorectal, appendiceal, ovarian or gastric carcinoma. The aim of this study was to investigate the incidence, treatment and survival of patients presenting with PM in whom the origin of PM remains unknown.

METHODS: Data from patients diagnosed with PM of unknown origin during 1984-2010 were extracted from the Eindhoven Cancer Registry. European age-standardised incidence rates were calculated and data on treatment and survival were analysed.

RESULTS: In total 1051 patients were diagnosed with PM of unknown origin. In 606 patients (58%) the peritoneum was the only site of metastasis, and 445 patients also had other metastases. Chemotherapy usage has increased from 8% in the earliest period to 16% in most recent years (p=.016). Median survival was extremely poor with only 42days (95% confidence interval (CI) 39-47days) and did not change over time. Median survival of patients not receiving chemotherapy was significantly worse than of those receiving chemotherapy (36 versus 218days, p<.0001).

CONCLUSION: The prognosis of PM of unknown origin is extremely poor and did not improve over time. Given the recent progress that has been achieved in selected patients presenting

with PM, maximum efforts should be undertaken in order to diagnose the origin of PM as accurately as possible. Potentially effective treatment strategies should be further explored for patients in whom the organ of origin remains unknown.

*impactfactor: 4.819*

**Thomassen I**

**Treatment of temporal artery pseudoaneurysms**

Thomassen I*, Klompenhouwer EG*, Willigendael EM*, Teijink JA*

Vascular. 2014 Aug;22(4):274-9. Epub 2013 Jun 11

PurposeTo give an overview of the etiology and diagnostic process of superficial temporal artery pseudoaneurysms and to evaluate different treatment modalities.Basic methodsPubMed was used for searching multiple databases for relevant clinical studies.Principal findingsA total of 62 studies were included, harboring 82 patients. Surgical excision is the most frequently described treatment, but less invasive treatment modalities as coiling and thrombin injections are gaining popularity. Surgical treatment was successful in all cases (67/67). Endovascular treatment was successful in 69% (9/13); the five cases treated with thrombin injection were all successful. Complementary, a description of our experience with thrombin injection is given.ConclusionsLimited evidence of minimal invasive treatment for superficial temporal artery pseudoaneurysm is available. Based on this review combined with our limited experience, we suggest thrombin injections to be considered as the future primary treatment modality. In the case of unsuccessful exclusion of the aneurysm, surgical excision can be performed.

*impactfactor: 1.000*

**Verhofstad N**

**Physical Activity Monitoring in Patients with Peripheral Arterial Disease: Validation of an Activity Monitor**

Fokkenrood HJ*, Verhofstad N*, van den Houten MM*, Lauret GJ*, Wittens C, Scheltinga MR, Teijink JA*

Eur J Vasc Endovasc Surg. 2014 Aug;48(2):194-200. Epub 2014 May 28

*Voor abstract zie: Chirurgie - Fokkenrood HJ*
*impactfactor: 3.070*

**Vermeer TA**

**Abdominosacral resection: Long-term outcome in 86 patients with locally advanced or locally recurrent rectal cancer**

Bosman SJ*, Vermeer TA*, Dudink RL*, de Hingh IH*, Nieuwenhuijzen GA*, Rutten HJ*

Eur J Surg Oncol. 2014 Jun;40(6):699-705. Epub 2014 Feb 28

*Voor abstract zie: Chirurgie - Bosman SJ*
*impactfactor: 2.892*

**Vermeer TA**

**Anastomotic leakage and presacral abscess formation after locally advanced rectal cancer surgery: Incidence, risk factors and treatment**

Vermeer TA*, Orsini RG*, Daams F*, Nieuwenhuijzen GA*, Rutten HJ*

Eur J Surg Oncol. 2014 Nov;40(11):1502-9. Epub 2014 Apr 4

PURPOSE OF THE STUDY: Anastomotic leakage (AL) and presacral abscess (PA) after rectal cancer surgery are a major concern for the colorectal surgeon. In this study, incidence, prognosis and treatment was assessed.

METHODS: Patients operated on in our institute, between 1994 and 2011, for locally advanced rectal cancer (LARC, T3+/T4M0) were included. Morbidity was scored using the Clavien-Dindo classification. Prognostic factors were analysed using binary logistic regression.

RESULTS: 517 patients were included after a low anterior resection (n = 219) or abdominoperineal resection (n = 232). AL occurred in 25 patients (11.4%); 50 patients (9.7%) developed a PA. We identified intraoperative blood loss =4500 cc (p = 0.038) and the era of surgery; patients operated on before the year 2006 (p = 0.042); as risk factors for AL. The time between last day of neo-adjuvant treatment and surgery, <8 weeks is significantly associated with the development of PA (p = 0.010).

CONCLUSIONS: In our population of LARC patients we found an incidence of 9.7% PA and 11.4% AL, with a 12% mortality rate for AL, which is comparable to surgery in general colorectal cancer. Increased intraoperative blood loss and surgery prior to 2006 are associated with AL. Increased intraoperative blood loss and a timing interval <8 weeks increases the risk of PA formation.

*impactfactor: 2.892*

**Vermeer TA**

**High 1-year complication rate after anterior resection for rectal cancer**

Snijders HS, Bakker IS, Dekker JW, Vermeer TA*, Consten EC, Hoff C, Klaase JM, Havenga K, Tollenaar RA, Wiggers T.

J Gastrointest Surg. 2014 Apr;18(4):831-8

BACKGROUND: Surgical options after anterior resection for rectal cancer include a primary anastomosis, anastomosis with a defunctioning stoma, and an end colostomy. This study describes short-term and 1-year outcomes of these different surgical strategies.

METHODS: Patients undergoing surgical resection for primary mid and high rectal cancer were retrospectively studied in seven Dutch hospitals with 1-year follow-up. Short-term endpoints were postoperative complications, re-interventions, prolonged hospital stay, and mortality. One-year endpoints were unplanned readmissions and re-interventions, presence of stoma, and mortality.

RESULTS: Nineteen percent of 388 included patients received a primary anastomosis, 55% an anastomosis with defunctioning stoma, and 27% an end colostomy. Short-term anastomotic leakage was 10% in patients with a primary anastomosis vs. 7% with a defunctioning stoma (P?=?0.46). An end colostomy was associated with less severe re-interventions. One-year outcomes showed low morbidity and mortality rates in patients with an anastomosis. Patients with a defunctioning stoma had high (18%) readmissions and re-intervention (12%) rates, mostly due to anastomotic leakage. An end colostomy was associated with unplanned re-interventions due to stoma/abscess problems. During follow-up, there was a 30% increase in patients with an end colostomy.

CONCLUSIONS: This study showed a high 1-year morbidity rate after anterior resection for rectal cancer. A defunctioning stoma was associated with a high risk for late complications including anastomotic leakage. An end colostomy is a safe alternative to prevent anastomotic leakage, but stomal problems cannot be ignored. Selecting low-risk patients for an anastomosis may lead to favorable short- and 1-year outcomes.

*impactfactor: 2.391*

**Vermeer TA**

**[High one-year morbidity rate after anterior resection for rectal cancer**

Snijders HS, Bakker IS, Dekker JW, Vermeer TA, Consten EC, Hoff C, Klaase JM, Havenga K, Tollenaar RA, Wiggers T.

Ned Tijdschr Geneeskd. 2014;158:A7515.

OBJECTIVE: To describe the short-term and one-year outcomes after anterior resection for rectal cancer; surgical options included: primary anastomosis, anastomosis with a defunctioning stoma and an end-colostomy.

DESIGN: Observational study.

METHOD: Patients undergoing surgical resection for primary mid- and high rectal cancer in seven Dutch hospitals were retrospectively studied with one-year follow up. Short-term endpoints were postoperative complications, re-interventions, prolonged hospital stay and mortality. One-year end-points were unplanned re-admissions and re-interventions, presence of stoma, morbidity after stoma removal and mortality.

RESULTS: Nineteen percent of 388 included patients received a primary anastomosis only, 55% an anastomosis with defunctioning stoma, and 26% an end-colostomy. Short-term anastomotic leakage was 10% in patients with a primary anastomosis vs. 7% with a defunctioning stoma (P = 0.46). An end-colostomy was associated with less -invasive re-interventions. One-year outcomes showed low morbidity in patients with an anastomosis. Patients with a defunctioning stoma had a high percentage of re-admissions (18%) and re-intervention (12%) rates, mostly due to anastomotic leakage. An end-colostomy was associated with unplanned re-interventions due to stoma or abscess problems. During follow-up, there was a 25% increase in patients with an end-colostomy.

CONCLUSION: This study showed a high one-year morbidity rate after anterior resection for rectal cancer. A defunctioning stoma was associated with a high risk for late complications including anastomotic leakage. These results can be used for giving information to patients. Also, the profession can review the current consensus and not create, in principle, a stoma in all patients.

*impactfactor:* --

**Vermeer TA**

**Surgery for Rectal Cancer-What is on the Horizon?**

Vermeer TA,* Orsini RG*, Rutten HJ*

Curr Oncol Rep. 2014 Mar;16(3):372

The management of rectal cancer has improved considerably in recent decades. Surgery remains the cornerstone of the treatment. However, the role of preoperative imaging has made it possible to optimize the treatment plan in rectal patients. Neoadjuvant treatment may be indicated in efforts to sterilize possible tumor deposits outside the surgical field, or may be used to downsize and downstage the tumor itself. The optimal sequence of treatment modalities can be determined by a multidisciplinary team, who not only use pretreatment imaging, but also review pathologic results after surgery. The pathologist plays a pivotal role in providing feedback about the success of surgery, i.e., the distance between the tumor and the circumferential resection margin, the quality of surgery, and the effect of neoadjuvant treatment. Registry and auditing of all treatment variables can further improve outcomes. In this century, rectal cancer treatment has become a team effort.

*impactfactor: 2.868*

**Vermeer TA**

**T4 rectal cancer: do we always need an exenteration?**

Vermeer TA*, Kusters M*, Rutten HJ*

Recent Results Cancer Res. 2014;203:69-94

The management of rectal cancer has changed dramatically over the last few decades. Due to improvements in the multimodality treatment and the introduction of neoadjuvant chemoradiation, previously irresectable tumours can nowadays be cured by extensive multivisceral resections. These highly complex operations are associated with significant morbidity and mortality. Due to optimization of chemoradiotherapy, the introduction of IORT, increasing knowledge of tumour pathology and patterns of recurrence the need for extensive surgery diminishes. The question arises which patients with T4 rectal cancer really need extensive surgery and who can safely be considered for an organ preserving approach.

*impactfactor:* --

**Weijs TJ**

**Study protocol for the nutritional route in oesophageal resection trial: a single-arm feasibility trial (NUTRIENT trial)**

Weijs TJ*, Nieuwenhuijzen GA*, Ruurda JP, Kouwenhoven EA, Rosman C, Sosef M, V Hillegersberg R, Luyer MD*

BMJ Open. 2014;4:e004557

INTRODUCTION: The best route of feeding for patients undergoing an oesophagectomy is unclear. Concerns exist that early oral intake would increase the incidence and severity of pneumonia and anastomotic leakage. However, in studies including patients after many other types of gastrointestinal surgery and in animal experiments, early oral intake has been shown to be beneficial and enhance recovery. Therefore, we aim to determine the feasibility of early oral intake after oesophagectomy.

METHODS AND ANALYSIS: This study is a feasibility trial in which 50 consecutive patients will start oral intake directly following oesophagectomy. Primary outcomes will be the frequency and severity of anastomotic leakage and (aspiration) pneumonia. Clinical parameters will be registered prospectively and nutritional requirements and intake will be assessed by a dietician. Surgical complications will be registered.

ETHICS AND DISSEMINATION: Approval for this study has been obtained from the Medical Ethical Committee of the Catharina Hospital Eindhoven and the study has been registered at the Dutch Trial Register, NTR4136. Results will be published and presented at international congresses.

DISCUSSION: We hypothesise that the oral route of feeding is safe and feasible following oesophagectomy, as has been shown previously for other types of gastrointestinal surgery. It is expected that early oral nutrition will result in enhanced recovery. Furthermore, complications related to artificial feeding, such as jejunostomy tube feeding, are believed to be reduced. However, (aspiration) pneumonia and anastomotic leakage are potential risks that are carefully monitored.

*impactfactor:* *2.063*

**Weijs TJ**

**The effect of perioperative administration of glucocorticoids on pulmonary complications after transthoracic oesophagectomy: a systematic review and meta-analysis**

Weijs TJ*, Dieleman JM, Ruurda JP, Kroese AC, Knape HJ, van Hillegersberg R.

Eur J Anaesthesiol. 2014 Dec;31(12):685-94

BACKGROUND: Severe pulmonary complications occur frequently following transthoracic oesophagectomy. An exaggerated immunological response is probably a main driving factor, and this might be prevented by perioperative administration of a glucocorticoid. OBJECTIVE: To determine the clinical benefits and harms of perioperative glucocorticoid during transthoracic oesophagectomy, using pulmonary complications as the primary outcome. Mortality, anastomotic leakage rate and infection were secondary outcomes. METHODS: A systematic review of interventional trials with a meta-analysis of randomised controlled trials (RCTs).

RESULTS: The search retrieved seven RCTs and four interventional nonrandomised studies. In total, 367 patients received perioperative glucocorticoid and 415 patients did not. A meta-analysis of the RCTs showed no significant effect of glucocorticoid. For pulmonary complications, the pooled risk ratio was 0.69 [95% confidence interval (CI) 0.26 to 1.79], for anastomotic leakage 0.61 (95% CI 0.23 to 1.61) and for infections 1.09 (95% CI 0.41 to 2.93). A subgroup analysis of RCTs that used weight-dependent dosing within 30?min preoperatively showed a pooled risk ratio of 0.28 (95% CI 0.10 to 0.77) for pulmonary complications compared with placebo.

CONCLUSION: In this meta-analysis, perioperative administration of glucocorticoid did not affect the risk of pulmonary complications after transthoracic oesophagectomy, nor did it cause adverse effects. A subgroup analysis showed that a weight-dependent dose of methylprednisolone 10 to 30?mg?kg within 30?min preoperatively might be the most promising dosing regimen for further research.

*impactfactor: 3.011*

*Ten tijde van publicatie werkzaam bij: the Department of Surgery , University Medical Center Utrecht, Utrecht, The Netherlands*

**Willigendael EM**

**Treatment of temporal artery pseudoaneurysms**

Thomassen I*, Klompenhouwer EG*, Willigendael EM*, Teijink JA*

Vascular. 2014 Aug;22(4):274-9. Epub 2013 Jun 11

*Voor abstract zie: Chirurgie - Thomassen I*

*impactfactor: 1.000*

**Woensdregt K**

**Intra-abdominal esophageal duplication cyst: A case report and review of the literature**

Castelijns PS*, Woensdregt K*, Hoevenaars B*, Nieuwenhuijzen GA*

World J Gastrointest Surg. 2014 Jun 27;6(6):112-6

*Voor abstract zie: Chirurgie - Castelijns PS*

*impactfactor: --*

**Zoete JP de**

**Outcome of sleeve gastrectomy as a primary bariatric procedure**

van Rutte PW*, Smulders JF*, de Zoete JP*, Nienhuijs SW*

Br J Surg. 2014 May;101(6):661-8

*Voor abstract zie:* *Chirurgie - Rutte PW van*

*impactfactor:* *5.21*

** = Werkzaam in het Catharina Ziekenhuis*

# Dermatologie

**Henquet C**

**[A boy with an abnormality of the penis]**

Vredenborg AD*, Henquet CJ*

Ned Tijdschr Geneeskd. 2014;158:A7632

*Geen abstract beschikbaar*

*impactfactor:* --

**Henquet C**

**Topical rapamycin as a treatment for fibrofolliculomas in birt-hogg-dubé syndrome: a double-blind placebo-controlled randomized split-face trial**

Gijezen LM, Vernooij M, Martens H, Oduber CE, Henquet CJ*, Starink TM, Prins MH, Menko FH, Nelemans PJ, van Steensel MA*

PLoS One. 2014 Jun 9;9(6):e99071

BACKGROUND: Birt-Hogg-Dubé syndrome (BHD) is a rare autosomal dominant disorder characterised by the occurrence of benign, mostly facial, skin tumours called fibrofolliculomas, multiple lung cysts, spontaneous pneumothorax and an increased renal cancer risk. Current treatments for fibrofolliculomas have high rates of recurrence and carry a risk of complications. It would be desirable to have a treatment that could prevent fibrofolliculomas from growing. Animal models of BHD have previously shown deregulation of mammalian target of rapamycin (mTOR). Topical use of the mTOR inhibitor rapamycin is an effective treatment for the skin tumours (angiofibromas) in tuberous sclerosis complex, which is also characterised by mTOR deregulation. In this study we aimed to determine if topical rapamycin is also an effective treatment for fibrofolliculomas in BHD.

METHODS: We performed a double blinded, randomised, facial left-right controlled trial of topical rapamycin 0.1% versus placebo in 19 BHD patients. Trial duration was 6 months. The primary outcome was cosmetic improvement as measured by doctors and patients. Changes in fibrofolliculoma number and size were also measured, as was occurrence of side effects.

RESULTS: No change in cosmetic status of fibrofolliculomas was reported in the majority of cases for the rapamycin treated (79% by doctors, 53% by patients) as well as the placebo treated facial sides (both 74%). No significant differences between rapamycin and placebo treated facial halves were observed (p?=?1.000 for doctors opinion, p?=?0.344 for patients opinion). No significant difference in fibrofolliculoma number or change in size of the fibrofolliculomas was seen after 6 months. Side effects occurred more often after rapamycin treatment (68% of patients) than after placebo (58% of patients; p?=?0.625). A burning sensation, erythema, itching and dryness were most frequently reported.

CONCLUSIONS: This study provides no evidence that treatment of fibrofolliculomas with topical rapamycin in BHD results in cosmetic improvement.

*impactfactor:* --

**Kelleners - Smeets N**

**Bowen's Disease: A Six-year Retrospective Study of Treatment with Emphasis on Resection Margins**

Westers-Attema A, van den Heijkant F, Lohman BG, Nelemans PJ, Winnepenninckx V, Kelleners-Smeets NW, Mosterd K

Acta Derm Venereol 2014; 94: 431–435. Epub 12 Dec 2013

Bowen's disease is an in situ squamous cell carcinoma of the skin with various treatment modalities available. A major advantage of surgical excision is the opportunity to histologically examine the resection margins. There is no consensus about the most

appropriate margin. This retrospective study evaluates the clearance rates achieved by excision with a 5 mm margin and estimates how that might change after fictitiously reducing the resection margin by 1 or 2 mm. Patients with histologically confirmed Bowen's disease were selected at the Maastricht University Medical Centre from 2002 until 2007. Surgical margins and complete excision rates were evaluated and histological slides were re-examined. To our knowledge this is the first study investigating the safety margin for Bowen's disease. As Bowen's disease is not an invasive disease, minimisation of healthy tissue excision is desirable. Our data show that a hypothetical reduction of the safety margin from 5 mm to 4 or 3 mm decreases the complete excision rate from 94.4% to 87% and 74.1%, respectively.

*impactfactor: 4.244*

**Kelleners - Smeets N**

**Surgical excision versus Mohs' micrographic surgery for basal cell carcinoma of the face: A randomised clinical trial with 10year follow-up**

van Loo E, Mosterd K*, Krekels GA, Roozeboom MH, Ostertag JU, Dirksen CD, Steijlen PM*, Neumann HA, Nelemans PJ, Kelleners-Smeets NW*

Eur J Cancer. 2014 Nov;50(17):3011-20. Epub 2014 Sep 25

*Voor abstract zie: Dermatologie - Mosterd K*

*impactfactor: 4.819*

**Mosterd K**

**Acquired resistance to the Hedgehog pathway inhibitor vismodegib due to smoothened mutations in treatment of locally advanced basal cell carcinoma**

Brinkhuizen T, Reinders MG, van Geel M, Hendriksen AJ, Paulussen AD, Winnepenninckx VJ, Keymeulen KB, Soetekouw PM, van Steensel MA*, Mosterd K*

J Am Acad Dermatol. 2014 Nov;71(5):1005-8.Epub 2014 Sep 4

*Geen abstract beschikbaar*

*impactfactor: 5.004*

**Mosterd K**

**Cost-effectiveness of topical imiquimod and fluorouracil versus photodynamic therapy for treatment of superficial basal-cell carcinoma**

Arits AH, Spoorenberg E, Mosterd K*, Nelemans P, Kelleners-Smeets NW*, Essers BA

Br J Dermatol. 2014 Dec;171(6):1501-7. Epub 2014 Oct 28

BACKGROUND: A recent non-inferiority randomised trial showed that in terms of clinical effectiveness imiquimod was superior and topical fluorouracil non-inferior compared to MAL-PDT for treatment of superficial basal-cell carcinoma. Although it was expected that MAL-PDT would be a more costly treatment than either one of the creams, a full cost-effectiveness analysis is necessary to determine the balance between effectiveness and costs.

OBJECTIVE: To determine whether imiquimod or topical fluorouracil are cost-effective treatments for sBCC compared to MAL-PDT.

METHODS: An economic evaluation was performed from a health care perspective. Data regarding resource use and costs were collected alongside the randomised clinical trial. The Incremental Cost-Effectiveness Ratio (ICER) was expressed as the incremental costs per additional patient free of tumour recurrence.

RESULTS: At twelve months follow-up, the total mean costs for MAL-PDT were € 680, for imiquimod cream € 526 and for topical fluorouracil cream € 388. Both imiquimod and topical fluorouracil were cost-effective treatments compared to MAL-PDT. Comparing costs and effectiveness of both creams led to a ratio or incremental investment of € 4451 euro to achieve an additional tumour recurrence free patient. The acceptability curve showed that, for a threshold value of € 4451, the probability of imiquimod being more cost-effective compared to topical fluorouracil was 50%.

CONCLUSION: Based on the 12 months follow-up results of this economic evaluation, imiquimod and topical fluorouracil cream are cost-effective therapies, i.e. they are more effective and less expensive compared to MAL-PDT for treatment of superficial BCC. Hence, substituting MAL-PDT with either imiquimod or topical fluorouracil results in cost savings although these savings will be larger for topical fluorouracil than for imiquimod. Long-term follow-up effectiveness data are necessary to achieve more conclusive results regarding the cost-effectiveness of imiquimod versus topical 5-fluorouracil cream.

*impactfactor: 4.1*

**Mosterd K**

**Surgical excision versus Mohs' micrographic surgery for basal cell carcinoma of the face: A randomised clinical trial with 10year follow-up**

van Loo E, Mosterd K*, Krekels GA, Roozeboom MH, Ostertag JU, Dirksen CD, Steijlen PM*, Neumann HA, Nelemans PJ, Kelleners-Smeets NW*

Eur J Cancer. 2014 Nov;50(17):3011-20. Epub 2014 Sep 25

BACKGROUND: Basal cell carcinoma (BCC) is the most common form of cancer among Caucasians and its incidence continues to rise. Surgical excision (SE) is considered standard treatment, though randomised trials with long-term follow-up are rare. We now report the long-term results of a randomised trial comparing surgical excision with Mohs' micrographic surgery (MMS) for facial BCC.

METHODS: 408 facial, high risk (diameter at least 1cm, H-zone location or aggressive histological subtype) primary BCCs (pBCCs) and 204 facial recurrent BCCs (rBCCs) were randomly allocated to treatment with either SE or MMS between 5th October 1999 and 27th February 2002. The primary outcome was recurrence of carcinoma. A modified intention to treat analysis was performed.

FINDINGS: For primary BCC, the 10-year cumulative probabilities of recurrence were 4.4% after MMS and 12.2% after SE (Log-rank test ?2 2.704, p=0.100). For recurrent BCC, cumulative 10-year recurrence probabilities were 3.9% and 13.5% for MMS and SE, respectively (Log-rank ?2 5.166, p=0.023). A substantial proportion of recurrences occurred after more than 5years post-treatment: 56% for pBCC and 14% for rBCC.

INTERPRETATION: Fewer recurrences occurred after treatment of high risk facial BCC with MMS compared to treatment with SE. The proportion of recurrences occurring more than 5years post-treatment was especially high for pBCC, stressing the need for long-term follow-up in patients with high risk facial pBCC.

*impactfactor: 4.819*

**Steensel M van**

**Acquired resistance to the Hedgehog pathway inhibitor vismodegib due to smoothened mutations in treatment of locally advanced basal cell carcinoma**

Brinkhuizen T, Reinders MG, van Geel M, Hendriksen AJ, Paulussen AD, Winnepenninckx VJ, Keymeulen KB, Soetekouw PM, van Steensel MA*, Mosterd K*

J Am Acad Dermatol. 2014 Nov;71(5):1005-8.Epub 2014 Sep 4

*Geen abstract beschikbaar*

*impactfactor: 5.004*

**Steensel M van**

**Clinical response to ustekinumab in familial pityriasis rubra pilaris caused by a novel CARD14 mutation**

Eytan O, Sarig O, Sprecher E, van Steensel MA*

Br J Dermatol. 2014 Aug;171(2):420-2. Epub 2014 Aug 6

Pityriasis rubra pilaris (PRP) is a chronic papulosquamous disorder. Although the disease usually occurs sporadically, it is rarely inherited as an autosomal dominant trait. Recently, we identified gain-of-function mutations in CARD14, encoding the caspase recruitment domain family member 14, as the cause of the familial variant of PRP. In the present study, we report a novel mutation in CARD14 causing familial PRP. As CARD14 is a known activator of the NF-?B pathway, which is activated by interleukin-23, we hypothesized that blockade of the latter may benefit carriers of activating mutations in CARD14. Accordingly, ustekinumab brought about near resolution of a life-long dermatosis in our patient. This case report emphasizes the role of CARD14 in the pathogenesis of familial PRP and the therapeutic potential of IL-12/23 inhibition in this disease.

*impactfactor: 4.1*

**Steensel M van**

**Cutaneous clues for diagnosing X-chromosomal disorders**

Vreeburg M, Sallevelt S, Stegmann A, van Geel M, Detisch Y, Schrander-Stumpel C, van Steensel M*, Marcus-Soekarman D

Clin Genet. 2014 Apr;85(4):328-35. doi: 10.1111/cge.12162. Epub 2013 Aug 14

In a multidisciplinary outpatient clinic for hereditary skin diseases and/or syndromes involving the skin, 7% (30 of 409) of patients were found to have an abnormality involving the X chromosome, a mutation in a gene located on the X chromosome or a clinical diagnosis of an X-linked monogenetic condition. The collaboration of a dermatologist and a clinical geneticist proves to be very valuable in recognizing and diagnosing these conditions. By combining their specific expertize in counselling an individual patient, X-linked diagnoses were recognized and could be confirmed by molecular and/or cytogenetic studies in 24 of 30 cases. Mosaicism plays an important role in many X-linked hereditary skin disorders. From our experience, we extracted clinical clues for specialists working in the field of genetics and/or dermatology for considering X-linked disorders involving the skin.

*impactfactor: 3.652*

**Steensel M van**

**FLCN, a novel autophagy component, interacts with GABARAP and is regulated by ULK1 phosphorylation**

Dunlop EA, Seifan S, Claessens T, Behrends C, Kamps MA, Rozycka E, Kemp AJ, Nookala RK, Blenis J, Coull BJ, Murray JT, van Steensel MA*, Wilkinson S, Tee AR

Autophagy. 2014 Oct 1;10(10):1749-60

Birt-Hogg-Dubé (BHD) syndrome is a rare autosomal dominant condition caused by mutations in the FLCN gene and characterized by benign hair follicle tumors, pneumothorax, and renal cancer. Folliculin (FLCN), the protein product of the FLCN gene, is a poorly characterized tumor suppressor protein, currently linked to multiple cellular pathways. Autophagy maintains cellular homeostasis by removing damaged organelles and macromolecules. Although the autophagy kinase ULK1 drives autophagy, the underlying mechanisms are still being unraveled and few ULK1 substrates have been identified to date. Here, we identify that loss of FLCN moderately impairs basal autophagic flux, while re-expression of FLCN rescues autophagy. We reveal that the FLCN complex is regulated by ULK1 and elucidate 3 novel phosphorylation sites (Ser406, Ser537, and Ser542) within FLCN, which are induced by ULK1 overexpression. In addition, our findings demonstrate that FLCN interacts with a second integral component of the autophagy machinery, GABA(A) receptor-associated protein (GABARAP). The FLCN-GABARAP association is modulated by the presence of either folliculin-interacting protein (FNIP)-1 or FNIP2 and further regulated by ULK1. As observed by elevation of GABARAP, sequestome 1 (SQSTM1) and microtubule-associated protein 1 light chain 3 (MAP1LC3B) in chromophobe and clear cell tumors from a BHD patient, we found that autophagy is impaired in BHD-associated renal tumors. Consequently, this work reveals a novel facet of autophagy regulation by ULK1 and substantially contributes to our understanding of FLCN function by linking it directly to autophagy through GABARAP and ULK1.

*impactfactor: 11.423*

**Steensel M van**

**Immunohistochemical analysis of the mechanistic target of rapamycin and hypoxia signalling pathways in Basal cell carcinoma and trichoepithelioma**

Brinkhuizen T, Weijzen CA, Eben J, Thissen MR, van Marion AM, Lohman BG, Winnepenninckx VJ, Nelemans PJ, van Steensel MA*

PLoS One. 2014 Sep 2;9(9):e106427

BACKGROUND: Basal cell carcinoma (BCC) is the most common cancer in Caucasians. Trichoepithelioma (TE) is a benign neoplasm that strongly resembles BCC. Both are hair follicle (HF) tumours. HFs are hypoxic microenvironments, therefore we hypothesized that hypoxia-induced signalling pathways could be involved in BCC and TE as they are in other human malignancies. Hypoxia-inducible factor 1 (HIF1) and mechanistic/mammalian target of rapamycin (mTOR) are key players in these pathways.

OBJECTIVES: To determine whether HIF1/mTOR signalling is involved in BCC and TE. METHODS: We used immunohistochemical staining of formalin-fixed paraffin-embedded BCC (n?=?45) and TE (n?=?35) samples to assess activity of HIF1, mTORC1 and their most important target genes. The percentage positive tumour cells was assessed manually in a semi-quantitative manner and categorized (0%, <30%, 30-80% and >80%).

RESULTS: Among 45 BCC and 35 TE examined, expression levels were respectively 81% and 57% (BNIP3), 73% and 75% (CAIX), 79% and 86% (GLUT1), 50% and 19% (HIF1a), 89% and 88% (pAKT), 55% and 61% (pS6), 15% and 25% (pMTOR), 44% and 63% (PHD2) and 44% and

49% (VEGF-A). CAIX, Glut1 and PHD2 expression levels were significantly higher in TE when only samples with at least 80% expression were included.

CONCLUSIONS: HIF and mTORC1 signalling seems active in both BCC and TE. There are no appreciable differences between the two with respect to pathway activity. At this moment immunohistochemical analyses of HIF, mTORC1 and their target genes does not provide a reliable diagnostic tool for the discrimination of BCC and TE.

*impactfactor:* *--*

**Steensel M van**

**Increased epidermal expression and absence of mutations in CARD14 in a series of sporadic PRP patients**

Eytan O, Qiaoli L, Nousbeck J, van Steensel MA*, Burger B, Hohl D, Taieb A, Prey S, Bachmann D, Avitan-Hersh E, Jin Chung H, Shemer A, Trau H, Bergman R, Fuchs-Telem D, Warshauer E, Israeli S, Itin PH, Sarig O, Uitto J, Sprecher E

Br J Dermatol. 2014 May;170(5):1196-8

Pityriasis rubra pilaris (PRP; MIM 173200) encompasses a spectrum of rare chronic papulosquamous inflammatory disorders, which have been classified into 6 subtypes1 . Clinical features include palmoplantar keratoderma and follicular hyperkeratotic papules which coalesce into large, scaly, erythematous plaques, with frequent progression to exfoliative erythroderma.

*impactfactor:* *4.1*

**Steensel M van**

**Mutations in SH3PXD2B cause Borrone dermato-cardio-skeletal syndrome**

Wilson GR, Sunley J, Smith KR, Pope K, Bromhead CJ, Fitzpatrick E, Di Rocco M, van Steensel M*, Coman DJ, Leventer RJ, Delatycki MB, Amor DJ, Bahlo M, Lockhart PJ

Eur J Hum Genet. 2014 Jun;22(6):741-7. Epub 2013 Oct 9

Borrone Dermato-Cardio-Skeletal (BDCS) syndrome is a severe progressive autosomal recessive disorder characterized by coarse facies, thick skin, acne conglobata, dysmorphic facies, vertebral abnormalities and mitral valve prolapse. We identified a consanguineous kindred with a child clinically diagnosed with BDCS. Linkage analysis of this family (BDCS1) identified five regions homozygous by descent with a maximum LOD score of 1.75. Linkage analysis of the family that originally defined BDCS (BDCS3) identified an overlapping linkage peak at chromosome 5q35.1. Sequence analysis identified two different homozygous mutations in BDCS1 and BDCS3, affecting the gene encoding the protein SH3 and PX domains 2B (SH3PXD2B), which localizes to 5q35.1. Western blot analysis of patient fibroblasts derived from affected individuals in both families demonstrated complete loss of SH3PXD2B. Homozygosity mapping and sequence analysis in a second published BDCS family (BDCS2) excluded SH3PXD2B. SH3PXD2B is required for the formation of functional podosomes, and loss-of-function mutations in SH3PXD2B have recently been shown to underlie 7 of 13 families with Frank-Ter Haar syndrome (FTHS). FTHS and BDCS share some overlapping clinical features; therefore, our results demonstrate that a proportion of BDCS and FTHS cases are allelic. Mutations in other gene(s) functioning in podosome formation and regulation are likely to underlie the SH3PXD2B-mutation-negative BDSC/FTHS patients.

*impactfactor:* *4.225*

**Steensel M van**

**Report of the 10th Annual International Pachyonychia Congenita Consortium Meeting**

van Steensel MA*, Coulombe PA, Kaspar RL, Milstone LM, McLean IW, Roop DR, Smith FJ, Sprecher E, Schwartz ME

J Invest Dermatol. 2014 Mar;134(3):588-91

*Geen abstract beschikbaar*

*impactfactor: 6.372*

**Steensel M van**

**The tumor suppressor folliculin regulates AMPK-dependent metabolic transformation**

Yan M, Gingras MC, Dunlop EA, Nouët Y, Dupuy F, Jalali Z, Possik E, Coull BJ, Kharitidi D, Dydensborg AB, Faubert B, Kamps M, Sabourin S, Preston RS, Davies DM, Roughead T, Chotard L, van Steensel MA*, Jones R, Tee AR, Pause A.

J Clin Invest. 2014 Apr 24. pii: 71749.

The Warburg effect is a tumorigenic metabolic adaptation process characterized by augmented aerobic glycolysis, which enhances cellular bioenergetics. In normal cells, energy homeostasis is controlled by AMPK; however, its role in cancer is not understood, as both AMPK-dependent tumor-promoting and -inhibiting functions were reported. Upon stress, energy levels are maintained by increased mitochondrial biogenesis and glycolysis, controlled by transcriptional coactivator PGC-1a and HIF, respectively. In normoxia, AMPK induces PGC-1a, but how HIF is activated is unclear. Germline mutations in the gene encoding the tumor suppressor folliculin (FLCN) lead to Birt-Hogg-Dubé (BHD) syndrome, which is associated with an increased cancer risk. FLCN was identified as an AMPK binding partner, and we evaluated its role with respect to AMPK-dependent energy functions. We revealed that loss of FLCN constitutively activates AMPK, resulting in PGC-1a-mediated mitochondrial biogenesis and increased ROS production. ROS induced HIF transcriptional activity and drove Warburg metabolic reprogramming, coupling AMPK-dependent mitochondrial biogenesis to HIF-dependent metabolic changes. This reprogramming stimulated cellular bioenergetics and conferred a HIF-dependent tumorigenic advantage in FLCN-negative cancer cells. Moreover, this pathway is conserved in a BHD-derived tumor. These results indicate that FLCN inhibits tumorigenesis by preventing AMPK-dependent HIF activation and the subsequent Warburg metabolic transformation.

*impactfactor: 13.765*

**Steensel M van**

**Topical rapamycin as a treatment for fibrofolliculomas in birt-hogg-dubé syndrome: a double-blind placebo-controlled randomized split-face trial**

Gijezen LM, Vernooij M, Martens H, Oduber CE, Henquet CJ*, Starink TM, Prins MH, Menko FH, Nelemans PJ, van Steensel MA*

PLoS One. 2014 Jun 9;9(6):e99071

*Voor abstract zie: Henquet C – Dermatologie*

*impactfactor: --*

**Steijlen P**

**Surgical excision versus Mohs' micrographic surgery for basal cell carcinoma of the face: A randomised clinical trial with 10year follow-up**

van Loo E, Mosterd K*, Krekels GA, Roozeboom MH, Ostertag JU, Dirksen CD, Steijlen PM*, Neumann HA, Nelemans PJ, Kelleners-Smeets NW*

Eur J Cancer. 2014 Nov;50(17):3011-20. Epub 2014 Sep 25]

*Voor abstract zie: Dermatologie - Mosterd K*

*impactfactor: 4.819*

**Vredenborg, A**

**[A boy with an abnormality of the penis]**

Vredenborg AD*, Henquet CJ*

Ned Tijdschr Geneeskd. 2014;158:A7632.

*Geen abstract beschikbaar*

*impactfactor: --*

** = Werkzaam in het Catharina Ziekenhuis*

ECC

**Hees JW van**

**Healthcare failure mode effect analysis of a miniaturized extracorporeal bypass circuit**

Overdevest E*, van Hees J*, Lagerburg V*, Kloeze C*, van Straten A*

Perfusion, 2014, 29(4):301-306

*Voor abstract zie:* *ECC - Overdevest E*

*impactfactor:* *1.083*

**Overdevest EP**

**Healthcare failure mode effect analysis of a miniaturized extracorporeal bypass circuit**

Overdevest E*, van Hees J*, Lagerburg V*, Kloeze C*, van Straten A*

Perfusion, 2014, 29(4):301-306

BACKGROUND: The introduction of new and more advanced technology in healthcare occurs with an increasing speed. Therefore, more attention is needed for safety evaluation of new devices or techniques from an end-user perspective, especially when (inter-) national perfusion safety standards are lacking.A recently increased awareness of the safety risks as a consequence of technical or human error has provoked interest in optimisation of perfusion methodology and devices.To prevent or reduce the severity or likelihood of failures of new technology, 'failure mode effect analysis' is a proven proactive technique. When it is used as a qualitative analysis for possible hazards in patient treatment associated with the use of medical devices, it's called healthcare failure mode effect analysis (hFMEA). METHODS: To evaluate the safety of the Extra Corporeal Circulation Optimized (ECCO, Sorin Group, Mirandola, Italy) miniaturized bypass circuit, hFMEA was used. A multi disciplinary team that consisted of two clinical perfusionists, a clinical physicist, a clinical physicist trainee and a technician has performed this analysis.

RESULTS: The hFMEA demonstrated that failure of the bubble sensor for the electric remote clamping system on the arterial line (Figure 1), activated by air passing the venous bubble trap, had the highest risk score of all failure modes. This has led to the implementation of an extra low-level sensor in the system to prevent air passing through into the centrifugal pump. The hFMEA has also indicated that extra individual simulation training is needed for handling critical failures during the use of the miniature bypass system. CONCLUSION: Early identification of possible technology failures in any process or device can avoid adverse patient outcomes. The technique of hFMEA is a valuable tool in evaluating the use of high-risk apparatus, such as an extracorporeal bypass system, in patient treatment in order to increase patient safety.

*impactfactor:* *1.083*

** = Werkzaam in het Catharina Ziekenhuis*

# Geestelijke verzorging

**Laar, EF van de**
**Beroepshabitus en zorgkosten : Hoe generalisten en specialisten samen terughoudendheid kunnen stimuleren**
Laar E van de, Aa GC van der, Peil Jan
Tijdschrift voor Ouderenzorg, 2014 (03): 115-117
*Geen abstract beschikbaar*
*impactfactor: --*

**Laar, EF van de**
**Valt artsen onnadenkendheid te verwijten?**
Laar, EFJ van de, Rutten H en Peil J
Podium voor Bio-ethiek, 2014;21(2):22-25
*Geen abstract beschikbaar*
*impactfactor: --*

** = Werkzaam in het Catharina Ziekenhuis*

# Geriatrie

**Aa GC van der**

**Beroepshabitus en zorgkosten : Hoe generalisten en specialisten samen terughoudendheid kunnen stimuleren**

Laar E van de*, Aa GC van der*, Peil J

Tijdschrift voor Ouderenzorg, 2014 (03): 115-117

*Geen abstract beschikbaar*

*impactfactor:* --

**Linden CM van der**

**Integratie van informatie over in het ziekenhuis opgetreden bijwerkingen in een eerstelijsinfornatiesysteem; eerste stap**

Carolien MJ van der Linden*, René JE Grouls, Paul AF Jansen, Martine Newton-Boerjan, Toine CG Egberts, Erik HM Korsten

Pharmaceutisch Weekblad 2014;8:A1426

*Geen abstract beschikbaar*

*impactfactor:* --

** = Werkzaam in het Catharina Ziekenhuis*

# Gynaecologie

**Avoort, van der IA**

**Four countries, four ways of discussing low-risk pregnancy and normal delivery: in France, Germany, The Netherlands, and the United Kingdom**

Schott S, van der Avoort I*, Descamps P, Richmond D, Adams T, Oei G, Hédon B, Friese K

Arch Gynecol Obstet. 2014 Feb;289(2):451-6. Epub 2013 Nov 20

The 2012 "4 countries meeting" of the French, Dutch, British and German Societies of Gynaecology and Obstetrics (CNGOF, NVOG, RCOG, DGGG) was dedicated to the topic "Low-risk pregnancy and normal delivery". The objective was to compare how each country organises prenatal care and normal delivery. The discussion is outlined in the article and provides new opportunities to learn from each other's strengths in order to provide the highest level of care regardless of social, demographic, educational and clinical differences.

*impactfactor: 1.279*

**Ciliacus E**

**Fear for external cephalic version and depression: predictors of successful external cephalic version for breech presentation at term?**

Ciliacus E*, van der Zalm M*, Truijens SE, Hasaart TH*, Pop VJ, Kuppens SM* BMC Pregnancy Childbirth. 2014 Mar 12;14:101

BACKGROUND: Objective was to determine whether fear for external cephalic version (ECV) and depression are associated with the success rate of ECV in women with a breech presentation at term.

METHODS: Prospective study conducted in the Catharina Hospital Eindhoven between October 2007 and May 2012. Participants fulfilled The Edinburgh Depression Scale (EDS) questionnaire and expressed their degree of fear on a visual analogue scale from one to ten before ECV. Obstetric factors were evaluated as well. Primary outcome was the relation between psychological factors (fear for ECV and depression EDS scores) and ECV success rate. Secondary outcome was a possible relation between fear for ECV and increased abdominal muscle tension.

RESULTS: The overall success rate was 55% and was significantly lower ($p < 0.001$) in nulliparous women (44.3%) compared with parous women (78.0%). Fear for ECV and depression EDS-scores were not related with ECV success rate. Parity, placental location, BMI and engagement of the fetal breech were obstetric factors associated with ECV outcome. There was no relation between fear for ECV and abdominal muscle tone. CONCLUSION: Fear for ECV and depression were not related with ECV success rate in this study. Engagement of the fetal breech was the most important factor associated with a successful ECV.

*impactfactor: 2.15*

**Dop P van**

**Elevated early follicular progesterone levels and in vitro fertilization outcomes: a prospective intervention study and meta-analysis**

Hamdine O, Macklon NS, Eijkemans MJ, Laven JS, Cohlen BJ, Verhoeff A, van Dop PA*, Bernardus RE, Lambalk CB, Oosterhuis GJ, Holleboom CA, van den Dool-Maasland GC, Verburg HJ, van der Heijden PF, Blankhart A, Fauser BC, Broekmans FJ; for the CETRO trial study group

Fertil Steril. 2014 Aug;102(2):448-454.e1. Epub 2014 Jun 11

OBJECTIVE: To assess the impact of elevated early follicular progesterone (P) levels in gonadotropin-releasing hormone (GnRH) antagonist cycles on clinical outcome using prospective data in combination with a systematic review and meta-analysis. DESIGN: Nested study within a multicenter randomized controlled trial and a systematic review and meta-analysis.

SETTING: Reproductive medicine center in an university hospital.

PATIENT(S): 158 in vitro fertilization/intracytoplasmic sperm injection (IVF-ICSI) patients. INTERVENTION(S): Recombinant follicle-stimulating hormone (FSH) (150-225 IU) administered daily from cycle day 2 onward; GnRH antagonist treatment randomly started on cycle day 2 or 6; assignment into two groups according to P level on cycle day 2: normal or elevated (>4.77 nmol/L or >1.5 ng/mL, respectively).

MAIN OUTCOME MEASURE(S): Ongoing pregnancy rate (OPR) per started cycle. RESULT(S): The incidence of elevated P was 13.3%. A non-statistically-significant difference in OPR was present between the normal and elevated P groups (27.0% vs. 19.0%). No differential impact of early or late GnRH antagonist initiation on the effect of elevated or normal P on OPR was observed. A systematic search of Medline and EMBASE from 1972-2013 was performed to identify studies analyzing elevated early P levels in GnRH antagonists. The meta-analysis (n = 1,052) demonstrated that elevated P levels statistically significantly decreased the OPR with 15% (95% CI -23, -7 %). Heterogeneity across the studies, presumably based on varying protocols, may have modulated the effect of elevated P.

CONCLUSION(S): From the present meta-analysis it appears that early elevated P levels are associated with a lower OPR in GnRH antagonists. The incidence of such a condition, however, is low.

*impactfactor: 4.295*

**Han S**

**Fetal outcome after prenatal exposure to chemotherapy and mechanisms of teratogenicity compared to alcohol and smoking**

Vandenbroucke T, Verheecke M, Van Calsteren K, Han S, Claes L, Amant F.

Expert Opin Drug Saf. 2014 Dec;13(12):1653-65. doi: . Epub 2014 Nov 10.

INTRODUCTION: The treatment of cancer during pregnancy is challenging because of the involvement of two individuals and the necessity of a multidisciplinary approach. An important concern is the potential impact of chemotherapy on the developing fetus. AREAS COVERED: The authors review the available literature on neonatal and long-term outcome of children prenatally exposed to chemotherapy. Chemotherapy administered during first trimester of pregnancy results in increased congenital malformations (7.5 - 17% compared to 4.1 - 6.9% background risk), whereas normal rates are found during second or third trimester. Intrauterine growth restriction is seen in 7 - 21% (compared to 10%), but children develop normal weight and height on the long term. Children are born preterm in 67.1%, compared to 4% in general population. Normal intelligence, attention, memory and behavior are reported, although intelligence tends to decrease with prematurity. Global heart function remains normal, although small differences are seen in ejection fraction, fractional shortening and some diastolic parameters. No secondary cancers or fertility problems are encountered, but follow up periods are limited.

EXPERT OPINION: Most evidence is based on retrospective studies with small samples and limited follow up periods, methodology and lack of control groups. A large prospective case-control study with long-term follow up is needed in which confounding factors are well considered.

*impactfactor: 2.735*

*Ten tijde van publicatie werkzaam bij: University Hospitals Leuven, Department of Obstetrics and Gynecology, Gynecological Oncology,Leuven, Belgium*

**Han S**

**Management of Gynecological Cancers During Pregnancy**

Han SN*, Verheecke M, Vandenbroucke T, Gziri MM, Van Calsteren K, Amant F.
Curr Oncol Rep. 2014 Dec;16(12):415

The diagnosis of a gynecological malignancy during pregnancy is rare but not uncommon. Cancer treatment during pregnancy is possible, but both maternal and fetal interests need to be respected. Different treatment plans may be justifiable and multidisciplinary treatment is advised. Clinical trials are virtually impossible, and current evidence is mainly based on small case series and expert opinion. Individualization of treatment is necessary and based on tumor type, stage, and gestational age at time of diagnosis. Termination of pregnancy is not necessary in most cases. Surgery and chemotherapy (second trimester and onwards) are possible types of treatment during pregnancy. Radiotherapy of the pelvic area is not compatible with an ongoing pregnancy. This article discusses the current recommendations for the management of gynecological malignancies (cervical, ovarian, and vulvar cancers) during pregnancy.

*impactfactor: 2.868*

*Ten tijde van publicatie werkzaam bij: University Hospitals Leuven, Department of Obstetrics and Gynecology, Gynecological Oncology,Leuven, Belgium*

**Hasaart TH**

**Fear for external cephalic version and depression: predictors of successful external cephalic version for breech presentation at term?**

Ciliacus E*, van der Zalm M*, Truijens SE, Hasaart TH*, Pop VJ, Kuppens SM* BMC Pregnancy Childbirth. 2014 Mar 12;14:101

*Voor abstract zie: Gynaecologie - Ciliacus E*

*impactfactor: 2.15*

**Hasaart TH**

**Involving women in personalised decision-making on mode of delivery after caesarean section: the development and pilot testing of a patient decision aid**

Schoorel EN, Vankan E, Scheepers HC, Augustijn BC, Dirksen CD, de Koning M, van Kuijk SM, Kwee A, Melman S, Nijhuis JG, Aardenburg R, de Boer K, Hasaart TH, Mol BW, Nieuwenhuijze M, van Pampus MG, van Roosmalen J, Roumen FJ, de Vries R, Wouters MG, van der Weijden T, Hermens RP. BJOG. 2014 Jan;121(2):202-9.

OBJECTIVE: To develop a patient decision aid (PtDA) for mode of delivery after caesarean section that integrates personalised prediction of vaginal birth after caesarean (VBAC) with the elicitation of patient preferences and evidence-based information.

DESIGN: A PtDA was developed and pilot tested using the International Patients Decision Aid Standards (IPDAS) criteria.

SETTING: Obstetric health care in the Netherlands.

POPULATION: A multidisciplinary steering group, an expert panel, and 25 future users of the PtDA, i.e. women with a previous caesarean section.

METHODS: The development consisted of a construction phase (definition of scope and purpose, and selection of content, framework, and format) and a pilot testing phase by interview. The process was supervised by a multidisciplinary steering group.

MAIN OUTCOME MEASURES: Usability, clarity, and relevance.

RESULTS: The construction phase resulted in a booklet including unbiased balanced information on mode of birth after caesarean section, a preference elicitation exercise, and tailored risk information, including a prediction model for successful VBAC. During pilot testing, visualisation of risks and clarity formed the main basis for revisions. Pilot testing showed the availability of tailored structured information to be the main factor involving women in decision-making. The PtDA meets 39 out of 50 IPDAS criteria (78%): 23 out of 23 criteria for content (100%) and 16 out of 20 criteria for the development process (80%). Criteria for effectiveness (n = 7) were not evaluated.

CONCLUSIONS: An evidence-based PtDA was developed, with the probability of successful VBAC and the availability of structured information as key items. It is likely that the PtDA enhances the quality of decision-making on mode of birth after caesarean section.

*impactfactor: 3.76*

**Hasaart TH**

**Maternal thyrotrophin in euthyroid women is related to meconium stained amniotic fluid in women who deliver at or over 41weeks of gestation**

Monen L*, Kuppens SM*, Hasaart TH*, Wijnen H, Pop VJ

Early Hum Dev. 2014 Apr 29. pii: S0378-3782(14)00083-8.

*Voor abstract zie: Gynaecologie - Monen L*

*impactfactor: 1.931*

**Hasaart TH**

**Prediction of preterm birth in multiple pregnancies: development of a multivariable model including cervical length measurement at 16 to 21 weeks' gestation**

van de Mheen L, Schuit E, Lim AC, Porath MM, Papatsonis D, Erwich JJ, van Eyck J, van Oirschot CM, Hummel P, Duvekot JJ, Hasaart TH*, Groenwold RH, Moons KG, de Groot CJ, Bruinse HW, van Pampus MG, Mol BW

J Obstet Gynaecol Can. 2014 Apr;36(4):309-19

OBJECTIVE: To develop a multivariable prognostic model for the risk of preterm delivery in women with multiple pregnancy that includes cervical length measurement at 16 to 21 weeks' gestation and other variables.

METHODS: We used data from a previous randomized trial. We assessed the association between maternal and pregnancy characteristics including cervical length measurement at 16 to 21 weeks' gestation and time to delivery using multivariable Cox regression modelling. Performance of the final model was assessed for the outcomes of preterm and very preterm delivery using calibration and discrimination measures.

RESULTS: We studied 507 women, of whom 270 (53%) delivered < 37 weeks (preterm) and 66 (13%) < 32 weeks (very preterm). Women with cervical length < 30 mm delivered more often preterm (hazard ratio 1.9; 95% CI 0.7 to 4.8). Other independently contributing predictors were previous preterm delivery, monochorionicity, smoking, educational level, and triplet pregnancy. Prediction models for preterm and very preterm delivery had a c-index of 0.68 (95% CI 0.63 to 0.72) and 0.68 (95% CI 0.62 to 0.75), respectively, and showed good calibration.

CONCLUSION: In women with a multiple pregnancy, the risk of preterm delivery can be assessed with a multivariable model incorporating cervical length and other predictors.

*impactfactor:* --

**Hasaart TH**

**[Shock in pregnancy: foetal distress may be the first symptom]**

Vergeldt TF*, Kortenhorst MS*, Hasaart TH*, Wijnberger LD*

Ned Tijdschr Geneeskd. 2014;158(1):A6606

*Voor abstract zie:* *Gynaecologie - Vergeldt TF*

*impactfactor:* --

**Hasaart TH**

**The aetiology of meconium-stained amniotic fluid: Pathologic hypoxia or physiologic foetal ripening? (Review)**

Monen L*, Hasaart TH*, Kuppens SM*

Early Hum Dev. 2014 Jul;90(7):325-8. Epub 2014 Apr 30

*Voor abstract zie:* *Gynaecologie - Monen L*

*impactfactor:* *1.931*

**Hermans RH**

**Cytoreductive surgery followed by chemotherapy versus chemotherapy alone for recurrent platinum-sensitive epithelial ovarian cancer (SOCceR trial): a multicenter randomised controlled study**

van de Laar R, Zusterzeel PL, Van Gorp T, Buist MR, van Driel WJ, Gaarenstroom KN, Arts HJ, van Huisseling JC, Hermans RH*, Pijnenborg JM, Schutter EM, Pelikan HM, Vollebergh JH, Engelen MJ, Inthout J, Kruitwagen RF, Massuger LF

BMC Cancer. 2014 Jan 14;14:22

BACKGROUND: Improvement in treatment for patients with recurrent ovarian cancer is needed. Standard therapy in patients with platinum-sensitive recurrent ovarian cancer consists of platinum-based chemotherapy. Median overall survival is reported between 18 and 35 months. Currently, the role of surgery in recurrent ovarian cancer is not clear. In selective patients a survival benefit up to 62 months is reported for patients undergoing complete secondary cytoreductive surgery. Whether cytoreductive surgery in recurrent platinum-sensitive ovarian cancer is beneficial remains questionable due to the lack of level I-II evidence.

METHODS/DESIGN: Multicentre randomized controlled trial, including all nine gynecologic oncologic centres in the Netherlands and their affiliated hospitals. Eligible patients are women, with first recurrence of FIGO stage Ic-IV platinum-sensitive epithelial ovarian cancer, primary peritoneal cancer or fallopian tube cancer, who meet the inclusion criteria. Participants are randomized between the standard treatment consisting of at least six cycles of intravenous platinum based chemotherapy and the experimental treatment which consists of secondary cytoreductive surgery followed by at least six cycles of intravenous platinum based chemotherapy. Primary outcome measure is progression free survival. In total 230 patients will be randomized. Data will be analysed according to intention to treat.

DISCUSSION: Where the role of cytoreductive surgery is widely accepted in the initial treatment of ovarian cancer, its value in recurrent platinum-sensitive epithelial ovarian cancer has not been established so far. A better understanding of the benefits and patients selection criteria for secondary cytoreductive surgery has to be obtained. Therefore the 4th

ovarian cancer consensus conference in 2010 stated that randomized controlled phase 3 trials evaluating the role of surgery in platinum-sensitive recurrent epithelial ovarian cancer are urgently needed. We present a recently started multicentre randomized controlled trial that will investigate the role of secondary cytoreductive surgery followed by chemotherapy will improve progression free survival in selected patients with first recurrence of platinum-sensitive epithelial ovarian cancer.

*impactfactor: 3.32*

**Kortenhorst MS**

**[Shock in pregnancy: foetal distress may be the first symptom]**

Vergeldt TF*, Kortenhorst MS*, Hasaart TH*, Wijnberger LD*

Ned Tijdschr Geneeskd. 2014;158(1):A6606

*Voor abstract zie: Gynaecologie - Vergeldt TF*

*impactfactor: --*

**Kuppens SM**

**Determinants of pain perception after external cephalic version in pregnant women**

Truijens SE, van der Zalm M*, Pop VJ, Kuppens SM*

Midwifery. 2014 Mar;30(3):e102-7. Epub 2013 Nov 23

*Voor abstract zie: Gynaecologie - van der Zalm M*

*impactfactor: 1.707*

**Kuppens SM**

**Did the classical concept of meconium according to Aristotle induce not only the fetus into sleep, but also us, researchers and clinicians?**

Pop VJ, Kuppens SM*

Early Hum Dev. 2014 Jul;90(7):323-4.Epub 2014 May 1

*Geen abstract beschikbaar*

*impactfactor: 1.931*

**Kuppens SM**

**Economic analysis comparing induction of labor and expectant management in women with preterm prelabor rupture of membranes between 34 and 37 weeks (PPROMEXIL trial)**

Vijgen SM, van der Ham DP, Bijlenga D, van Beek JJ, Bloemenkamp KW, Kwee A, Groenewout M, Kars MM, Kuppens S*, Mantel G, Molkenboer JF, Mulder AL, Nijhuis JG, Pernet PJ, Porath M, Woiski MD, Weinans MJ, van Wijngaarden WJ, Wildschut HI, Akerboom B, Sikkema JM, Willekes C, Mol BW, Opmeer BC; PPROMEXIL study group. Acta Obstet Gynecol Scand. 2014 Apr;93(4):374-81

OBJECTIVE: To compare the costs of induction of labor and expectant management in women with preterm prelabor rupture of membranes (PPROM).

DESIGN: Economic analysis based on a randomized clinical trial.

SETTING: Obstetric departments of eight academic and 52 non-academic hospitals in the Netherlands.

POPULATION: Women with PPROM near term who were not in labor 24 h after PPROM.

METHODS: A cost-minimization analysis was done from a health care provider perspective, using a bottom-up approach to estimate resource utilization, valued with unit-costs reflecting actual costs.

MAIN OUTCOME MEASURES: Primary health outcome was the incidence of neonatal sepsis. Direct medical costs were estimated from start of randomization to hospital discharge of mother and child.

RESULTS: Induction of labor did not significantly reduce the probability of neonatal sepsis [2.6% vs. 4.1%, relative risk 0.64 (95% confidence interval 0.25-1.6)]. Mean costs per woman were €8094 for induction and €7340 for expectant management (difference €754; 95% confidence interval -335 to 1802). This difference predominantly originated in the postpartum period, where the mean costs were €5669 for induction vs. €4801 for expectant management. Delivery costs were higher in women allocated to induction than in women allocated to expectant management (€1777 vs. €1153 per woman). Antepartum costs in the expectant management group were higher because of longer antepartum maternal stays in hospital.

CONCLUSIONS: In women with pregnancies complicated by PPROM near term, induction of labor does not reduce neonatal sepsis, whereas costs associated with this strategy are probably higher.

*impactfactor: 2.005*

**Kuppens SM**

**Fear for external cephalic version and depression: predictors of successful external cephalic version for breech presentation at term?**

Ciliacus E*, van der Zalm M*, Truijens SE, Hasaart TH*, Pop VJ, Kuppens SM*
BMC Pregnancy Childbirth. 2014 Mar 12;14:101

*Voor abstract zie: Gynaecologie - Ciliacus E*
*impactfactor: 2.15*

**Kuppens SM**

**Management strategy in case of meconium stained amniotic fluid**

Pop VJ, Kuppens SM* Early Hum Dev. 2014 Jul;90(7):341-2. Epub 2014 Apr 29

*Geen abstract beschikbaar*
*impactfactor: 1.931*

**Kuppens SM**

**Maternal thyrotrophin in euthyroid women is related to meconium stained amniotic fluid in women who deliver at or over 41weeks of gestation**

Monen L*, Kuppens SM*, Hasaart TH*, Wijnen H, Pop VJ
Early Hum Dev. 2014 Jul;90(7):329-32. Epub 2014 Apr 29

*Voor abstract zie: Gynaecologie - Monen L*
*impactfactor: 1.931*

**Kuppens SM**

**Prediction of postpartum hemorrhage in women with gestational hypertension or mild preeclampsia at term**

Koopmans CM, van der Tuuk K, Groen H, Doornbos JP, de Graaf IM, van der Salm PC, Porath MM, Kuppens SM*, Wijnen EJ, Aardenburg R, van Loon AJ, Akerboom BM, van der Lans PJ, Mol BW, van Pampus MG; The HYPITAT study group. Acta Obstet Gynecol Scand. 2014 Apr;93(4):399-407

OBJECTIVE: To assess whether postpartum hemorrhage (PPH) can be predicted in women with gestational hypertension or mild preeclampsia at term. Design A cohort study in which

we used data from our multicentre randomized controlled trial (HYPITAT-trial). SETTING: The study was conducted in 38 hospitals in the Netherlands between 2005 and 2008. Population Women with gestational hypertension or mild preeclampsia at term (n=1,132). Methods An antepartum model (model A) and an antepartum/ intrapartum model (model B) were created using logistic regression. The predictive capacity of the models was assessed with receiver-operating-characteristic (ROC) analysis and calibration. MAIN OUTCOME MEASURE: PPH, defined as blood loss >1000 ml within 24h after delivery. RESULTS: PPH occurred in 118 (10.4%) women. Maternal age (OR 1.03), pre-pregnancy body mass index (OR 0.96) and women with preeclampsia (OR 1.5) were independent antepartum prognostic variables of PPH. Intrapartum variables incorporated in the model were gestational age at delivery (OR 1.2), duration of dilatation stage (OR 1.1) and episiotomy (OR 1.5). Model A and model B showed moderate discrimination, with an area under the ROC-curve of 0.59 (95% CI 0.53-0.64) and 0.64 (95% CI 0.59-0.70). Calibration was moderate for model A (Hosmer-Lemeshow p-value=0.26) but better for model B (Hosmer-Lemeshow p-value=0.36). The rates of PPH ranged from 4% (lowest 10 percent) to 22% (highest 10 percent).

CONCLUSION: In the assessment of performance of a prediction model, calibration is more important than discriminative capacity. Our prediction model shows that for women with gestational hypertension or mild preeclampsia at term distinction between low and high risk of developing PPH is possible when antepartum and intrapartum variables are combined. KEYWORDS: Preeclampsia, calibration, gestational hypertension, predictive value, prognostic model, receiver-operating characteristic curve analysis.

*impactfactor: 2.005*

**Kuppens SM**

**The aetiology of meconium-stained amniotic fluid: Pathologic hypoxia or physiologic foetal ripening? (Review)**

Monen L*, Hasaart TH*, Kuppens SM*

Early Hum Dev. 2014 Jul;90(7):325-8. Epub 2014 Apr 30

*Voor abstract zie: Gynaecologie - Monen L*

*impactfactor: 1.931*

**Kuppens SM**

**The HAPPY study (Holistic Approach to Pregnancy and the first Postpartum Year): design of a large prospective cohort study**

Truijens SE, Meems M, Kuppens SM*, Broeren MA, Nabbe KC, Wijnen HA, Oei SG, van Son MJ, Pop VJ

BMC Pregnancy Childbirth. 2014 Sep 8;14:312

BACKGROUND: The HAPPY study is a large prospective longitudinal cohort study in which pregnant women (N ˜ 2,500) are followed during the entire pregnancy and the whole first year postpartum. The study collects a substantial amount of psychological and physiological data investigating all kinds of determinants that might interfere with general well-being during pregnancy and postpartum, with special attention to the effect of maternal mood, pregnancy-related somatic symptoms (including nausea and vomiting (NVP) and carpal tunnel syndrome (CTS) symptoms), thyroid function, and human chorionic gonadotropin (HCG) on pregnancy outcome of mother and foetus.

METHODS/DESIGN: During pregnancy, participants receive questionnaires at 12, 22 and 32 weeks of gestation. Apart from a previous obstetric history, demographic features, distress symptoms, and pregnancy-related somatic symptoms are assessed. Furthermore, obstetrical

data of the obstetric record form and ultrasound data are collected during pregnancy. At 12 and 30 weeks, thyroid function is assessed by blood analysis of thyroid stimulating hormone (TSH), free thyroxine (FT4) and thyroid peroxidase antibodies (TPO-Ab), as well as HCG. Also, depression is assessed with special focus on the two key symptoms: depressed mood and anhedonia. After childbirth, cord blood, neonatal heel screening results and all obstetrical data with regard to start of labour, mode of delivery and complications are collected. Moreover, mothers receive questionnaires at one week, six weeks, four, eight, and twelve months postpartum, to investigate recovery after pregnancy and delivery, including postpartum mood changes, emotional distress, feeding and development of the newborn. DISCUSSION: The key strength of this large prospective cohort study is the holistic (multifactorial) approach on perinatal well-being combined with a longitudinal design with measurements during all trimesters of pregnancy and the whole first year postpartum, taking into account two physiological possible markers of complaints and symptoms throughout gestation: thyroid function and HCG. The HAPPY study is among the first to investigate within one design physiological and psychological aspects of NVP and CTS symptoms during pregnancy. Finally, the concept of anhedonia and depressed mood as two distinct aspects of depression and its possible relation on obstetric outcome, breastfeeding, and postpartum well-being will be studied.

*impactfactor: 2.15*

**Monen L**

**Maternal thyrotrophin in euthyroid women is related to meconium stained amniotic fluid in women who deliver at or over 41 weeks of gestation**

Monen L*, Kuppens SM*, Hasaart TH*, Wijnen H, Pop VJ

Early Hum Dev. 2014 Apr 29. pii: S0378-3782(14)00083-8

BACKGROUND: Maternal thyroid dysfunction is of known influence on pregnancies in the preterm period. However little is known about its effect on term and post term pregnancies. Meconium stained amniotic fluid (MSAF) is known to occur preferentially in (post)term pregnancies.

AIMS: To assess a possible independent relation between maternal thyroid function and MSAF.

STUDY DESIGN AND SUBJECTS: 1051 women, in whom thyroid function was assessed at each trimester, were followed prospectively (delivery =37weeks). We compared the difference in mean TSH and FT4 between women with (152) and without (899) MSAF using one way ANOVA. Thyroid function was assessed in subgroups regarding gestational age. Finally we performed multiple logistic regression analysis with MSAF as dependent variable and TSH as independent variable adjusting for various confounders.

RESULTS: Maternal thyroid function was not associated with the incidence of MSAF when analysing all deliveries =37weeks. However, in the "at-risk" group for MSAF (>41weeks), multiple logistic regression showed an independent relation between MSAF and TSH (O.R.: 1.61, 95% CI: 1.10-2.43).

CONCLUSIONS: The present study shows that in women delivering =41weeks of gestation, higher TSH is independently related to MSAF.

*impactfactor: 1.931*

**Monen L**

**The aetiology of meconium-stained amniotic fluid: Pathologic hypoxia or physiologic foetal ripening? (Review)**

Monen L*, Hasaart TH*, Kuppens SM*

Early Hum Dev. 2014 Jul;90(7):325-8. Epub 2014 Apr 30

INTRODUCTION: Despite the many efforts to study the (patho)physiology of meconium release before delivery, it still remains an indistinct subject. Some studies have reported a relationship between hypoxia and MSAF, whilst others have not. The most common association found however, is between MSAF and the term of gestation.

METHODS: MEDLINE, EMBASE and the Cochrane library were electronically searched. Papers about the (patho)physiology of meconium-stained amniotic fluid in English were included. Papers about management strategies were excluded (see elsewhere this issue). RESULTS: Different theories have been proposed including acute or chronic hypoxia, physiologic foetal ripening and peripartum infection.

CONCLUSION: We suggest that meconium-stained amniotic fluid should be regarded as a symptom rather than a syndrome becoming more prevalent with increasing term and which might be associated with higher levels of infection or asphyxia.

*impactfactor: 1.931*

**Rumste MM van**

**How are neonatal and maternal outcomes reported in randomised controlled trials (RCTs) in reproductive medicine?**

Braakhekke M, Kamphuis EI, van Rumste MM*, Mol F, van der Veen F, Mol BW Hum Reprod. 2014 Jun;29(6):1211-7. Epub 2014 Apr 7

STUDY QUESTION: How do randomised controlled trials (RCTs) in reproductive medicine report maternal and neonatal outcomes, specifically singleton live birth?

SUMMARY ANSWER: Despite the widespread appeal to use singleton live birth as the outcome measure in subfertility trials, 80% of RCTs fail to do so, and fail to report on neonatal and maternal outcomes.

WHAT IS KNOWN ALREADY: The aim of reproductive medicine is to assist subfertile couples in their wish to have children. A decade ago it was proposed to use singleton live birth as the outcome measure. We assessed whether clinical research has followed this recommendation, and how neonatal/maternal outcomes are reported.

STUDY DESIGN, SIZE, DURATION: A review of the published literature from 1 January 1966 to 31 December 2012 was performed using the Cochrane database. We compared the time periods before and after 2004; the year after ESHRE recommended the use of singleton live birth.

PARTICIPANTS/MATERIALS, SETTING, METHODS: We searched the Cochrane database for RCTs in reproductive medicine, and recorded the number of studies that used singleton live birth as the outcome measure. We also recorded the reporting neonatal and maternal outcomes.

MAIN RESULTS AND THE ROLE OF CHANCE: We identified 910 RCTs that reported on fertility treatments, of which 182 RCTs (20%) reported on singleton live birth [before 2004 96/518 (19%); after 2003 86/392 RCTs (22%)]. Singleton live birth was the primary outcome in 68 RCTs (7.4%). Only 44 RCTs (4.8%) reported on neonatal outcome, while 52 RCTs (5.7%) reported on maternal outcome.

LIMITATIONS, REASONS FOR CAUTION: We only included Cochrane reviews, thus report here only on the higher quality studies. The actual reporting on maternal and neonatal outcome may even be lower when studies of lower quality are included.

WIDER IMPLICATIONS OF THE FINDINGS: Although a decade ago singleton live birth was recommended as the outcome measure of reproductive medicine research, this has not been followed; currently most clinical research in reproductive medicine does not report beyond the occurrence of pregnancy.

STUDY FUNDING/COMPETING INTEREST(S): No funding was received for the study. The authors have no conflicts of interest to declare.

*impactfactor: 4.585*

**Rumste MM van**

**IVF with planned single-embryo transfer versus IUI with ovarian stimulation in couples with unexplained subfertility: an economic analysis**

van Rumste MM*, Custers IM, van Wely M, Koks CA, van Weering HG, Beckers NG, Scheffer GJ, Broekmans FJ, Hompes PG, Mochtar MH, van der Veen F, Mol BW Reprod Biomed Online. 2014 Mar;28(3):336-42

Couples with unexplained subfertility are often treated with intrauterine insemination (IUI) with ovarian stimulation, which carries the risk of multiple pregnancies. An explorative randomized controlled trial was performed comparing one cycle of IVF with elective single-embryo transfer (eSET) versus three cycles of IUI-ovarian stimulation in couples with unexplained subfertility and a poor prognosis for natural conception, to assess the economic burden of the treatment modalities. The main outcome measures were ongoing pregnancy rates and costs. This study randomly assigned 58 couples to IVF-eSET and 58 couples to IUI-ovarian stimulation. The ongoing pregnancy rates were 24% in with IVF-eSET versus 21% with IUI-ovarian stimulation, with two and three multiple pregnancies, respectively. The mean cost per included couple was significantly different: €2781 with IVF-eSET and €1876 with IUI-ovarian stimulation (P<0.01). The additional costs per ongoing pregnancy were €2456 for IVF-eSET. In couples with unexplained subfertility, one cycle of IVF-eSET cost an additional €900 per couple compared with three cycles of IUI-ovarian stimulation, for no increase in ongoing pregnancy rates or decrease in multiple pregnancies. When IVF-eSET results in higher ongoing pregnancy rates, IVF would be the preferred treatment. Couples that have been trying to conceive unsuccessfully are often treated with intrauterine insemination (IUI) and medication to improve egg production (ovarian stimulation). This treatment carries the risk of multiple pregnancies like twins. We performed an explorative study among those couples that had a poor prognosis for natural conception. One cycle of IVF with transfer of one selected embryo (elective single-embryo transfer, eSET) was compared with three cycles of IUI-ovarian stimulation. The aim of this study was to assess the economic burden of both treatments. The Main outcome measures were number of good pregnancies above 12weeks and costs. We randomly assigned 58 couples to IVF-eSET and 58 couples to IUI-ovarian stimulation. The ongoing pregnancy rates were comparable: 24% with IVF-eSET versus 21% with IUI-ovarian stimulation. There were two multiple pregnancies with IVF-eSET and three multiple pregnancies with IUI-ovarian stimulation. The mean cost per included couple was significantly different, €2781 with IVF-eSET and €1876 with IUI-ovarian stimulation. The additional costs per ongoing pregnancy were €2456 for IVF-eSET. In couples with unexplained subfertility, one cycle of IVF-eSET costed an additional €900 per couple compared to three cycles of IUI-ovarian stimulation, for no increase in ongoing pregnancy rates or decrease in multiple pregnancies. We conclude that IUI-ovarian stimulation is the preferred treatment to start with. When IVF-eSET results in a higher ongoing pregnancy rate (>38%), IVF would be the preferred treatment.

*impactfactor: 2.980*

**Schoot BC**

**Outcomes of pregnancies in women with hysteroscopically placed micro-inserts in situ**

Veersema S, Mijatovic V, Dreyer K, Schouten H*, Schoot D*, Emanuel MH, Hompes P, Brölmann H

J Minim Invasive Gynecol. 2014 May-Jun;21(3):492-7

*Voor abstract zie: Gynaecologie - Schouten H*

*impactfactor: 1.575*

**Schouten H**

**Outcomes of pregnancies in women with hysteroscopically placed micro-inserts in situ**

Veersema S, Mijatovic V, Dreyer K, Schouten H*, Schoot D*, Emanuel MH, Hompes P, Brölmann H

J Minim Invasive Gynecol. 2014 May-Jun;21(3):492-7

This was a retrospective review of all pregnancies reported after Essure in situ in the Netherlands. Pregnancies included those that were unintentional (resulting from lack of protocol adherence and/or misread confirmation tests) and those that were intentional (resulting from off-label use of Essure micro-inserts for hydrosalpinx closure before in vitro fertilization/intracytoplasmic sperm injection with embryo transfer or in vitro fertilization with embryo transfer after regret of sterilization). The outcomes of 50 pregnancies in women with 1 or 2 micro-inserts in situ were evaluated. Eight unintended pregnancies and 18 intended pregnancies resulted in birth of a full-term healthy baby. Seven infants were delivered via cesarean-section. Two women delivered prematurely by C-section, (singleton after 34 weeks 1 day, twins after 35 weeks 3 days). All babies are healthy and without any congenital anomalies. There were 2 stillbirths after 20 weeks; however, it is unlikely that this was related to the presence of the micro-inserts. In conclusion, it is unlikely that the presence of intratubal micro-inserts interferes with implantation and the developing amniotic sac and fetus.

*impactfactor: 1.575*

**Vandenput I**

**Synchronous ovarian and endometrial cancer-an international multicenter case--control study**

Heitz F, Amant F, Fotopoulou C, Battista MJ, Wimberger P, Traut A, Fisseler-Eckhoff A, Harter P, Vandenput I*, Sehouli J, Schmidt M, Kimmig R, du Bois R, du Bois A

Int J Gynecol Cancer. 2014 Jan;24(1):54-60

OBJECTIVES: This study aimed to compare the prognosis of patients with synchronous endometrial and ovarian cancer (SEOC) to matched controls with either endometrial cancer (EC) or ovarian cancer (OC).

METHODS: A retrospective case-control study including all patients with SEOC who had been treated at 5 European tertiary gynecologic oncology centers between 1996 and 2011 and patients with either EC or OC matched for age, International Federation of Gynecology and Obstetrics (FIGO) stage, histology, year of diagnosis, and Eastern Cooperative Oncology Group performance score.

RESULTS: The study cohort comprised 77, 132, and 126 patients with SEOC, EC, and OC, respectively. The patient characteristics confirmed an equal distribution of matching factors, and the median follow-up did not differ (P = 0.44). 48.1% of the patients with SEOC showed

early FIGO stage I for both EC and OC. The 5-year PFS rates differed between SEOC and EC (76.3% vs 86.3%; P = 0.047) but not the 5-year overall survival rates (71.6% vs 79.8%; P = 0.12) and did not differ between SEOC and OC (76.3% vs 63.8%; P = 0.19 and 71.6% vs 69.3%; P = 0.61, respectively). After the adjustment for the FIGO stage of the 2 components of SEOC, neither PFS nor overall survival rates were different. CONCLUSIONS: Prognosis of patients with SEOC tended to be the same in comparison with matched controls with either one EC or OC. Therefore, it could be considered that patients with SEOC may be eligible for clinical trials of the advanced tumor component if no additional therapy is indicated for the other component.

*impactfactor: 1.949*

**Vergeldt T**

**[Shock in pregnancy: foetal distress may be the first symptom]**

Vergeldt TF*, Kortenhorst MS*, Hasaart TH*, Wijnberger LD*

Ned Tijdschr Geneeskd. 2014;158(1):A6606

Shock may be difficult to recognize in pregnant women due to the physiological changes that take place in the cardiovascular system. The first symptom of shock may be foetal distress. We present two patients to illustrate this condition. The first patient had an uncomplicated pregnancy until she awoke from a 'pop' in her abdomen followed by an acute feeling of illness. She was hemodynamically stable but because the foetal heart rate pattern was abnormal, an emergency caesarean section was performed. This revealed an intraperitoneal bleeding of the uterine artery in the right broad ligament, caused by ectopic decidualization. The second patient had severe symptomatic renal dilatation in pregnancy which was managed through percutaneous nephrostomy. Following the procedure she became hypotensive, tachycardic and hyperthermic, indications of septic shock. A neonate with signs of asphyxia was born by emergency caesarean section undertaken for acute foetal distress evident from the foetal heart rate pattern.

*impactfactor: --*

**Vliet HA van**

**Scalpel versus no-scalpel incision for vasectomy**

Cook LA, Pun A, Gallo MF, Lopez LM, Van Vliet HA*

Cochrane Database Syst Rev. 2014 Mar 30;3:CD004112

BACKGROUND: Currently, the two most common surgical techniques for approaching the vas during vasectomy are the incisional method and the no-scalpel technique. Whereas the conventional incisional technique involves the use of a scalpel to make one or two incisions, the no-scalpel technique uses a sharp-pointed, forceps-like instrument to puncture the skin. The no-scalpel technique aims to reduce adverse events, especially bleeding, bruising, hematoma, infection and pain and to shorten the operating time.

OBJECTIVES: The objective of this review was to compare the effectiveness, safety, and acceptability of the incisional versus no-scalpel approach to the vas.

SEARCH METHODS: In February 2014, we searched the computerized databases of CENTRAL, MEDLINE, POPLINE and LILACS. We looked for recent clinical trials in ClinicalTrials.gov and the International Clinical Trials Registry Platform. Previous searches also included in EMBASE. For the initial review, we searched the reference lists of relevant articles and book chapters.

SELECTION CRITERIA: Randomized controlled trials and controlled clinical trials were included in this review. No language restrictions were placed on the reporting of the trials. DATA COLLECTION AND ANALYSIS: We assessed all titles and abstracts located in the

literature searches and two authors independently extracted data from the articles identified for inclusion. Outcome measures included safety, acceptability, operating time, contraceptive efficacy, and discontinuation. We calculated Peto odds ratios (OR) with 95% confidence intervals (CI) for the dichotomous variables.

MAIN RESULTS: Two randomized controlled trials evaluated the no-scalpel technique and differed in their findings. The larger trial demonstrated less perioperative bleeding (OR 0.49; 95% CI 0.27 to 0.89) and pain during surgery (OR 0.75; 95% CI 0.61 to 0.93), scrotal pain (OR 0.63; 95% 0.50 to 0.80), and incisional infection (OR 0.21; 95% CI 0.06 to 0.78) during follow up than the standard incisional group. Both studies found less hematoma with the no-scalpel technique (OR 0.23; 95% CI 0.15 to 0.36). Operations using the no-scalpel approach were faster and had a quicker resumption of sexual activity. The smaller study did not find these differences; however, the study could have failed to detect differences due to a small sample size as well as a high loss to follow up. Neither trial found differences in vasectomy effectiveness between the two approaches to the vas.

AUTHORS' CONCLUSIONS: The no-scalpel approach to the vas resulted in less bleeding, hematoma, infection, and pain as well as a shorter operation time than the traditional incision technique. No difference in effectiveness was found between the two approaches.

*impactfactor:* --

**Vliet HA van**

**Thyroid function, activated protein C resistance and the risk of venous thrombosis in users of hormonal contraceptives**

Raps M, Curvers J*, Helmerhorst FM, Ballieux BE, Rosing J, Thomassen S, Rosendaal FR, van Vliet HA*

Thromb Res. 2014 Apr;133(4):640-4

*Voor abstract zie:* *Algemeen Klinisch Laboratorium - Curvers J*
*impactfactor:* *2.427*

**Vliet HA van**

**Vasectomy occlusion techniques for male sterilization**

Cook LA, Van Vliet HA*, Lopez LM, Pun A, Gallo MF

Cochrane Database Syst Rev. 2014 Mar 30;3:CD003991

BACKGROUND: Vasectomy is an increasingly popular and effective family planning method. A variety of vasectomy techniques are used worldwide, including vas occlusion techniques (excision and ligation, thermal or electrocautery, and mechanical and chemical occlusion methods), as well as vasectomy with vas irrigation or with fascial interposition. Vasectomy guidelines largely rely on information from observational studies. Ideally, the choice of vasectomy techniques should be based on the evidence from randomized controlled trials (RCTs).

OBJECTIVES: The objective of this review was to compare the effectiveness, safety, acceptability and costs of vasectomy techniques for male sterilization.

SEARCH METHODS: In February 2014, we updated the searches of CENTRAL, MEDLINE, POPLINE and LILACS. We looked for recent clinical trials in ClinicalTrials.gov and the International Clinical Trials Registry Platform. Previous searches also included EMBASE. For the initial review, we searched the reference lists of relevant articles and book chapters.

SELECTION CRITERIA: We included RCTs comparing vasectomy techniques, which could include suture ligature, surgical clips, thermal or electrocautery, chemical occlusion, vas plugs, vas excision, open-ended vas, fascial interposition, or vas irrigation.

DATA COLLECTION AND ANALYSIS: We assessed all titles and abstracts located in the literature searches. Two reviewers independently extracted data from articles identified for inclusion. Outcome measures include contraceptive efficacy, safety, discontinuation, and acceptability. Peto odds ratios (OR) with 95% confidence intervals (CI) were used for dichotomous outcomes, such as azoospermia. The mean difference (MD) was used for the continuous variable of operating time.

MAIN RESULTS: Six studies met the inclusion criteria. One trial compared vas occlusion with clips versus a conventional vasectomy technique. No difference was found in failure to reach azoospermia (no sperm detected). Three trials examined vasectomy with vas irrigation. Two studies looked at irrigation with water versus no irrigation, while one examined irrigation with water versus the spermicide euflavine. None found a difference between the groups for time to azoospermia. However, one trial reported that the median number of ejaculations to azoospermia was lower in the euflavine group compared to the water irrigation group. One high-quality trial compared vasectomy with fascial interposition versus vasectomy without fascial interposition. The fascial interposition group was less likely to have vasectomy failure. Fascial interposition had more surgical difficulties, but the groups were similar in side effects. Lastly, one trial found that an intra-vas was less likely to produce azoospermia than was no-scalpel vasectomy. More men were satisfied with the intra-vas device, however.

AUTHORS' CONCLUSIONS: For vas occlusion with clips or vasectomy with vas irrigation, no conclusions can be made as those studies were of low quality and underpowered. Fascial interposition reduced vasectomy failure. An intra-vas device was less effective in reducing sperm count than was no-scalpel vasectomy. RCTs examining other vasectomy techniques were not available. More and better quality research is needed to examine vasectomy techniques.

*impactfactor:* --

**Zalm M van der**

**Determinants of pain perception after external cephalic version in pregnant women**

Truijens SE, van der Zalm M*, Pop VJ, Kuppens SM*

Midwifery. 2014 Mar;30(3):e102-7. Epub 2013 Nov 23

OBJECTIVE: A considerable proportion of pregnant women with a fetus in breech position refuses external cephalic version (ECV), with fear of pain as important barrier. As a consequence, they are at high risk for caesarean section at term. The current study investigated determinants of pain perception during ECV, with special attention to maternal mental state such as depression and fear of ECV.

DESIGN: Prospective study of 249 third-trimester pregnant women with breech position with a request for an ECV attempt.

SETTING: Department of Obstetrics and Gynaecology in a large teaching hospital in the Netherlands.

METHODS: Prior to the ECV attempts, obstetric factors were registered, participants fulfilled the Edinburgh Depression Scale (EDS) and reported fear of ECV on a 10-point visual analog scale. Perception of pain intensity was measured with a 10-point visual analog scale, immediately after ECV.

FINDINGS: Multivariate linear regression analyses showed success of ECV to be the strongest predictor of pain perception. Furthermore, scores on the depression questionnaire and degree of fear of ECV independently explained pain perception, which was not the case for obstetrical or ECV related factors.

CONCLUSION: Apart from ECV outcome, psychological factors like depression and fear of ECV were independently related to pain perception of an ECV attempt.

IMPLICATION FOR PRACTICE: Maternal mood state should be taken into account when offering an ECV attempt to women with a fetus in breech position. Due to the painful experience and the importance of successful outcome, ECV should only be attempted in institutions with experienced practitioners and with careful attention to maternal mood and the way a woman is coping with the ECV attempt.

*impactfactor: 1.707*

**Zalm M van der Fear for external cephalic version and depression: predictors of successful external cephalic version for breech presentation at term?**

Ciliacus E*, van der Zalm M*, Truijens SE, Hasaart TH*, Pop VJ, Kuppens SM*

BMC Pregnancy Childbirth. 2014 Mar 12;14:101

*Voor abstract zie: Gynaecologie - Ciliacus E*

*impactfactor: 2.15*

** = Werkzaam in het Catharina Ziekenhuis*

# Intensive Care

**Bindels AJ**

**Effects of Decontamination of the Oropharynx and Intestinal Tract on Antibiotic Resistance in ICUs: A Randomized Clinical Trial**

Oostdijk EA, Kesecioglu J, Schultz MJ, Visser CE, de Jonge E, van Essen EH, Bernards AT, Purmer I, Brimicombe R, Bergmans D, van Tiel F, Bosch FH, Mascini E, van Griethuysen A, Bindels A,* Jansz A*, van Steveninck FA, van der Zwet WC, Fijen JW, Thijsen S, de Jong R, Oudbier J, Raben A, van der Vorm E, Koeman M, Rothbarth P, Rijkeboer A, Gruteke P, Hart-Sweet H, Peerbooms P, Winsser LJ, van Elsacker-Niele A M, Demmendaal K, Brandenburg A, de Smet AM, Bonten MJ
JAMA. 2014 Oct 8;312(14):1429-1437

Importance: Selective decontamination of the digestive tract (SDD) and selective oropharyngeal decontamination (SOD) are prophylactic antibiotic regimens used in intensive care units (ICUs) and associated with improved patient outcome. Controversy exists regarding the relative effects of both measures on patient outcome and antibiotic resistance.

Objective: To compare the effects of SDD and SOD, applied as unit-wide interventions, on antibiotic resistance and patient outcome.

Design, Setting, and Participants: Pragmatic, cluster randomized crossover trial comparing 12 months of SOD with 12 months of SDD in 16 Dutch ICUs between August 1, 2009, and February 1, 2013. Patients with an expected length of ICU stay longer than 48 hours were eligible to receive the regimens, and 5881 and 6116 patients were included in the clinical outcome analysis for SOD and SDD, respectively.

Interventions: Intensive care units were randomized to administer either SDD or SOD. Main Outcomes and Measures: Unit-wide prevalence of antibiotic-resistant gram-negative bacteria. Secondary outcomes were day-28 mortality, ICU-acquired bacteremia, and length of ICU stay.

Results: In point-prevalence surveys, prevalences of antibiotic-resistant gram-negative bacteria in perianal swabs were significantly lower during SDD compared with SOD; for aminoglycoside resistance, average prevalence was 5.6% (95% CI, 4.6%-6.7%) during SDD and 11.8% (95% CI, 10.3%-13.2%) during SOD (P?<?.001). During both interventions the prevalence of rectal carriage of aminoglycoside-resistant gram-negative bacteria increased 7% per month (95% CI, 1%-13%) during SDD (P?=?.02) and 4% per month (95% CI, 0%-8%) during SOD (P?=?.046; P?=?.40 for difference). Day 28-mortality was 25.4% and 24.1% during SOD and SDD, respectively (adjusted odds ratio, 0.96 [95% CI, 0.88-1.06]; P?=?.42), and there were no statistically significant differences in other outcome parameters or between surgical and nonsurgical patients. Intensive care unit-acquired bacteremia occurred in 5.9% and 4.6% of the patients during SOD and SDD, respectively (odds ratio, 0.77 [95% CI, 0.65-0.91]; P?=?.002; number needed to treat, 77).

Conclusions and Relevance: Unit-wide application of SDD and SOD was associated with low levels of antibiotic resistance and no differences in day-28 mortality. Compared with SOD, SDD was associated with lower rectal carriage of antibiotic-resistant gram-negative bacteria and ICU-acquired bacteremia but a more pronounced gradual increase in aminoglycoside-resistant gram-negative bacteria.

*impactfactor: 30.387*

**Bindels AJ**

**Fully automated closed-loop ventilation is safe and effective in post-cardiac surgery patients**.

Beijers AJ*, Roos AN*, Bindels AJ*

Intensive Care Med. 2014 May;40(5):752-3. Epub 2014 Feb 28

*geen abstract beschikbaar*

*impactfactor: 5.544*

**Bindels AJ**

**Severe colchicine intoxication; always lethal?!?**

L.H. Link, A.J.G.H. Bindels, B.P. Brassé, F.A. Intven, R.J.E. Grouls, A.N. Roos.

Neth J Crit Care, 2014;18(4): 19-21

*Voor abstract zie: Inwendige geneeskunde - Link, LH*

*impactfactor: --*

**Bindels AJ**

**The Impact of Postoperative Renal Replacement Therapy on Long-Term Outcome After Cardiac Surgery Increases with Age**

Haanschoten MC*, van Straten AH*, Bouwman A*, Bindels AJ*, van Zundert AA*, Soliman Hamad MA*

J Card Surg. 2014 Jul;29(4):464-9. Epub 2014 Apr 18

*Voor abstract zie: Anesthesiologie - Haanschoten MC*

*impactfactor: 0.888*

**Meijs L**

**An Electrocardiographic Sign of Ischemic Preconditioning**

Meijs LP*, Galeotti L, Pueyo EP, Romero D, Jennings RB, Ringborn M, Warren SG, Wagner GS, Strauss DG

Am J Physiol Heart Circ Physiol. 2014 Jul 1;307(1):H80-7. Epub 2014 Apr 28

Ischemic preconditioning is a form of intrinsic cardioprotection where an episode of sublethal ischemia protects against subsequent episodes of ischemia. Identifying a clinical biomarker of preconditioning could have important clinical implications and prior work has focused on the electrocardiographic (ECG) ST-segment. However, the electrophysiology biomarker of preconditioning is increased action potential duration (APD) shortening with subsequent ischemic episodes, and APD shortening should primarily alter the T-wave, not the ST-segment. We translated findings from simulations to canine to patient models of preconditioning to test the hypothesis that the combination of increased (delta []) T-wave amplitude with decreased ST-segment elevation characterizes preconditioning. In simulations, decreased APD caused increased T-wave amplitude with minimal ST-segment elevation. In contrast, decreased action potential amplitude increased ST-segment elevation significantly. In a canine model of preconditioning (9 mongrel dogs undergoing 4 ischemia-reperfusion episodes), ST-segment amplitude increased more than T-wave amplitude during the first ischemic episode (T/ST slope=0.81, 95% confidence interval [CI] 0.46-1.15), however during subsequent ischemic episodes the T-wave increased significantly more than the ST-segment (T/ST slope=2.43, CI 2.07-2.80) ($p<0.001$ for interaction of occlusions 2 vs. 1). A similar result was observed in patients (9 patients undergoing two consecutive prolonged occlusions during elective percutaneous coronary intervention), with an increase in slope of T/ST of 0.13 (CI -0.15-0.42) in the first occlusion to 1.02 (CI 0.31-1.73) in the second occlusion

(p=0.02). This integrated analysis of the T-wave and ST-segment goes beyond the standard approach to only analyze ST-elevation, and detects cellular electrophysiology changes of preconditioning.
*impactfactor: 4.012*

**Roos AN**
**Fully automated closed-loop ventilation is safe and effective in post-cardiac surgery patients**
Beijers AJ*, Roos AN*, Bindels AJ*
Intensive Care Med. 2014 May;40(5):752-3. Epub 2014 Feb 28
*geen abstract beschikbaar*
*impactfactor: 5.544*

**Roos AN**
**Reduction of Postoperative Ileus by Early Enteral Nutrition in Patients Undergoing Major Rectal Surgery: Prospective, Randomized, Controlled Trial**
Boelens PG, Heesakkers FF*, Luyer MD*, van Barneveld KW, de Hingh IH*, Nieuwenhuijzen GA*, Roos AN*, Rutten HJ*
Ann Surg. 2014 Apr;259(4):649-55.Epub 2013 Oct 28
*Voor abstract zie: Chirurgie - Heesakkers F*
*impactfactor: 7.188*

**Roos AN**
**Severe colchicine intoxication; always lethal?!?**
L.H. Link, A.J.G.H. Bindels, B.P. Brassé, F.A. Intven, R.J.E. Grouls, A.N. Roos.
Neth J Crit Care, 2014;18(4): 19-21
*Voor abstract zie: Inwendige geneeskunde - Link, LH*
*impactfactor: --*

** = Werkzaam in het Catharina Ziekenhuis*

# Inwendige geneeskunde

**Beijers AJ**

**Fully automated closed-loop ventilation is safe and effective in post-cardiac surgery patients**

Beijers AJ*, Roos AN*, Bindels AJ*

Intensive Care Med. 2014 May;40(5):752-3. Epub 2014 Feb 28

*Geen abstract beschikbaar*

*impactfactor: 5.544*

**Beijers HJ**

**Higher central fat mass and lower peripheral lean mass are independent determinants of endothelial dysfunction in the elderly: the Hoorn study**

Beijers HJ* Ferreira I, Bravenboer B, Henry RM, Schalkwijk CG, Dekker JM, Nijpels G, Stehouwer CD

Atherosclerosis. 2014 Mar;233(1):310-8

OBJECTIVE: To investigate whether an adverse body composition is associated with endothelial dysfunction (ED) and the extent to which any such association could be explained by low-grade inflammation (LGI) and/or insulin resistance (HOMA2-IR). METHODS: We studied 475 individuals from the Hoorn Study [mean (range) age, 68.9 (60-87) years, 245 women). Body composition was assessed by whole body dual-energy absorptiometry. Endothelial dysfunction was measured functionally, by flow-mediated dilation (FMD) and by circulating biomarkers. Associations were examined with multiple linear regression models and mediation analyses according to the ab product of coefficients method.

RESULTS: After adjustment for age, sex, glucose metabolism status, prior cardiovascular disease and lifestyle factors, total and central fat mass were positively associated with the ED score [ß = 0.16 (95% CI 0.04-0.29) and ß = 0.18 (0.05-0.31), respectively] and inversely, although not statistically significantly, with FMD. Peripheral fat mass was not associated with the ED score or FMD. There was a significant favourable association between peripheral lean mass and FMD [ß = 0.13 (0.00-0.26)], but not with the ED score. The association between total and central fat mass and the ED score was, to a great extent, mediated by LGI and HOMA2-IR. In contrast, LGI or HOMA2-IR did not mediate the association between peripheral lean mass and FMD.

CONCLUSION: Higher levels of central, but not peripheral fat mass were adversely associated with ED, which was attributable to body composition-related LGI and insulin resistance. In contrast, peripheral lean mass was beneficially associated with ED, but this seemed to be unrelated to LGI or insulin resistance.

*impactfactor: 3.971*

**Bernards N**

**Administration of adjuvant oxaliplatin to patients with stage III colon cancer is affected by age and hospital**

van Erning FN, Bernards N*, Creemers GJ*, Vreugdenhil A, Lensen CJ, Lemmens VE

Acta Oncol. 2014 Jul;53(7):975-80

*Geen abstract beschikbaar*

*impactfactor: 3.71*

**Bernards N**

**Chemotherapy as palliative treatment for peritoneal carcinomatosis of gastric origin**

Thomassen I*, Bernards N*, van Gestel YR, Creemers GJ*, Jacobs EM, Lemmens VE, de Hingh IH*

Acta Oncol. 2014 Mar;53(3):429-32. Epub 2013 Dec 5

*Geen abstract beschikbaar*

*impactfactor: 3.71*

**Blaauw M**

**Aspects of validity of the self-administered comorbidity questionnaire in patients with ankylosing spondylitis**

Stolwijk C, van Tubergen A, Ramiro S, Essers I, Blaauw M*, van der Heijde D, Landewé R, van den Bosch F, Dougados M, Boonen A

Rheumatology (Oxford). 2014 Jun;53(6):1054-64

OBJECTIVES: To evaluate criterion and construct validity of the self-administered comorbidity questionnaire (SCQ) in patients with AS.

METHODS: The SCQ and indices of disease activity, physical function, health-related quality of life (HRQoL) and work disability were administered to 98 patients with AS. Criterion validity was assessed by the agreement between the SCQ answers and comorbidities identified in medical records. Construct validity was assessed by correlating the SCQ with the Charlson index and MichaudWolfe index; by correlating the SCQ with demographics, physical function, HRQoL and AS-related disease activity; and by exploring the contribution of comorbidity to these outcomes while adjusting for clinical-demographic characteristics. Furthermore, a modified version of the SCQ (mSCQ) was evaluated for the same aspects of validity, after removing rheumatic conditions.

RESULTS: Agreement was moderate to perfect for most conditions (k 0.471.00), except for ulcer disease, depression and OA (k 0.140.15). The correlation between the SCQ and Charlson and MichaudWolfe indices was 0.24 and 0.39 respectively, and between the mSCQ and both indices 0.36 and 0.53. Both SCQ and mSCQ correlated weakly to moderately with age, physical function and HRQoL (0.240.45). The SCQ also correlated weakly with disease activity (0.27) while the mSCQ did not (0.17). In multivariable analysis, both SCQ and mSCQ contributed independently to physical function, HRQoL and work disability, while the MichaudWolfe and Charlson indices did not.

CONCLUSION: The SCQ is a promising instrument to determine comorbidities and to understand the impact on health outcomes in patients with AS. Excluding rheumatic conditions from the SCQ (mSCQ) improved validity.

*impactfactor: 4.435*

**Blonk MC**

**Mindfulness-based cognitive therapy for people with diabetes and emotional problems: Long-term follow-up findings from the DiaMind randomized controlled trial**

van Son J, Nyklícek I, Pop VJ, Blonk MC*, Erdtsieck RJ, Pouwer F

J Psychosom Res. 2014 Jul;77(1):81-4.

OBJECTIVE: The DiaMind trial showed beneficial immediate effects of mindfulness-based cognitive therapy (MBCT) on emotional distress, but not on diabetes distress and HbA1c. The aim of the present report was to examine if the effects would be sustained after six month follow-up.

METHODS: In the DiaMind trial, 139 outpatients with diabetes (type-I or type-II) and a lowered level of emotional well-being were randomized into MBCT (n=70) or a waiting list with treatment as usual (TAU: n=69). Primary outcomes were perceived stress, anxiety and depressive symptoms, and diabetes distress. Secondary outcomes were, among others, health status, and glycemic control (HbA1c).
RESULTS: Compared to TAU, MBCT showed sustained reductions at follow-up in perceived stress (p<.001, d=.76), anxiety (p<.001, assessed by HADS d=.83; assessed by POMS d=.92), and HADS depressive symptoms (p=.004, d=.51), but not POMS depressive symptoms when using Bonferroni correction for multiple testing (p=.016, d=.48). No significant between-group effect was found on diabetes distress and HbA1c.
CONCLUSION: This study showed sustained benefits of MBCT six months after the intervention on emotional distress in people with diabetes and a lowered level of emotional well-being.

*impactfactor: 2.839*

**Creemers GJ**

**Administration of adjuvant oxaliplatin to patients with stage III colon cancer is affected by age and hospital**

van Erning FN, Bernards N*, Creemers GJ*, Vreugdenhil A, Lensen CJ, Lemmens VE
Acta Oncol. 2014 Jul;53(7):975-80

*Geen abstract beschikbaar*
*impactfactor: 3.71*

**Creemers GJ**

**Chemotherapy as palliative treatment for peritoneal carcinomatosis of gastric origin**

Thomassen I*, Bernards N*, van Gestel YR, Creemers GJ*, Jacobs EM, Lemmens VE, de Hingh IH*
Acta Oncol. 2014 Mar;53(3):429-32. Epub 2013 Dec 5

*Geen abstract beschikbaar*
*impactfactor: 3.71*

**Creemers GJ**

**Feasibility of reirradiation in the treatment of locally recurrent rectal cancer**

Bosman SJ*, Holman FA*, Nieuwenhuijzen GA*, Martijn H*, Creemers GJ*, Rutten HJ*
Br J Surg. 2014 Sep;101(10):1280-9. Epub 2014 Jul 22

*Voor abstract zie: Chirurgie - Bosman SJ*
*impactfactor: 5.21*

**Creemers GJ**

**Lymph node retrieval during esophagectomy with and without neoadjuvant chemoradiotherapy: prognostic and therapeutic impact on survival**

Koen Talsma A, Shapiro J, Looman CW, van Hagen P, Steyerberg EW, van der Gaast A, van Berge Henegouwen MI, Wijnhoven BP, van Lanschot JJ; CROSS Study Group, Hulshof MC, van Laarhoven HW, Nieuwenhuijzen GA*, Hospers GA, Bonenkamp JJ, Cuesta MA, Blaisse RJ, Busch OR, ten Kate FJ, Creemers GJ*, Punt CJ, Plukker JT, Verheul HM, van Dekken H, van der Sangen MJ, Rozema T, Biermann K, Beukema JC, Piet AH, van Rij CM, Reinders JG, Tilanus HW

Ann Surg. 2014 Nov;260(5):786-92; discussion 792-3

*Voor abstract zie: Chirurgie - Nieuwenhuijzen GA*
*impactfactor: 7.188*

**Creemers GJ**

**Metachronous peritoneal carcinomatosis after curative treatment of colorectal cancer**

van Gestel YR, Thomassen I*, Lemmens VE, Pruijt JF, van Herk-Sukel MP, Rutten HJ*, Creemers GJ*, de Hingh IH*

Eur J Surg Oncol. 2014 Aug;40(8):963-9. Epub 2013 Oct 16

*Voor abstract zie: Chirurgie - Thomassen I*
*impactfactor: 2.892*

**Creemers GJ**

**Panitumumab Monotherapy as a Second-line Treatment in Metastasised Colorectal Cancer: A Single Centre Experience**

van Hellemond IE*, Creemers GJ*, van Warmerdam LJ*, de Jong FA, Koornstra RH*

Clin Oncol (R Coll Radiol). 2014 Mar;26(3):135-41. dEpub 2013 Nov 15

*Voor abstract zie: Inwendige geneeskunde - van Hellemond IE*
*impactfactor: 2.826*

**Creemers GJ**

**Patterns of metachronous metastases after curative treatment of colorectal cancer**

van Gestel YR, de Hingh IH*, van Herk-Sukel MP, van Erning FN, Beerepoot LV, Wijsman JH, Slooter GD, Rutten HJ*, Creemers GJ*, Lemmens VE

Cancer Epidemiol. 2014 Aug;38(4):448-54. . Epub 2014 May 17

*Voor abstract zie: Chirurgie - de Hingh IH*
*impactfactor: 2.558*

**Creemers GJ**

**Prognostic factors for medium- and long-term survival of esophageal cancer patients in the Netherlands**

Bus P, Lemmens VE, van Oijen MG, Creemers GJ*, Nieuwenhuijzen GA*, van Baal JW, Siersema PD

J Surg Oncol. 2014 Apr;109(5):465-71

BACKGROUND AND OBJECTIVES: Medium- and long-term survival is low in esophageal cancer (EC) patients, which is thought to be due to tumor characteristics. Our aim was to determine both tumor- and non-tumor-related characteristics affecting survival in these

patients.METHODS: Patients with primary EC between 1990 and 2008 in the southern part of the Netherlands were identified. Multivariable logistic regression was used to identify determinants of survival.

RESULTS: In total, 703 patients with EC were included for the 1-year, 551 for the 3-year and 436 for the 5-year survival analysis. Poor 1-year survival was independently associated with chemoradiation (compared to surgery), positive lymph nodes (N1-stage) and 1 or =2 comorbidities. Adenocarcinoma (EAC) compared to squamous cell carcinoma was significantly associated with a better 1-year survival. Poor 3- and 5-year survival was associated with N1-stage and chemoradiation. Positive prognostic factors for 3- and 5-year survival were neoadjuvant therapy and female gender.

CONCLUSION: Both tumor-related (negative lymph nodes and EAC histology) and non-tumor-related factors (surgery, neoadjuvant therapy, and female gender) are associated with a better survival of EC. Although it is not clear how histology and gender affect EC survival, knowledge of these factors may be relevant for clinical decision making.

*impactfactor: 2.843*

**Creemers GJ**

**Prolonged time to surgery after neoadjuvant chemoradiotherapy increases histopathological response without affecting survival in patients with esophageal or junctional cancer**

Shapiro J, van Hagen P, Lingsma HF, Wijnhoven BP, Biermann K, ten Kate FJ, Steyerberg EW, van der Gaast A, van Lanschot JJ; CROSS Study Group. (Nieuwenhuijzen GA, Creemers GJ, van der Sangen MJ)

Ann Surg. 2014 Nov;260(5):807-13; discussion 813-4

*Voor abstract zie: Chirurgie - Nieuwenhuijzen GA*
*impactfactor: 7.188*

**Hellemond IE van Consideration of QRS complex in addition to ST-segment abnormalities in the estimation of the "risk region" during acute anterior or inferior myocardial infarction**

Vervaat FE, Bouwmeester S*, van Hellemond IE*, Wagner GS, Gorgels AP

J Electrocardiol. 2014 Jul-Aug;47(4):535-9. Epub 2014 Apr 18

*Voor abstract zie: Cardiologie - Bouwmeeste S*
*impactfactor: 1.363*

**Hellemond IE van**

**Panitumumab Monotherapy as a Second-line Treatment in Metastasised Colorectal Cancer: A Single Centre Experience**

van Hellemond IE*, Creemers GJ*, van Warmerdam LJ*, de Jong FA, Koornstra RH*

Clin Oncol (R Coll Radiol). 2014 Mar;26(3):135-41. Epub 2013 Nov 15

AIMS: To report our clinical experience of panitumumab monotherapy as a second-line treatment for patients with metastatic colorectal cancer (mCRC).

MATERIALS AND METHODS: This retrospective, descriptive study included a series of consecutive patients receiving panitumumab monotherapy (6 mg/kg 2 weekly) at a single centre in the Netherlands between June 2009 and November 2011. All patients had wild-type KRAS tumours, had progressed during first-line fluoropyrimidine-based therapy and were not candidates for, or refused, standard second-line therapy (usually irinotecan in the

Netherlands). Prophylactic medication was given for epidermal growth factor receptor inhibitor-associated skin toxicities.

RESULTS: Thirty-one patients were treated during this period. The most commonly administered first-line mCRC regimen was capecitabine/oxaliplatin/bevacizumab (18/31 patients; 58.1%). Patients received a mean of 7.9 (range 1-18) panitumumab cycles. The median progression-free survival was 3.4 (95% confidence interval 2.4, 4.4) months. The median overall survival estimates were 11.4 (95% confidence interval 1.2, 21.6) months from the initiation of panitumumab monotherapy. Ten patients experienced partial responses according to Response Evaluation Criteria In Solid Tumors (RECIST; objective response rate: 32.3%); disease was controlled (objective response or stable disease) in 15 patients (48.4%). Carcinoembryonic antigen (CEA) responses (two consecutive =10% decreases from baseline) occurred in 11/29 patients (37.9%); all of whom had >50% decreases in CEA levels. All patients with an objective response at week 12 had CEA reductions at weeks 6 and 12. The only adverse events were grade 1/2 skin toxicities (61.3%) and gastrointestinal complaints (6.5%); three other patients (9.7%) experienced both skin and gastrointestinal complaints. CONCLUSION: Panitumumab monotherapy seems to be a safe and active second-line treatment for patients with wild-type KRAS mCRC, with activity in line with that seen for irinotecan monotherapy, but with less toxicity. CEA may provide a useful early indicator of response to panitumumab.

*impactfactor: 2.826*

**Hellemond IE van**

**The stability of myocardial area at risk estimated electrocardiographically in patients with ST elevation myocardial infarction**

Carlsen EA, Hassell ME, van Hellemond IE*, Bouwmeester S*, Terkelsen CJ, Ringborn M, Bang LE, Wagner GS

J Electrocardiol. 2014 Jul-Aug;47(4):540-5.Epub 2014 Apr 30

In patients with ST-elevation myocardial infarction (STEMI) the amount of myocardial area at risk (MaR) indicates the maximal potential loss of myocardium if the coronary artery remains occluded. During the time course of infarct evolution ischemic MaR is replaced by necrosis, which results in a decrease in ST segment elevation and QRS complex distortion. Recently it has been shown that combining the electrocardiographic (ECG) Aldrich ST and Selvester QRS scores result in a more accurate estimate of MaR than using either method alone. Therefore, we hypothesized that the combined Aldrich and Selvester score, indicating MaR, is stable until myocardial reperfusion therapy. In a retrospective analysis of a study population of 114 patients, 33 patients were included. The combined Aldrich and Selvester score was determined in ECGs recorded in the ambulance (ECG1) and in the hospital before reperfusion (ECG2). The combined Aldrich and Selvester score was considered stable if the difference between ECG1 and ECG2 was <4.5-percentage point. Stability of the combined Aldrich and Selvester score was observed in 12/33 patients (36.4%), and in regards to anterior and inferior ST elevation in 4/14 patients (28.6%) and 8/19 patients (42.1%), respectively. The median time between the recording of ECG1 and ECG2 was 75minutes, however the changes in ECG scores were independent of the time between ECG recordings. Patients not meeting the stability criterion either had a decrease (9 patients) or increase (12 patients) of the combined Aldrich and Selvester score. In conclusion, the ECG estimated MaR was stable between the earliest recording time and initiation of reperfusion treatment only in a subgroup of the patients with STEMI. The findings of this study may suggest

heterogeneity in regards to the development of the MaR and could indicate a potential need for differentiation in the acute treatment.

*impactfactor: 1.363*

**Intven FA**

**Severe colchicine intoxication; always lethal?!?**

**L.H. Link, A.J.G.H. Bindels, B.P. Brassé, F.A. Intven, R.J.E. Grouls, A.N. Roos.**

Neth J Crit Care, 2014;18(4): 19-21

*Voor abstract zie: Inwendige geneeskunde - Link, LH*

*impactfactor: --*

**Link LH**

**Severe colchicine intoxication; always lethal?!?**

L.H. Link, A.J.G.H. Bindels, B.P. Brassé, F.A. Intven, R.J.E. Grouls, A.N. Roos.

Neth J Crit Care, 2014;18(4): 19-21

Colchicine is a frequently used drug in the treatment and prevention of acute gout. It has a narrow therapeutic index. Lethal intoxication has been reported after ingestion of 7 mg. Colchicine has a large volume of distribution and binds to intracellular tubulin. This causes a disturbance at the cellular level in all tissues with disruption of the microtubular network, leading to multi-organ dysfunction and even failure.

In this case report we describe a 19-year-old patient who visited the emergency room 20 hours after a suicide attempt by ingestion of an estimated 35 mg of colchicine. Because of haemodynamic instability and multi-organ failure, she was admitted to the intensive care unit. The patient survived and was discharged 19 days after admission.

*impactfactor: --*

**Newton-Boerjan, M**

**Integratie van informatie over in het ziekenhuis opgetreden bijwerkingen in een eerstelijsinfornatiesysteem; eerste stap**

Carolien MJ van der Linden*, René JE Grouls*, Paul AF Jansen, Martine Newton-Boerjan*, Toine CG Egberts, Erik HM Korsten*

Pharmaceutisch Weekblad 2014;8:A1426

*Geen abstract beschikbaar*

*impactfactor: --*

**Peters WG**

**Real-world costs of chronic lymphocytic leukaemia in the Netherlands**

Holtzer-Goor KM, Bouwmans-Frijters CA, Schaafsma MR, de Weerdt O, Joosten P, Posthuma EF, Wittebol S, Huijgens PC, Mattijssen EJ, Vreugdenhil G, Visser H, Peters WG*, Erjavec Z, Wijermans PW, Daenen SM, van der Hem KG, van Oers MH, Groot CA.

Leuk Res. 2014 Jan;38(1):84-90

We performed a comprehensive cost calculation identifying the main cost drivers of treatment of chronic lymphocytic leukaemia in daily practice. In our observational study 160 patient charts were reviewed repeatedly to assess the treatment strategies from diagnosis till the study end. Ninety-seven patients (61%) received =1 treatment lines during an average follow-up time of 6.4 years. The average total costs per patient were €41,417 (€539 per month). The costs varied considerably between treatment groups and between treatment

lines. Although patients were treated with expensive chemo(immuno-)therapy, the main cost driver was inpatient days for other reasons than administration of chemo(immuno-)therapy.

*impactfactor: 2.692*

**Pronk MJ**

**A Combination of IFN-? and IL-2 Production by Coxiella burnetii Stimulated Circulating Cells Discriminates Between Chronic Q Fever and Past Q Fever**

Schoffelen T, Sprong T, Bleeker-Rovers CP, Wegdam-Blans MC*, Ammerdorffer A, Pronk MJ*, Soethoudt YE, van Kasteren ME, Herremans T, Bijlmer HA, Netea MG, van der Meer JW, Joosten LA, van Deuren M

Clin Microbiol Infect. 2014 Jul;20(7):642-50. Epub 2013 Nov 18

*Voor abstract zie: Pamm - Wegdam-Blans MC*

*impactfactor: 5.197*

**Vriens BE**

**Addition of zoledronic acid to neoadjuvant chemotherapy does not enhance tumor response in patients with HER2 negative stage II/III breast cancer: the NEOZOTAC trial (BOOG 2010-01)**

Charehbili A, van de Ven S, Smit VT, Kranenbarg EM, Hamdy NA, Putter H, Heijns JB, van Warmerdam LJ*, Kessels L, Dercksen M, Pepels MJ, Maartense E, van Laarhoven HW, Vriens B*, Wasser MN, van Leeuwen-Stok AE, Liefers GJ, van de Velde CJ,

Nortier JW, Kroep JR; on behalf of the Dutch Breast Cancer Research Group (BOOG).

Ann Oncol. 2014 May;25(5):998-1004. Epub 2014 Feb 27

*Voor abstract zie: Inwendige geneeskunde - Warmerdam LJ van*

*impactfactor: 6.578*

**Warmerdam LJ van**

**Addition of zoledronic acid to neoadjuvant chemotherapy does not enhance tumor response in patients with HER2 negative stage II/III breast cancer: the NEOZOTAC trial (BOOG 2010-01)**

Charehbili A, van de Ven S, Smit VT, Kranenbarg EM, Hamdy NA, Putter H, Heijns JB, van Warmerdam LJ*, Kessels L, Dercksen M, Pepels MJ, Maartense E, van Laarhoven HW, Vriens B*, Wasser MN, van Leeuwen-Stok AE, Liefers GJ, van de Velde CJ,

Nortier JW, Kroep JR; on behalf of the Dutch Breast Cancer Research Group (BOOG)

Ann Oncol. 2014 May;25(5):998-1004. Epub 2014 Feb 27

PURPOSE: The role of zoledronic acid (ZA) when added to the neoadjuvant treatment of breast cancer (BC) in enhancing the clinical and pathological response of tumors is unclear. The effect of ZA on the antitumor effect of neoadjuvant chemotherapy has not prospectively been studied before.

PATIENTS AND METHODS: NEOZOTAC is a national, multicenter, randomized study comparing the efficacy of TAC (docetaxel, adriamycin and cyclophosphamide i.v.) followed by G-CSF on day 2 with or without ZA 4 mg i.v. q 3 weeks inpatients withstage II/III, HER2-negative BC. We present data on the pathological complete response (pCR in breast and axilla), on clinical response using MRI, and toxicity. Post-hoc subgroup analyses were undertaken to address the predictive value of menopausal status.

RESULTS: Addition of ZA to chemotherapy did not improve pCR rates (13.2% for TAC+ZA vs 13.3% for TAC). Postmenopausal women (n=96) had a numerical benefit from ZA treatment (pCR 14.0% for TAC+ZA vs. 8.7% for TAC, P=0.42). Clinical objective response did not differ between treatment arms (72.9 % vs. 73.7%). There was no difference in grade III/IV toxicity between treatment arms.

CONCLUSION: Addition of ZA to neoadjuvant chemotherapy did not improve pathological or clinical response to chemotherapy. Further investigations are warranted in postmenopausal women with BC, since this subgroup might benefit from ZA treatment.

*impactfactor: 6.578*

**Warmerdam LJ van**

**Bioequivalence of Liposome-Entrapped Paclitaxel Easy-To-Use (LEP-ETU) formulation and paclitaxel in polyethoxylated castor oil: a randomized, two-period crossover study in patients with advanced cancer**

Slingerland M, Guchelaar HJ, Rosing H, Scheulen ME, van Warmerdam LJ*, Beijnen JH, Gelderblom H

Clin Ther. 2013 Dec;35(12):1946-54

BACKGROUND: Preclinical studies comparing paclitaxel formulated with polyethoxylated castor oil with the sonicated formulation of liposome-entrapped paclitaxel (LEP) have demonstrated that LEP was associated with reduced toxicity while maintaining similar efficacy. Preliminary studies on the pharmacokinetics in patients support earlier preclinical data, which suggested that the LEP Easy-to-Use (LEP-ETU) formulation and paclitaxel formulated with castor oil may have comparable pharmacokinetic properties.

OBJECTIVES: Our objectives were: (1) to determine bioequivalence of paclitaxel pharmaceutically formulated as LEP-ETU (test) and paclitaxel formulated with castor oil (reference); and (2) to assess the tolerability of LEP-ETU following intravenous administration.

METHODS: Patients with advanced cancer were studied in a randomized, 2-period crossover bioequivalence study. Patients received paclitaxel 175 mg/m(2) administered as an intravenous infusion over 180 minutes, either as a single-treatment cycle of the test formulation followed by a single-treatment cycle of the reference formulation, or vice versa.

RESULTS: Thirty-two of 58 patients were evaluable and were included in the analysis for bioequivalence. Mean total paclitaxel Cmax values for the test and reference formulations were 4955.0 and 5108.8 ng/mL, respectively. Corresponding AUC0-8 values were 15,853.8 and 18,550.8 ng·h/mL, respectively. Treatment ratios of the geometric means were 97% (90% CI, 91%-103%) for Cmax and 84% (90% CI, 80%-90%) for AUC0-8. These results met the required 80% to 125% bioequivalence criteria. The most frequently reported adverse events after LEP-ETU administration were fatigue, alopecia, and myalgia.

CONCLUSION: At the studied dose regimen, LEP-ETU showed bioequivalence with paclitaxel formulated with polyethoxylated castor oil.

*impactfactor: 2.586*

**Warmerdam LJ van**

**Changes in body weight during various types of chemotherapy in breast cancer patients**

Renate M. Winkels , Sandra Beijer , Rianne van Lieshout , Dieuwke van Barneveld , Jolien Hofstede , Josephina Kuiper , Art Vreugdenhil , Laurence J.C. van Warmerdam *, Goof Schep , Reinoud Blaisse , Theo van Voorthuizen , Henk van Halteren , Ellen Kampman

e-SPEN Journal 2014;9(1): e39–e44

Background & aims: Weight gain is a common problem for breast cancer patients treated with chemotherapy. It increases the risk of several comorbidities and possibly cancer recurrence. We assessed whether weight gain depends on the type of chemotherapy.

Methods: In a retrospective study among 739 breast cancer patients, we assessed whether change in body weight during chemotherapy differed between types of chemotherapy. Information about weight, clinical and personal factors was retrieved from medical records of breast cancer patients treated with chemotherapy between 2001 and 2010 in 4 different hospitals.

Results: Body weight information was complete in n = 483 patients (66%). There was substantial between-patients variability in weight change during chemotherapy: within the upper quintile of weight change, median weight gain was +6 kg, while in the bottom quintile median weight loss was of -3 kg. Adjusted multivariate regression analysis showed that change in weight differed between types of chemotherapy: women treated with anthracyclines + taxanes gained +0.9 kg (95%CI 0.1, 1.7) more than women treated with anthracyclines only. This differential change in weight was no longer statistically significant after taking into account that regimens with anthracyclines + taxanes have a longer duration than regimens with anthracyclines only.

Conclusion: There was more weight gain among patients treated with anthracyclines + taxanes than among patients treated with anthracyclines-only. This is partly explained by the longer duration of regimes with anthracyclines + taxanes.

*impactfactor:* --

**Warmerdam LJ van**

**Panitumumab monotherapy as a second-line treatment in metastasised colorectal cancer: a single centre experience**

van Hellemond IE*, Creemers GJ*, van Warmerdam LJ*, de Jong FA, Koornstra RH*
Clin Oncol (R Coll Radiol). 2014 Mar;26(3):135-41. Epub 2013 Nov 15

*Voor abstract zie: van Hellemond IE – Inwendige geneeskunde*

*impactfactor:* *2.826*

** = Werkzaam in het Catharina Ziekenhuis*

# Kindergeneeskunde

**Brackel HJ**

**Monitoring childhood asthma: web-based diaries and the asthma control test**

Voorend-van Bergen S, Vaessen-Verberne AA, Landstra AM, Brackel HJ*, van den Berg NJ, Caudri D, de Jongste JC, Merkus PJ, Pijnenburg MW

J Allergy Clin Immunol. 2014 Jun;133(6):1599-605.e2

BACKGROUND: Data from asthma diaries are frequently used as an end point in asthma studies; however, data on the validity of Web-based diaries are scarce.

OBJECTIVES: First, we examined the validity of a Web-based diary in assessing asthma control. Second, we determined the cutoff points for well-controlled asthma of the Childhood Asthma Control Test (C-ACT) and the Asthma Control Test (ACT), and calculated the minimal important difference for both tests.

METHODS: Children with asthma, ages 4-18 years (n = 228) completed a 4-week Web-based diary, C-ACT, ACT, and an asthma-related quality-of-life questionnaire at baseline and after 1-year follow-up.

RESULTS: The completion rate of the Web-based diaries was 89%. The diary scores correlated strongly with C-ACT and ACT scores ($r = -0.73$, $P < .01$; $r = -0.64$, $P < .01$, respectively) and the changes in diary scores correlated well with changes in C-ACT and ACT scores. The best cutoff points for well-controlled asthma were C-ACT = 22 and ACT = 23. The minimal important differences were 1.9 (95% CI, 1.3-2.5) for ACT and 1.6 (95% CI, 1.1-2.1) for C-ACT, and -0.7 points/d (95% CI, -1.1 to -0.4) for the Web-based diary.

CONCLUSIONS: Our Web-based diary was valid for recording asthma symptoms. Cutoff points of =22 (C-ACT) and =23 (ACT) define well-controlled asthma. We recommend a 2 C-ACT and ACT points difference as minimally important.

*impactfactor: 11.248*

**Brackel HJ**

**The effect of 3% and 6% hypertonic saline in viral bronchiolitis: a randomised controlled trial**

Teunissen J, Hochs AH, Vaessen-Verberne A, Boehmer AL, Smeets CC, Brackel H*, van Gent R, Wesseling J, Logtens-Stevens D, de Moor R, Rosias PP, Potgieter S, Faber MR, Hendriks HJ, Janssen-Heijnen ML, Loza BF

Eur Respir J. 2014 Oct;44(4):913-21. Epub 2014 Jun 25

Bronchiolitis is a common disorder in young children that often results in hospitalisation. Except for a possible effect of nebulised hypertonic saline (sodium chloride), no evidence-based therapy is available. This study investigated the efficacy of nebulised 3% and 6% hypertonic saline compared with 0.9% hypertonic saline in children hospitalised with viral bronchiolitis. In this multicentre, double-blind, randomised, controlled trial, children hospitalised with acute viral bronchiolitis were randomised to receive either nebulised 3%, 6% hypertonic saline or 0.9% normal saline during their entire hospital stay. Salbutamol was added to counteract possible bronchial constriction. The primary endpoint was the length of hospital stay. Secondary outcomes were need for supplemental oxygen and tube feeding. From the 292 children included in the study (median age 3.4 months), 247 completed the study. The median length of hospital stay did not differ between the groups: 69 h (interquartile range 57), 70 h (IQR 69) and 53 h (IQR 52), for 3% (n = 84) and 6% (n = 83) hypertonic saline and 0.9% (n = 80) normal saline, respectively, (p = 0.29). The need for supplemental oxygen or tube feeding did not differ significantly. Adverse effects were similar in the three groups. Nebulisation with hypertonic saline (3% or 6% sodium chloride)

although safe, did not reduce the length of stay in hospital, duration of supplemental oxygen or tube feeding in children hospitalised with moderate-to-severe viral bronchiolitis.

*impactfactor: 7.125*

**Dors N**

**[Haemoglobinopathy in the 21st century: incidence, diagnosis and heel prick screening] [Article in Dutch]**

Suijker MH, Roovers EA, Fijnvandraat CJ, Dors N*, Rodrigues Pereira R, Giordano PC, Verkerk PH, Peters M

Ned Tijdschr Geneeskd. 2014;158(0):A7365

OBJECTIVE: To determine the incidence of severe haemoglobinopathy, to evaluate the effect of heel prick screening, and to identify those children who do not benefit from this early diagnosis.

DESIGN: Prospective descriptive study.

METHOD: Registration of all symptomatic and asymptomatic children who between 2003-2009 were newly diagnosed with the a severe form of a hereditary disorder concerning the formation of the alpha haemoglobin chain (HbH disease), or the beta haemoglobin chain (sickle cell disease or beta thalassaemia major) in the Netherlands. Registration was done by collecting anonymised reports from the Dutch Paediatric Surveillance Unit and TNO, and by additional questionnaires.

RESULTS: During the study period, 48 children (range: 36-76) per year were diagnosed with severe haemoglobinopathy. The overall incidence was 2.5 per 10,000 live births. The incidence of sickle cell disease diagnosed by heel prick screening was 2.1 per 10,000 live births and of thalassaemia major 0.6 per 10,000 live births. In 7% of the children with sickle cell disease who were diagnosed without any form of screening, the diagnosis was made on (a life threatening) infection. Twenty-two percent of the children with a severe form of haemoglobinopathy were not born in the Netherlands. The parents of almost half of the children with sickle cell disease originally came from West- or Central Africa. The parents of children with thalassaemia major were mainly from Morocco or various Asiatic countries.

CONCLUSION: The number of children with severe haemoglobinopathy in the Netherlands has trebled since 1992. In order for all children to benefit from early diagnosis and preventive treatment, it is advisable that children who originate from risk areas should be tested for haemoglobinopathy when they first arrive in the Netherlands.

*impactfactor: --*

**Dors N**

**Practice guidelines for the diagnosis and management of microcytic anemias due to genetic disorders of iron metabolism or heme synthesis**

Donker AE, Raymakers RA, Vlasveld LT, van Barneveld T, Terink R, Dors N*, Brons PP, Knoers NV, Swinkels DW

Blood. 2014 Jun 19;123(25):3873-86; quiz 4005. Epub 2014 Mar 24

During recent years our understanding of the pathogenesis of microcytic inherited anemias has gained from the identification of several genes and proteins involved in systemic and cellular iron metabolism and heme syntheses. Numerous case reports illustrate that the implementation of these novel molecular discoveries in clinical practice has increased our understanding of the presentation, diagnosis and management of these diseases. Integration of these insights in daily clinical practice will reduce delays in time to establish a proper diagnosis, invasive and/or costly diagnostic tests and unnecessary or even detrimental

treatments. In order to assist the clinician, we developed an evidence-based multidisciplinary guideline on the management of rare microcytic anemias due to genetic disorders of iron metabolism and heme synthesis. These genetic disorders may present at all ages and therefore this guideline is relevant for pediatricians as well as clinicians treating adults. This article summarizes these clinical practice guideline and includes i) background on pathogenesis, ii) conclusions and recommendations and iii) a diagnostic flow chart to facilitate its use in the clinical setting.

*impactfactor: 9.775*

**Dors N**

**Sarcoma botryoides in an infant**

van Sambeeck SJ, Mavinkurve-Groothuis A, Flucke U, Dors N*

BMJ Case Rep. 2014 Dec 17;2014. pii: bcr2013202080 A

17-month-old girl with no medical history presented at our emergency room with abnormal vaginal bleeding and vaginal tissue loss with a "grape bunch" appearance. Physical examination showed no abnormalities, but gynaecological examination showed abnormal vaginal tissue protruding through the vagina introitus. Given the typical clinical presentation, the age of the girl and the location and aspect of the lesion, there was a high suspicion of the botryoid variant of embryonal rhabdomyosarcoma of the vagina. Histology of a biopsy of the lesion was consistent with embryonal rhabdomyosarcoma. As no metastases were detected, the girl received chemotherapy. This case report describes the importance of early recognition of the typical clinical symptoms of sarcoma botryoides, since a rapid diagnosis followed by treatment is necessary to prevent death.

*impactfactor: --*

**Pelleboer RA**

**Energiedranken en alcohol : Een gevaar voor de jeugd**

I.M.C. Vogel-Gramsbergen, R.A.A. Pelleboer, B.C.T. Flapper, P.J.J. Sauer

Tijdschrift voor Kindergeneeskunde, 2014;82(6):198-202

De afgelopen jaren stijgt het aantal alcoholintoxicaties onder jongeren sterk, daarnaast hebben jongeren met een alcoholintoxica-tie een steeds hoger alcoholpromillage. Tot nu toe is niet duidelijk welke factoren hierbij een rol spelen. In het uitgaansleven is het een trend om alcohol samen met energiedranken te drinken.

Energiedranken bevatten als belangrijkste ingredient een hoge concentratie cafeine. Er blijkt interactie te zijn tussen alcohol en cafeine wat betreft het metabolisme; een hoge(re) alcoholspiegel leidt tot vertraging in de afbraak van cafeine. Ook op receptor-niveau is er interactie, cafeine blokkeert als adenosineantagonist verschijnselen veroorzaakt door alcohol zoals coordinatiestoor-nissen. Studies laten zien dat energiedranken een rol spelen bij het ontstaan van alcoholintoxicaties bij jongeren doordat zij het sederende effect van alcohol verminderen. Gezien de risico's moet het gebruik van energiedranken door jongeren < 18 jaar ontraden worden, zeker in combinatie met alcohol.

*impactfactor: --*

** = Werkzaam in het Catharina Ziekenhuis*

## Klinische Fysica

**Brands P**

**Editor's choice--Use of disposable radiation-absorbing surgical drapes results in significant dose reduction during EVAR procedures**

Kloeze C*, Klompenhouwer EG*, Brands PJ*, van Sambeek MR*, Cuypers PW*, Teijink JA*

Eur J Vasc Endovasc Surg. 2014 Mar;47(3):268-72

*Voor abstract zie:* *Klinische Fysica - Kloeze C*
*impactfactor:* *3.070*

**Hurkmans CW**

**Creating a data exchange strategy for radiotherapy research: Towards federated databases and anonymised public datasets**

Skripcak T, Belka C, Bosch W, Brink C, Brunner T, Budach V, Büttner D, Debus J, Dekker A, Grau C, Gulliford S, Hurkmans C*, Just U, Krause M, Lambin P, Langendijk JA, Lewensohn R, Lühr A, Maingon P, Masucci M, Niyazi M, Poortmans P, Simon M, Schmidberger H, Spezi E, Stuschke M, Valentini V, Verheij M, Whitfield G, Zackrisson B, Zips D, Baumann M

Radiother Oncol. 2014 Dec;113(3):303-309. Epub 2014 Oct 28

Disconnected cancer research data management and lack of information exchange about planned and ongoing research are complicating the utilisation of internationally collected medical information for improving cancer patient care. Rapidly collecting/pooling data can accelerate translational research in radiation therapy and oncology. The exchange of study data is one of the fundamental principles behind data aggregation and data mining. The possibilities of reproducing the original study results, performing further analyses on existing research data to generate new hypotheses or developing computational models to support medical decisions (e.g. risk/benefit analysis of treatment options) represent just a fraction of the potential benefits of medical data-pooling. Distributed machine learning and knowledge exchange from federated databases can be considered as one beyond other attractive approaches for knowledge generation within "Big Data". Data interoperability between research institutions should be the major concern behind a wider collaboration. Information captured in electronic patient records (EPRs) and study case report forms (eCRFs), linked together with medical imaging and treatment planning data, are deemed to be fundamental elements for large multi-centre studies in the field of radiation therapy and oncology. To fully utilise the captured medical information, the study data have to be more than just an electronic version of a traditional (un-modifiable) paper CRF. Challenges that have to be addressed are data interoperability, utilisation of standards, data quality and privacy concerns, data ownership, rights to publish, data pooling architecture and storage. This paper discusses a framework for conceptual packages of ideas focused on a strategic development for international research data exchange in the field of radiation therapy and oncology.

*impactfactor:* *4.857*

**Hurkmans CW**

**Global harmonization of quality assurance naming conventions in radiation therapy clinical trials**

Melidis C, Bosch WR, Izewska J, Fidarova E, Zubizarreta E, Ulin K, Ishikura S, Followill D, Galvin J, Haworth A, Besuijen D, Clark CH, Miles E, Aird E, Weber DC, Hurkmans CW, Verellen D

Int J Radiat Oncol Biol Phys. 2014 Dec 1;90(5):1242-9

PURPOSE: To review the various radiation therapy quality assurance (RTQA) procedures used by the Global Clinical Trials RTQA Harmonization Group (GHG) steering committee members and present the harmonized RTQA naming conventions by amalgamating procedures with similar objectives.

METHODS AND MATERIALS: A survey of the GHG steering committee members' RTQA procedures, their goals, and naming conventions was conducted. The RTQA procedures were classified as baseline, preaccrual, and prospective/retrospective data capture and analysis. After all the procedures were accumulated and described, extensive discussions took place to come to harmonized RTQA procedures and names.

RESULTS: The RTQA procedures implemented within a trial by the GHG steering committee members vary in quantity, timing, name, and compliance criteria. The procedures of each member are based on perceived chances of noncompliance, so that the quality of radiation therapy planning and treatment does not negatively influence the trial measured outcomes. A comparison of these procedures demonstrated similarities among the goals of the various methods, but the naming given to each differed. After thorough discussions, the GHG steering committee members amalgamated the 27 RTQA procedures to 10 harmonized ones with corresponding names: facility questionnaire, beam output audit, benchmark case, dummy run, complex treatment dosimetry check, virtual phantom, individual case review, review of patients' treatment records, and protocol compliance and dosimetry site visit.

CONCLUSIONS: Harmonized RTQA harmonized naming conventions, which can be used in all future clinical trials involving radiation therapy, have been established. Harmonized procedures will facilitate future intergroup trial collaboration and help to ensure comparable RTQA between international trials, which enables meta-analyses and reduces RTQA workload for intergroup studies.

*impactfactor: 4.524*

**Hurkmans CW**

**IMRT credentialing for prospective trials using institutional virtual phantoms: results of a joint European Organization for the Research and Treatment of Cancer and Radiological Physics Center project**

Weber DC, Vallet V, Molineu A, Melidis C, Teglas V, Naudy S, Moeckli R, Followill DS, Hurkmans CW*

Radiat Oncol. 2014 May 29;9(1):123

BACKGROUND AND PURPOSE: Intensity-modulated radiotherapy (IMRT) credentialing for a EORTC study was performed using an anthropomorphic head phantom from the Radiological Physics Center (RPC; RPCPH). Institutions were retrospectively requested to irradiate their institutional phantom (INSTPH) using the same treatment plan in the framework of a Virtual Phantom Project (VPP) for IMRT credentialing.

MATERIALS AND METHODS: CT data set of the institutional phantom and measured 2D dose matrices were requested from centers and sent to a dedicated secure EORTC uploader. Data from the RPCPH and INSTPH were thereafter centrally analyzed and inter-compared by the

QA team using commercially available software (RIT; ver.5.2; Colorado Springs, USA). RESULTS: Eighteen institutions participated to the VPP. The measurements of 6 (33%) institutions could not be analyzed centrally. All other centers passed both the VPP and the RPC ±7%/4 mm credentialing criteria. At the 5%/5 mm gamma criteria (90% of pixels passing), 11(92%) as compared to 12 (100%) centers pass the credentialing process with RPCPH and INSTPH (p?=?0.29), respectively. The corresponding pass rate for the 3%/3 mm gamma criteria (90% of pixels passing) was 2 (17%) and 9 (75%; p?=?0.01), respectively. CONCLUSIONS: IMRT dosimetry gamma evaluations in a single plane for a H&N prospective trial using the INSTPH measurements showed agreement at the gamma index criteria of ±5%/5 mm (90% of pixels passing) for a small number of VPP measurements. Using more stringent, criteria, the RPCPH and INSTPH comparison showed disagreement. More data is warranted and urgently required within the framework of prospective studies.

*impactfactor: 2.36*

**Hurkmans CW**

**Outcome impact and cost-effectiveness of quality assurance for radiotherapy planned for the EORTC 22071-24071 prospective study for head and neck cancer**

Weber DC, Hurkmans CW*, Melidis C, Budach W, Langendijk JH, Peters LJ, Grégoire V, Maingon P, Combescure C

Radiother Oncol. 2014 Jun;111(3):393-9. Epub 2014 May 23

INTRODUCTION: One of the goals of Quality Assurance in Radiotherapy (QART) is to reduce the variability and uncertainties related to treatment planning and beam delivery. The purpose of this study was to assess the outcome impact and cost-effectiveness (CE) of various QART levels for a head and neck (H&N) cancer study. MATERIALS AND METHODS: QART levels were defined as: basic QART with a dummy run (level 2), level 2 plus prospective Individual Case Reviews (ICRs) for 15% of patients (level 3) and level 2 plus prospective ICRs for all patients (level 4). The follow-up of patients was modeled using a multi-state model with parameters derived from EORTC, TROG and RTOG prospective studies. Individual patient data, linking QART results with outcome, were retrieved from the TROG database. Results for each QART level were expressed as percentage of mortality and local failure at 5years. RESULTS: Quality-of-life-adjusted and recurrence-free survival increased with increasing QART levels. The increase of all these metrics was more sizeable with an increased QART level from 2 or 3 to 4. The estimated quality-adjusted-life-years (QALYs) for an increase of QART levels of 3-4 and 2-4 were 0.09 and 0.15, respectively. The incremental CE ratio was €5525 and €3659 Euros per QALY for these QART levels. Compared to QART level 2 or 3, level 4 was cost-effective.

CONCLUSIONS: Increasing QART levels resulted in better patient outcome in this simulated study. The increased complexity of the QART program was also cost-effective.

*impactfactor: 4.857*

**Hurkmans CW**

**Quality assurance standards drive improvements in the profile of radiation therapy departments participating in trials of the EORTC Radiation Oncology Group**

Grant W, Hurkmans CW*, Poortmans PM, Maingon P, Monti AF, van Os MJ, Weber DC Radiother Oncol. 2014 Sep;112(3):376-80. Epub 2014 Sep 30

BACKGROUND AND PURPOSE: The Facility Questionnaire (FQ) of the European Organisation for Research and Treatment of Cancer Radiation Oncology Group (EORTC-ROG) evaluates the human, technical and organizational resources at each EORTC member institution. The

purpose of this study is to use the FQ database to assess the improvement of radiation therapy (RT) structures and resources within the EORTC compared to the previous surveys performed by our group.

MATERIAL AND METHODS: We report the content of the current FQ database, completed online by 156 EORTC candidate member institutions from 22 countries between February 2011 and February 2013. Results are compared to FQ-published data from 1992 and 2007.

RESULTS: The average number of patients per year per EORTC institution is 2381 (range 350-12,000) an 18.2% increase compared to the 2007 figures. From 2007 to 2013 the average number of radiation oncologists, physicists and radiation technologists per EORTC institution has increased by 27% (from 8.5 to 10.8), 41% (from 5.2 to 7.4) and 38% (from 26.1 to 36.1) respectively. Consequently the number of patients per year per radiation oncologist has decreased from 258 to 243, for physicists from 426 to 354 and for radiation technologists from 107 to 86. One hundred and forty-six (94%) and 101 (65%) institutions can now deliver IMRT and SBRT, compared to 77 (79%) and 53 (54%) in 2007.

CONCLUSIONS: The standards set by the EORTC-ROG are met by a continually improving number of institutions, helping to safeguard use of advanced technologies in EORTC-ROG clinical trials.

*impactfactor: 4.857*

**Hurkmans CW**

**Radiation therapy quality assurance in clinical trials - Global harmonisation group**

Melidis C, Bosch WR, Izewska J, Fidarova E, Zubizarreta E, Ishikura S, Followill D, Galvin J, Xiao Y, Ebert MA, Kron T, Clark CH, Miles EA, Aird EG, Weber DC, Ulin K, Verellen D, Hurkmans CW*

Radiother Oncol. 2014 Jun;111(3):327-9. Epub 2014 May 8

*Geen abstract beschikbaar*

*impactfactor: 4.857*

**Kloeze C**

**Editor's choice--Use of disposable radiation-absorbing surgical drapes results in significant dose reduction during EVAR procedures**

Kloeze C*, Klompenhouwer EG*, Brands PJ*, van Sambeek MR*, Cuypers PW*, Teijink JA*

Eur J Vasc Endovasc Surg. 2014 Mar;47(3):268-72

OBJECTIVES: Because of the increasing number of interventional endovascular procedures with fluoroscopy and the corresponding high annual dose for interventionalists, additional dose-protecting measures are desirable. The purpose of this study was to evaluate the effect of disposable radiation-absorbing surgical drapes in reducing scatter radiation exposure for interventionalists and supporting staff during an endovascular aneurysm repair (EVAR) procedure.

MATERIALS: This was a randomized control trial in which 36 EVAR procedures were randomized between execution with and without disposable radiation-absorbing surgical drapes (Radpad: Worldwide Innovations & Technologies, Inc., Kansas City, US, type 5511A). Dosimetric measurements were performed on the interventionalist (hand and chest) and theatre nurse (chest) with and without the use of the drapes to obtain the dose reduction and effect on the annual dose caused by the drapes.

RESULTS: Use of disposable radiation-absorbing surgical drapes resulted in dose reductions of 49%, 55%, and 48%, respectively, measured on the hand and chest of the interventionalist and the chest of the theatre nurse.

CONCLUSIONS: The use of disposable radiation-absorbing surgical drapes significantly reduces scatter radiation exposure for both the interventionalist and the supporting staff during EVAR procedures.

*impactfactor: 3.070*

**Kloeze C**

**Healthcare failure mode effect analysis of a miniaturized extracorporeal bypass circuit**

Overdevest E*, van Hees J*, Lagerburg V*, Kloeze C*, van Straten A*

Perfusion, 2014, 29(4):301-306

*Voor abstract zie: ECC - Overdevest E*

*impactfactor: 1.083*

**Lagerburg V**

**Application of current guidelines for chest compression depth on different surfaces and using feedback devices: a randomized cross-over study**

Schober P, Krage R, Lagerburg V*, Van Groeningen D, Loer S, Schwarte L

Minerva Anestesiol. 2014 Apr;80(4):429-35. Epub 2013 Nov 5

Background: Current CPR-guidelines recommend an increased chest compression depth and -rate compared to previous guidelines, and the use of automatic feedback devices is encouraged. However, it is unclear whether this compression depth can be maintained at an increased frequency. Moreover, the underlying surface may influence accuracy of feedback devices. We investigated compression depths over time and evaluated the accuracy of a feedback device on different surfaces. Methods: Twenty-four volunteers performed four two-minute blocks of CPR targeting at current guideline recommendations on different surfaces (floor, mattress, 2 backboards) on a patient simulator. Participants rested for 2 minutes between blocks. Influences of time and different surfaces on chest compression depth (ANOVA, mean [95%CI]) and accuracy of a feedback device to determine compression depth (Bland-Altman) were assessed. Results: Mean compression depth did not reach recommended depth and decreased over time during all blocks (first block: from 42mm [39-46mm] to 39mm [37-42mm]). A two-minute resting period was insufficient to restore compression depth to baseline. No differences in compression depth were observed on different surfaces. The feedback device slightly underestimated compression depth on the floor (bias -3.9mm), but markedly overestimated on the mattress (bias +12.6mm). This overestimation was eliminated after correcting compression depth by a second sensor between manikin and mattress. Conclusions: Strategies are needed to improve chest compression depth, and more than two providers should alternate with chest compressions. The underlying surface does not necessarily adversely affect CPR performance but influences accuracy of feedback devices. Accuracy is improved by a second, posterior, sensor

*impactfactor: 2.272*

**Lagerburg V**

**Healthcare failure mode effect analysis of a miniaturized extracorporeal bypass circuit**

Overdevest E*, van Hees J*, Lagerburg V*, Kloeze C*, van Straten A*

Perfusion, 2014, 29(4):301-306

*Voor abstract zie: ECC - Overdevest E*

*mpactfactor: 1.083*

**Lagerburg V**

**Improving quantitative dosimetry in (177)Lu-DOTATATE SPECT by energy window-based scatter corrections**

de Nijs R, Lagerburg V*, Klausen TL, Holm S

Nucl Med Commun. 2014 May;35(5):522-33

PURPOSE: Patient-specific dosimetry of lutetium-177 ((177)Lu)-DOTATATE treatment in neuroendocrine tumours is important, because uptake differs across patients. Single photon emission computer tomography (SPECT)-based dosimetry requires a conversion factor between the obtained counts and the activity, which depends on the collimator type, the utilized energy windows and the applied scatter correction techniques. In this study, energy window subtraction-based scatter correction methods are compared experimentally and quantitatively.

MATERIALS AND METHODS: (177)Lu SPECT images of a phantom with known activity concentration ratio between the uniform background and filled hollow spheres were acquired for three different collimators: low-energy high resolution (LEHR), low-energy general purpose (LEGP) and medium-energy general purpose (MEGP). Counts were collected in several energy windows, and scatter correction was performed by applying different methods such as effective scatter source estimation (ESSE), triple-energy and dual-energy window, double-photopeak window and downscatter correction. The intensity ratio between the spheres and the background was measured and corrected for the partial volume effect and used to compare the performance of the methods. RESULTS: Low-energy collimators combined with 208 keV energy windows give rise to artefacts. For the 113 keV energy window, large differences were observed in the ratios for the spheres. For MEGP collimators with the ESSE correction technique, the measured ratio was close to the real ratio, and the differences between spheres were small. CONCLUSION: For quantitative (177)Lu imaging MEGP collimators are advised. Both energy peaks can be utilized when the ESSE correction technique is applied. The difference between the calculated and the real ratio is less than 10% for both energy windows.

*impactfactor: 1.371*

**Schuring D**

**Quality assurance for the EORTC 22071¿26071 study: dummy run prospective analysis**

Fairchild A, Langendijk JA, Nuyts S, Scrase C, Tomsej M, Schuring D*, Gulyban A, Ghosh S, Weber DC, Budach W

Radiat Oncol. 2014 Nov 26;9(1):248

Purpose The phase III 22071¿26071 trial was designed to evaluate the addition of panitumumab to adjuvant chemotherapy plus intensity modulated radiotherapy (IMRT) in locally advanced resected squamous cell head and neck cancer. We report the results of the dummy run (DR) performed to detect deviations from protocol guidelines.Methods and MaterialsDR datasets consisting of target volumes, organs at risk (OAR) and treatment plans were digitally uploaded, then compared with reference contours and protocol guidelines by six central reviewers. Summary statistics and analyses of potential correlations between delineations and plan characteristics were performed.ResultsOf 23 datasets, 20 (87.0%) GTVs were evaluated as acceptable/borderline, along with 13 (56.5%) CTVs and 10 (43.5%) PTVs. All PTV dose requirements were met by 73.9% of cases. Dose constraints were met for 65.2-100% of mandatory OARs. Statistically significant correlations were observed between the subjective acceptability of contours and the ability to meet dose constraints for all OARs (p¿¿¿0.01) except for the parotids and spinal cord. Ipsilateral parotid doses correlated

significantly with CTV and PTV volumes (p¿¿¿0.05).ConclusionsThe observed wide variations in treatment planning, despite strict guidelines, confirms the complexity of development and quality assurance of IMRT-based multicentre studies for head and neck cancer.

*impactfactor: 2.36*

**Vries A de**

**Relaxometric studies of gadolinium-functionalized perfluorocarbon nanoparticles for MR imaging**

de Vries A*, Moonen R, Yildirim M, Langereis S, Lamerichs R, Pikkemaat JA, Baroni S, Terreno E, Nicolay K, Strijkers GJ, Grüll H

Contrast Media Mol Imaging. 2014 Jan;9(1):83-91

Fluorine MRI ((19) F MRI) is receiving an increasing attention as a viable alternative to proton-based MRI ((1) H MRI) for dedicated application in molecular imaging. The (19) F nucleus has a high gyromagnetic ratio, a 100% natural abundance and is furthermore hardly present in human tissues allowing for hot spot MR imaging. The applicability of (19) F MRI as a molecular and cellular imaging technique has been exploited, ranging from cell tracking to detection and imaging of tumors in preclinical studies. In addition to applications, developing new contrast materials with improved relaxation properties has also been a core research topic in the field, since the inherently low longitudinal relaxation rates of perfluorocarbon compounds result in relatively low imaging efficiency. Borrowed from (1) H MRI, the incorporation of lanthanides, specifically Gd(III) complexes, as signal modulating ingredients in the nanoparticle formulation has emerged as a promising approach to improvement of the fluorine signal. Three different perfluorocarbon emulsions were investigated at five different magnetic field strengths. Perfluoro-15-crown-5-ether was used as the core material and Gd(III)DOTA-DSPE, Gd(III)DOTA-C6-DSPE and Gd(III)DTPA-BSA as the relaxation altering components. While Gd(III)DOTA-DSPE and Gd(III)DOTA-C6-DSPE were favorable constructs for (1) H NMR, Gd(III)DTPA-BSA showed the strongest increase in (19F) R1 . These results show the potential of the use of paramagnetic lipids to increase (19F) R1 at clinical field strengths (1.5-3?T). At higher field strengths (6.3-14?T), gadolinium does not lead to an increase in (19F) R1 compared with emulsions without gadolinium, but leads to an significant increase in (19F) R2 . Our data therefore suggest that the most favorable situation for fluorine measurements is at high magnetic fields without the inclusion of gadolinium constructs.

*impactfactor: 3.333*

*Ten tijde van publicatie werkzaam bij: Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, Eindhoven*

** = Werkzaam in het Catharina Ziekenhuis*

# Kwaliteit

**Schulz D**

**An economic evaluation of a video- and text-based computer-tailored intervention for smoking cessation: a cost-effectiveness and cost-utility analysis of a randomized controlled trial**

Stanczyk NE, Smit ES, Schulz DN*, de Vries H Bolman C, Muris JW, Evers SM

PLoS One. 2014 Oct 13;9(10):e110117

BACKGROUND: Although evidence exists for the effectiveness of web-based smoking cessation interventions, information about the cost-effectiveness of these interventions is limited.

OBJECTIVE: The study investigated the cost-effectiveness and cost-utility of two web-based computer-tailored (CT) smoking cessation interventions (video- vs. text-based CT) compared to a control condition that received general text-based advice.

METHODS: In a randomized controlled trial, respondents were allocated to the video-based condition (N?=?670), the text-based condition (N?=?708) or the control condition (N?=?721). Societal costs, smoking status, and quality-adjusted life years (QALYs; EQ-5D-3L) were assessed at baseline, six-and twelve-month follow-up. The incremental costs per abstinent respondent and per QALYs gained were calculated. To account for uncertainty, bootstrapping techniques and sensitivity analyses were carried out.

RESULTS: No significant differences were found in the three conditions regarding demographics, baseline values of outcomes and societal costs over the three months prior to baseline. Analyses using prolonged abstinence as outcome measure indicated that from a willingness to pay of €1,500, the video-based intervention was likely to be the most cost-effective treatment, whereas from a willingness to pay of €50,400, the text-based intervention was likely to be the most cost-effective. With regard to cost-utilities, when quality of life was used as outcome measure, the control condition had the highest probability of being the most preferable treatment. Sensitivity analyses yielded comparable results.

CONCLUSION: The video-based CT smoking cessation intervention was the most cost-effective treatment for smoking abstinence after twelve months, varying the willingness to pay per abstinent respondent from €0 up to €80,000. With regard to cost-utility, the control condition seemed to be the most preferable treatment. Probably, more time will be required to assess changes in quality of life. Future studies with longer follow-up periods are needed to investigate whether cost-utility results regarding quality of life may change in the long run.

*impactfactor: 3.534*

*Ten tijde van publicatie werkzaam bij: Department of Health Promotion, School for Public Health and Primary Care (CAPHRI), Maastricht University, Maastricht*

**Schulz D**

**Economic evaluation of a web-based tailored lifestyle intervention for adults: findings regarding cost-effectiveness and cost-utility from a randomized controlled trial**

Schulz DN*, Smit ES, Stanczyk NE, Kremers SP, de Vries H, Evers SM

J Med Internet Res. 2014 Mar 20;16(3):e91

BACKGROUND: Different studies have reported the effectiveness of Web-based computer-tailored lifestyle interventions, but economic evaluations of these interventions are scarce.

OBJECTIVE: The objective was to assess the cost-effectiveness and cost-utility of a sequential and a simultaneous Web-based computer-tailored lifestyle intervention for adults compared to a control group.

METHODS: The economic evaluation, conducted from a societal perspective, was part of a 2-year randomized controlled trial including 3 study groups. All groups received personalized health risk appraisals based on the guidelines for physical activity, fruit intake, vegetable intake, alcohol consumption, and smoking. Additionally, respondents in the sequential condition received personal advice about one lifestyle behavior in the first year and a second behavior in the second year; respondents in the simultaneous condition received personal advice about all unhealthy behaviors in both years. During a period of 24 months, health care use, medication use, absenteeism from work, and quality of life (EQ-5D-3L) were assessed every 3 months using Web-based questionnaires. Demographics were assessed at baseline, and lifestyle behaviors were assessed at both baseline and after 24 months. Cost-effectiveness and cost-utility analyses were performed based on the outcome measures lifestyle factor (the number of guidelines respondents adhered to) and quality of life, respectively. We accounted for uncertainty by using bootstrapping techniques and sensitivity analyses.

RESULTS: A total of 1733 respondents were included in the analyses. From a willingness to pay of €4594 per additional guideline met, the sequential intervention (n=552) was likely to be the most cost-effective, whereas from a willingness to pay of €10,850, the simultaneous intervention (n=517) was likely to be most cost-effective. The control condition (n=664) appeared to be preferred with regard to quality of life.

CONCLUSIONS: Both the sequential and the simultaneous lifestyle interventions were likely to be cost-effective when it concerned the lifestyle factor, whereas the control condition was when it concerned quality of life. However, there is no accepted cutoff point for the willingness to pay per gain in lifestyle behaviors, making it impossible to draw firm conclusions. Further economic evaluations of lifestyle interventions are needed.

*impactfactor: 4.7*

*Ten tijde van publicatie werkzaam bij: Department of Health Promotion, School for Public Health and Primary Care (CAPHRI), Maastricht University, Maastricht*

**Schulz D**

**Effects of a web-based tailored multiple-lifestyle intervention for adults: a two-year randomized controlled trial comparing sequential and simultaneous delivery modes**

Schulz DN*, Kremers SP, Vandelanotte C, van Adrichem MJ, Schneider F, Candel MJ, de Vries H J Med Internet Res. 2014 Jan 27;16(1):e26

BACKGROUND: Web-based computer-tailored interventions for multiple health behaviors can have a significant public health impact. Yet, few randomized controlled trials have tested this assumption.

OBJECTIVE: The objective of this paper was to test the effects of a sequential and simultaneous Web-based tailored intervention on multiple lifestyle behaviors.

METHODS: A randomized controlled trial was conducted with 3 tailoring conditions (ie, sequential, simultaneous, and control conditions) in the Netherlands in 2009-2012. Follow-up measurements took place after 12 and 24 months. The intervention content was based on the I-Change model. In a health risk appraisal, all respondents (N=5055) received feedback on their lifestyle behaviors that indicated whether they complied with the Dutch guidelines for physical activity, vegetable consumption, fruit consumption, alcohol intake, and smoking. Participants in the sequential (n=1736) and simultaneous (n=1638) conditions received tailored motivational feedback to change unhealthy behaviors one at a time (sequential) or all at the same time (simultaneous). Mixed model analyses were performed as primary analyses; regression analyses were done as sensitivity analyses. An overall risk score was used as outcome measure, then effects on the 5 individual lifestyle behaviors

were assessed and a process evaluation was performed regarding exposure to and appreciation of the intervention.

RESULTS: Both tailoring strategies were associated with small self-reported behavioral changes. The sequential condition had the most significant effects compared to the control condition after 12 months (T1, effect size=0.28). After 24 months (T2), the simultaneous condition was most effective (effect size=0.18). All 5 individual lifestyle behaviors changed over time, but few effects differed significantly between the conditions. At both follow-ups, the sequential condition had significant changes in smoking abstinence compared to the simultaneous condition (T1 effect size=0.31; T2 effect size=0.41). The sequential condition was more effective in decreasing alcohol consumption than the control condition at 24 months (effect size=0.27). Change was predicted by the amount of exposure to the intervention (total visiting time: beta=-.06; P=.01; total number of visits: beta=-.11; P<.001). Both interventions were appreciated well by respondents without significant differences between conditions.

CONCLUSIONS: Although evidence was found for the effectiveness of both programs, no simple conclusive finding could be drawn about which intervention mode was more effective. The best kind of intervention may depend on the behavior that is targeted or on personal preferences and motivation. Further research is needed to identify moderators of intervention effectiveness. The results need to be interpreted in view of the high and selective dropout rates, multiple comparisons, and modest effect sizes. However, a large number of people were reached at low cost and behavioral change was achieved after 2 years.

*impactfactor: 4.7*

*Ten tijde van publicatie werkzaam bij: Department of Health Promotion, School for Public Health and Primary Care (CAPHRI), Maastricht University, Maastricht*

** = Werkzaam in het Catharina Ziekenhuis*

# Longziekten

**Borne BE van den**

**Interobserver Variability for the WHO Classification of Pulmonary Carcinoids**

Swarts DR, van Suylen RJ, den Bakker MA, van Oosterhout MF, Thunnissen FB, Volante M, Dingemans AM, Scheltinga MR, Bootsma GP, Pouwels HM, van den Borne BE*, Ramaekers FC, Speel EJ

Am J Surg Pathol. 2014 Oct;38(10):1429-36

Pulmonary carcinoids are neuroendocrine tumors histopathologically subclassified into typical (TC; no necrosis, <2 mitoses per 2 mm) and atypical (AC; necrosis or 2 to 10 mitoses per 2 mm). The reproducibility of lung carcinoid classification, however, has not been extensively studied and may be hampered by the presence of pyknotic apoptosis mimicking mitotic figures. Furthermore, prediction of prognosis based on histopathology varies, especially for ACs. We examined the presence of interobserver variation between 5 experienced pulmonary pathologists who reviewed 123 originally diagnosed pulmonary carcinoid cases. The tumors were subsequently redistributed over 3 groups: unanimously classified cases, consensus cases (4/5 pathologists rendered identical diagnosis), and disagreement cases (divergent diagnosis by =2 assessors). ?-values were calculated, and results were correlated with clinical follow-up and molecular data. When focusing on the 114/123 cases unanimously classified as pulmonary carcinoids, the interobserver agreement was only fair (?=0.32). Of these 114 cases, 55% were unanimously classified, 25% reached consensus classification, and for 19% there was no consensus. ACs were significantly more often in the latter category (P=0.00038). The designation of TCs and ACs by =3 assessors was not associated with prognosis (P=0.11). However, when disagreement cases were allocated on the basis of Ki-67 proliferative index (<5%; =5%) or nuclear orthopedia homeobox immunostaining (+; -), correlation with prognosis improved significantly (P=0.00040 and 0.0024, respectively). In conclusion, there is a considerable interobserver variation in the histopathologic classification of lung carcinoids, in particular concerning ACs. Additional immunomarkers such as Ki-67 or orthopedia homeobox may improve classification and prediction of prognosis.

*impactfactor: 4.592*

**Borne BE van den**

**Management of fatigue in patients with cancer - A practical overview**

Koornstra RH, Peters M, Donofrio S, van den Borne B*, de Jong FA

Cancer Treat Rev. 2014 Jul;40(6):791-9. Epub 2014 Feb 7

Cancer-related fatigue (CRF) is a serious clinical problem and is one of the most common symptoms experienced by cancer patients. CRF has deleterious effects on many aspects of patient quality of life including their physical, psychological and social well-being. It can also limit their ability to function, socialise and participate in previously enjoyable activities. The aetiology of CRF is complex and multidimensional, involving many potentially contributing elements. These include tumour-related factors and comorbid medical/psychological conditions and also side effects associated with anti-cancer therapies or other medications. Barriers to the effective management of CRF exist both on the side of physicians and patients, and as a result CRF often remains unrecognised and undiscussed in clinical practice. A change of approach is required, where fatigue is treated as central to patient management during and after systemic anti-cancer treatment. In this review we summarise factors involved in the aetiology of CRF and the barriers to its effective management, as well as factors involved in the screening, diagnosis and treatment of cancer patients experiencing fatigue. Pharmacological and non-pharmacological approaches to its management are also reviewed. We suggest an algorithm for the process of managing CRF, guided by our

experiences in The Netherlands, which we hope may provide a useful tool to healthcare professionals dealing with cancer patients in their daily practice. Although CRF is a serious and complex clinical problem, if it is worked through in a structured and comprehensive way, effective management has the potential to much improve patient quality of life.

*impactfactor: 6.466*

**Borne BE van den**

**Patient selection for whole brain radiotherapy (WBRT) in a large lung cancer cohort: Impact of a new Dutch guideline on brain metastases**

Hendriks LE, Troost EG, Steward A, Bootsma GP, De Jaeger K*, van den Borne BE*, Dingemans AM

Acta Oncol. 2014 Apr 23. [Epub ahead of print]

*Voor abstract zie: Radiotherapie - Jaeger K de*

*impactfactor: 3.71*

**Borne BE van den**

**Spontaneous pneumothorax as indicator for Birt-Hogg-Dubé syndrome in paediatric patients**

Johannesma PC, van den Borne BE*, Gille JJ, Nagelkerke AF, van Waesberghe JT, Paul MA, van Moorselaar RJ, Menko FH, Postmus PE

BMC Pediatr. 2014 Jul 3;14:171

BACKGROUND: Birt-Hogg-Dubé syndrome (BHD) is a rare autosomal dominantly inherited disorder caused by germline mutations in the folliculin (FLCN) gene. Clinical manifestations of BHD include skin fibrofolliculomas, renal cell cancer, lung cysts and (recurrent) spontaneous pneumothorax (SP). All clinical manifestations usually present in adults > 20 years of age.

CASE PRESENTATIONS: Two non-related patients with (recurrent) pneumothorax starting at age 14 accompanied by multiple basal lung cysts on thoracic CT underwent FLCN germline mutation analysis. A pathogenic FLCN mutation was found in both patients confirming suspected BHD. The family history was negative for spontaneous pneumothorax in both families.

CONCLUSION: Although childhood occurrence of SP in BHD is rare, these two cases illustrate that BHD should be considered as cause of SP in children.

*impactfactor: 1.92*

**Romme EA**

**Associations between COPD related manifestations: a cross-sectional study**

Romme EA*, McAllister DA, Murchison JT, Van Beek EJ, Petrides GS, Price CO, Rutten EP, Smeenk FW*, Wouters EF, MacNee W

Respir Res. 2013 Nov 19;14:129

BACKGROUND: Cardiovascular disease, osteoporosis and emphysema are associated with COPD. Associations between these factors and whether they predict all-cause mortality in COPD patients are not well understood. Therefore, we examined associations between markers of cardiovascular disease (coronary artery calcification [CAC], thoracic aortic calcification [TAC] and arterial stiffness), bone density (bone attenuation of the thoracic vertebrae), emphysema (PI-950 and 15th percentile) and all-cause mortality in a COPD cohort.

METHODS: We assessed CAC, TAC, bone attenuation of the thoracic vertebrae, PI-950 and 15th percentile on low-dose chest computed tomography in COPD subjects. We measured arterial stiffness as carotid-radial pulse wave velocity (PWV), and identified deaths from the national register.

RESULTS: We studied 119 COPD subjects; aged 67.8 ±7.3, 66% were males and mean FEV1% predicted was 46.0 ±17.5. Subjects were classified into three pre-specificed groups: CAC?=?0 (n?=?14), 0?<?CAC?=?400 (n?=?41) and CAC?>?400 (n?=?64). Subjects with higher CAC were more likely to be older (p?<?0.001) and male (p?=?0.03), and more likely to have higher systolic blood pressure (p?=?0.001) and a history of hypertension (p?=?0.002) or ischemic heart disease (p?=?0.003). Higher CAC was associated with higher PWV (OR 1.62, p?=?0.04) and lower bone attenuation (OR 0.32, p?=?0.02), but not with 15th percentile, after adjustment for age, sex and pack-years of smoking. In a Cox proportional hazards model, CAC, TAC and 15th percentile predicted all-cause mortality (HR 2.01, 2.09 and 0.66, respectively).

CONCLUSIONS: Increased CAC was associated with increased arterial stiffness and lower bone density in a COPD cohort. In addition, CAC, TAC and extent of emphysema predicted all-cause mortality.

*impactfactor: 3.38*

**Smeenk FW**

**Characteristics and determinants of endurance cycle ergometry and six-minute walk distance in patients with COPD**

Andrianopoulos V, Wagers SS, Groenen MT, Vanfleteren LE, Franssen FM, Smeenk FW*, Vogiatzis I, Wouters EF, Spruit MA; CIRO+ Rehabilitation Network

BMC Pulm Med. 2014 May 31;14(1):97

BACKGROUND: Exercise tolerance can be assessed by the cycle endurance test (CET) and six-minute walk test (6MWT) in patients with Chronic Obstructive Pulmonary Disease (COPD). We sought to investigate the characteristics of functional exercise performance and determinants of the CET and 6MWT in a large clinical cohort of COPD patients. METHODS: A dataset of 2053 COPD patients (43% female, age: 66.9?±?9.5 years, FEV1% predicted: 48.2?±?23.2) was analyzed retrospectively. Patients underwent, amongst others, respiratory function evaluation; medical tests and questionnaires, one maximal incremental cycle test where peak work rate was determined and two functional exercise tests: a CET at 75% of peak work rate and 6MWT. A stepwise multiple linear regression was used to assess determinants.

RESULTS: On average, patients had impaired exercise tolerance (peak work rate: 56?±?27% predicted, 6MWT: 69?±?17% predicted). A total of 2002 patients had CET time of duration (CET-Tend) less than 20 min while only 51 (2.5%) of the patients achieved 20 min of CET-Tend . In former patients, the percent of predicted peak work rate achieved differed significantly between men (48?±?21% predicted) and women (67?±?31% predicted). In contrast, CET-Tend was longer in men (286?±?174 s vs 250?±?153 s, p?<?0.001). Also, six minute walking distance (6MWD) was higher in men compared to women, both in absolute terms as in percent of predicted (443 m, 67%predicted vs 431 m, 72%predicted, p?<?0.05). Gender was associated with the CET-Tend but BMI, FEV1 and FRC were related to the 6MWD highlighting the different determinants of exercise performance between CET and 6MWT.

CONCLUSIONS: CET-Tend is a valuable outcome of CET as it is related to multiple clinical aspects of disease severity in COPD. Gender difference should temper the interpretation of CET.

*impactfactor: 2.49*

**Smeenk FW**

**Informal caregiver strain, preference and satisfaction in hospital-at-home and usual hospital care for COPD exacerbations: Results of a randomised controlled trial**

Utens CM*, van Schayck OC, Goossens LM, Rutten-van Mölken MP, Demunck DR, Seezink W, van Vliet M, Smeenk FW*

Int J Nurs Stud. 2014 Aug;51(8):1093-102. Epub 2014 Jan 15

*Voor abstract zie: Longgeneeskunde - Utens CM*

*impactfactor: 2.248*

**Smeenk FW**

**Should I stay or should I go home? A latent class analysis of a discrete choice experiment on hospital-at-home**

Goossens LM, Utens CM, Smeenk FW*, Donkers B, van Schayck OC,

Rutten-van Mölken MP

Value Health. 2014 Jul;17(5):588-96

OBJECTIVES: This study aimed 1) to quantify the strength of patient preferences for different aspects of early assisted discharge in The Netherlands for patients who were admitted with a chronic obstructive pulmonary disease exacerbation and 2) to illustrate the benefits of latent class modeling of discrete choice data. This technique is rarely used in health economics.

METHODS: Respondents made multiple choices between hospital treatment as usual (7 days) and two combinations of hospital admission (3 days) followed by treatment at home. The latter was described by a set of attributes. Hospital treatment was constant across choice sets. Respondents were patients with chronic obstructive pulmonary disease in a randomized controlled trial investigating the cost-effectiveness of early assisted discharge and their informal caregivers. The data were analyzed using mixed logit, generalized multinomial logit, and latent-class conditional logit regression. These methods allow for heterogeneous preferences across groups, but in different ways.

RESULTS: Twenty-five percent of the respondents opted for hospital treatment regardless of the description of the early assisted discharge program, and 46% never opted for the hospital. The best model contained four latent classes of respondents, defined by different preferences for the hospital and caregiver burden. Preferences for other attributes were constant across classes. Attributes with the strongest effect on choices were the burden on informal caregivers and co-payments. Except for the number of visits, all attributes had a significant effect on choices in the expected direction.

CONCLUSIONS: Considerable segments of respondents had fixed preferences for either treatment option. Applying latent class analysis was essential in quantifying preferences for attributes of early assisted discharge.

*impactfactor: 2.891*

**Utens CM**

**Evaluation of health care providers' role transition and satisfaction in hospital-at-home for chronic obstructive pulmonary disease exacerbations: a survey study**

Utens CM*, Goossens LM, van Schayck OC, Rutten-Vanmölken MP, Braken MW,

van Eijsden LM, Smeenk FW*

BMC Health Serv Res. 2013 Sep 27;13:363.

BACKGROUND: Hospital-at-home is an accepted alternative for usual hospital treatment for patients with a Chronic Obstructive Pulmonary Disease (COPD) exacerbation. The introduction of hospital-at-home may lead to changes in health care providers' roles and

responsibilities. To date, the impact on providers' roles is unknown and in addition, little is known about the satisfaction and acceptance of care providers involved in hospital-at-home. METHODS: Objective of this survey study was to investigate the role differentiation, role transitions and satisfaction of professional care providers (i.e. pulmonologists, residents, hospital respiratory nurses, generic and specialised community nurses and general practitioners) from 3 hospitals and 2 home care organisations, involved in a community-based hospital-at-home scheme. A combined multiple-choice and open-end questionnaire was administered in study participants.

RESULTS: Response rate was 10/17 in pulmonologists, 10/23 in residents, 9/12 in hospital respiratory nurses, 15/60 in generic community nurses, 6/10 in specialised community nurses and 25/47 in general practitioners. For between 66% and 100% of respondents the role in early discharge was clear and between 57% and 78% of respondents was satisfied with their role in early discharge. For nurses the role in early discharge was different compared to their role in usual care. 67% of generic community nurses felt they had sufficient knowledge and skills to monitor patients at home, compared to 100% of specialised community nurses. Specialised community nurses felt they should monitor patients. 60% of generic community nurses responded they should monitor patients at home. 78% of pulmonologists, 12% of general practitioners, 55% of hospital respiratory nurses and 48 of community nurses was satisfied with early discharge in general. For coordination of care 29% of community nurses had an unsatisfied response. For continuity of care this was 12% and 10% for hospital respiratory nurses and community nurses, respectively.

CONCLUSION: A community-based early assisted discharge for COPD exacerbations is possible and well accepted from the perspective of health care providers' involved. Satisfaction with the different aspects is good and the transfer of patients in the community while supervised by generic community nurses is possible. Attention should be paid to coordination and continuity of care, especially information transfer between providers.

*impactfactor: 1.66*

**Utens CM**

**Informal caregiver strain, preference and satisfaction in hospital-at-home and usual hospital care for COPD exacerbations: Results of a randomised controlled trial**

Utens CM*, van Schayck OC, Goossens LM, Rutten-van Mölken MP, Demunck DR, Seezink W, van Vliet M, Smeenk FW*

Int J Nurs Stud. 2014 Aug;51(8):1093-102. Epub 2014 Jan 15

BACKGROUND: Informal caregivers play an important role in hospital-at-home schemes. However they may increase their burden, especially chronic diseases, like COPD. In the absence of clear differences in effectiveness and cost-effectiveness between hospital-at-home and usual hospital care, informal caregiver preferences play an important role. This study investigated informal caregiver strain, satisfaction and preferences for place of treatment with a community-based hospital-at-homes scheme for COPD exacerbations.

METHOD: The study was part of a larger randomised controlled trial. By randomisation, patients were allocated to usual hospital care or hospital-at-home, which included discharge at day 4 of admission, followed by home treatment with homes visits by community nurses until day 7 of treatment. Patients allocated to usual hospital care received care as usual in the hospital and were discharged at day 7. Patients were asked if they had an informal caregiver and who this was. Patients and their caregivers were followed for 90 days. Informal caregiver strain was assessed with the caregiver strain index. Satisfaction and

preference were assessed using questionnaires. All measurements were performed at the end of the 7-day treatment and the end of the 90-days follow-up.
FINDINGS: Of the 139 patients, 124 had an informal caregiver, of whom three-quarter was the patients' spouse. There was no significant difference in caregiver strain between hospital-at-home and usual hospital care at both time points (mean difference at T+4 days 0.47 95% CI -0.96 to 1.91, p=0.514; mean difference at T+90 days 0.36 95% CI -1.85 to 1.35, p=0.634). At the end of the 7-day treatment, 33% (N=15) of caregivers of patients allocated to hospital treatment and 71% (N=37) of caregivers of patients allocated to home treatment preferred home treatment, if they could choose. Caregivers were satisfied with the treatment the patient received within hospital-at-home.
CONCLUSION: There were no differences in caregiver strain between the community-based hospital-at-home scheme and usual hospital care. Most caregivers were satisfied with the treatment. In addition to other outcomes, our results support the wider implementation of hospital-at-home for COPD exacerbations.

*impactfactor: 2.248*

** = Werkzaam in het Catharina Ziekenhuis*

# Maag-darm-leverziekten

**Curvers WL**

**Evaluating the endoscopic reference score for eosinophilic esophagitis: moderate to substantial intra- and interobserver reliability**

Van Rhijn BD, Warners MJ, Curvers WL*, van Lent AU, Bekkali NL, Takkenberg RB, Kloek JJ, Bergman JJ, Fockens P, Bredenoord AJ

Endoscopy. 2014 Dec;46(12):1049-55. Epub 2014 Sep 10

BACKGROUND AND STUDY AIMS: Recently the Endoscopic Reference Score (EREFS) for endoscopic assessment of eosinophilic esophagitis was introduced, with good interobserver agreement for most signs. The EREFS has not yet been evaluated by other investigators and intraobserver agreement has not been assessed. The aim of this study was to further validate the EREFS by assessing interobserver and intraobserver agreement of endoscopic signs in patients with eosinophilic esophagitis.

PATIENTS AND METHODS: High-quality endoscopic images were made of the esophagus of 30 patients with eosinophilic esophagitis (age 36 years, range 23?-?46 years; 5 female), 6 of whom were in remission. At least three depersonalized images per patient were incorporated into a slideshow. Images were scored by four expert and four trainee endoscopists who were blinded to the patients' conditions. Interobserver agreement was assessed. After 4 weeks, the images were rescored in a different order to assess intraobserver agreement.

RESULTS: Interobserver agreement was substantial for rings (? 0.70), white exudates (? 0.63), and crepe paper esophagus (? 0.62), moderate for furrows (? 0.49) and strictures (? 0.54), and slight for edema (? 0.12). Intraobserver agreement was substantial for rings (median ? 0.64, IQR 0.46?-?0.70), furrows (median ? 0.69, IQR 0.50?-?0.89), and crepe paper esophagus (median ? 0.69, IQR 0.62?-?0.83), moderate for white exudates (median ? 0.58, IQR 0.54?-?0.71) and strictures (median ? 0.54, IQR 0.33?-?0.70), and less than chance for edema (median ? 0.00, IQR 0.00?-?0.29). Inter- and intraobserver agreement was not substantially different between expert and trainee endoscopists.

CONCLUSIONS: Using the EREFS, endoscopic signs of eosinophilic esophagitis were scored consistently by expert and trainee endoscopists.

*impactfactor: 5.196*

*Ten tijde van publicatie werkzaam bij: Department of Gastroenterology and Hepatology, Academic Medical Center, University of Amsterdam, Amsterdam*

**Gilissen LP**

**Oncological outcome of malignant colonic obstruction in the Dutch Stent-In 2 trial**

Sloothaak DA, van den Berg MW, Dijkgraaf MG, Fockens P, Tanis PJ, van Hooft JE, Bemelman WA; collaborative Dutch Stent-In study group: Gilissen LP*, Nieuwenhuijzen GA*

Br J Surg. 2014 Dec;101(13):1751-7. Epub 2014 Oct 9

BACKGROUND:

The Stent-In 2 trial randomized patients with malignant colonic obstruction to emergency surgery or stent placement as a bridge to elective surgery. The aim of this study was to compare the oncological outcomes.

METHODS:

Disease recurrence, and disease-free, disease-specific and overall survival were evaluated, including a subgroup analysis of patients with a stent- or guidewire-related perforation.

RESULTS:

Of 98 patients included in the original Stent-In 2 trial, patients with benign (16) or incurable (23) disease were excluded from this study, along with a patient who had withdrawn from

the trial. Of the remaining 58 patients, 32 were randomized to emergency surgery (31 resection, 1 stoma only) and 26 to stenting. Unsuccessful stenting required emergency surgery in six patients owing to wire or stent perforation. Locoregional or distant disease recurrence developed in nine of 32 patients in the emergency surgery group and 13 of 26 in the stent group. Disease-free survival was worse in the subgroup with stent- or guidewire-related perforation. Five of six patients in this subgroup developed a recurrence, compared with nine of 32 in the emergency surgery group and eight of 20 who had unperforated stenting.

CONCLUSION:

Stent placement for malignant colonic obstruction was associated with a risk of recurrence in this trial, but the numbers are small. There is not enough evidence to refute the approach strongly.

*impactfactor: 5.21*

**Gilissen LP**

**The pharmacokinetic effect of adalimumab on thiopurine metabolism in Crohn's disease patients**

Wong DR, Pierik M, Seinen ML, van Bodegraven AA, Gilissen LP*, Bus P, Bakker JA, Masclee AA, Neef C, Engels LG, Hooymans PM

J Crohns Colitis. 2014 Feb 1;8(2):120-8. Epub 2013 Aug 7

BACKGROUND AND AIMS: A drug interaction between infliximab and azathioprine has previously been reported in Crohn's disease patients: the concentration of the main active thiopurine metabolites, the 6-thioguanine nucleotides (6-TGN), increased 1-3weeks after the first infliximab infusion by 50% compared to baseline. The aim of this prospective study was to determine the effect of adalimumab on thiopurine metabolism in Crohn's disease patients, evaluated by 6-TGN and 6-methylmercaptopurine ribonucleotides (6-MMPR) concentration measurement.

METHODS: Crohn's disease patients on azathioprine or mercaptopurine maintenance therapy starting with concomitant adalimumab treatment were included. 6-TGN and 6-MMPR concentrations were determined before initiation of adalimumab and after 2, 4, 6 and 12weeks of combination therapy. The activity of three essential enzymes involving thiopurine metabolism, thiopurine S-methyltransferase (TPMT), hypoxanthine-guanine phosphoribosyl transferase (HGPRT) and inosine-triphosphate pyrophosphatase (ITPase), was evaluated at baseline and week 4. Clinical outcome was evaluated by the Crohn's disease activity index and C-reactive protein concentrations at baseline, week 4 and week 12.

RESULTS: Twelve Crohn's disease patients were analyzed. During the follow-up period of 12weeks the median 6-TGN and 6-MMPR concentrations did not significantly change compared to baseline. TPMT, ITPase and HGPRT enzyme activity did not change either after 4weeks. In two patients (17%) myelotoxicity was observed within 2-4weeks, in whom both low therapeutic 6-TGN and 6-MMPR concentrations were found.

CONCLUSIONS: In this study in Crohn's disease patients no pharmacokinetic interaction was shown between adalimumab and the conventional thiopurines, azathioprine and mercaptopurine.

*impactfactor: 3.562*

**Schoon EJ**

**Comparing Quality, Safety, and Costs of Colonoscopies Performed by Nurse vs Physician Trainees**

Massl R, Van Putten PG, Steyerberg EW, Van Tilburg AJ, Lai JY, De Ridder RJ, Brouwer JT, Verburg RJ, Alderliesten J, Schoon EJ*, Van Leerdam ME, Kuipers EJ
Clin Gastroenterol Hepatol. 2014 Mar;12(3):470-7. Epub 2013 Sep 10

BACKGROUND & AIMS: We evaluated the quality and safety of colonoscopies performed by nurse and physician endoscopy trainees as well as the cost differences.
METHODS: We performed a study of 7 nurse and 8 physician (gastroenterology fellows) endoscopy trainees at 2 medical centers in the Netherlands from September 2008 through April 2012. At the beginning of the study, the subjects had no experience in endoscopy; they were trained in gastrointestinal endoscopy according to the regulations of the Dutch Society of Gastroenterology, performing a minimum of 100 colonoscopies. Each trainee then performed 135 consecutive colonoscopies (866 total by nurse trainees and 1080 by physician trainees) under supervision of a gastroenterologist; the colonoscopies were evaluated for quality and safety. We performed statistical analyses of data, assessing multilevel and cost minimization. The mean age of the patients was 57 years, and about half were women in each group.
RESULTS: The endoscopic quality and safety were comparable between nurse and physician trainees. Overall rates of cecal intubation were 95% for nurses and 93% for physicians (P = .38), including procedures that required assistance from a supervisor; mean withdrawal times were 10.4 and 9.8 minutes, respectively (P = .44). Each group detected 27% of adenomas and had a 0.5% rate of complication. In both groups, the rates of unassisted cecal intubation gradually increased with the number of colonoscopies performed, from 70% for nurses and 74% for physicians at the beginning to 89% and 86%, respectively, at the end of the assessment period. Using a strategy in which 1 gastroenterologist supervises 3 nurses, the personnel costs decreased from $64.65 to $54.58.
CONCLUSIONS: In a supervised setting, nurse endoscopists perform colonoscopies according to quality and safety standards that are comparable with those of physician endoscopist, and can substantially reduce costs.

*impactfactor: 6.534*

**Schoon EJ**

**Effect of Sleeve Gastrectomy on Gastroesophageal Reflux**

Burgerhart JS, Schotborgh CA*, Schoon EJ*, Smulders JF*, van de Meeberg PC, Siersema PD, Smout AJ
Obes Surg. 2014 Sep;24(9):1436-41

*Voor abstract zie: Maag-darm-leverziekten - Schotborgh C*
*impactfactor: 3.739*

**Schoon EJ**

**Narrow band imaging does not reliably predict residual intestinal metaplasia after radiofrequency ablation at the neo-squamo columnar junction**

Alvarez Herrero L, Curvers WL, Bisschops R, Kara MA, Schoon EJ*, Kate FJ, Visser M, Weusten BL, Bergman JJ
Endoscopy. 2014 Feb;46(2):98-104

Background and study aims: After radiofrequency ablation (RFA) of Barrett's esophagus, it may be difficult to determine whether complete eradication of intestinal metaplasia at the

neosquamocolumnar junction (neo-SCJ) in the cardia has been achieved. It is claimed that narrow band imaging (NBI) may predict the presence of intestinal metaplasia, which would enable immediate treatment. The aim of the current study was to evaluate whether inspection of the neo-SCJ with NBI after RFA results in reliable detection of intestinal metaplasia. Patients and methods: Patients with a normal-appearing neo-SCJ who were scheduled for RFA were included in the study. Two expert endoscopists obtained images from the neo-SCJ in overview (high resolution white light and NBI mode) and from four areas using NBI zoom, followed by corresponding biopsies. Four other blinded expert endoscopists evaluated the images for the presence of intestinal metaplasia and type of mucosal pattern (round, small tubular, large tubular, villous). Endpoints were sensitivity and specificity for identifying patients and areas with intestinal metaplasia. Results: From 21 patients overview images from 21 neo-SCJs and NBI zoom images from 83 neo-SCJ areas were obtained. Intestinal metaplasia was present in five overview images (24?%) and nine zoom images (11?%). Using the overview images, sensitivity and specificity for identifying patients with intestinal metaplasia were 65?% (95?% confidence interval [CI] 38?-?86) and 46?% (95?%CI 33?-?60), respectively. For individual zoom images, sensitivity was 71?% (95?%CI 54?-?85) and specificity was 37?% (95?%CI 32?-?43). Conclusions: After RFA, endoscopic inspection of the neo-SCJ with NBI in overview or zoom does not reliably predict presence or absence of intestinal metaplasia.

*impactfactor: 5.196*

**Schoon EJ**

**Radiofrequency ablation vs endoscopic surveillance for patients with Barrett esophagus and low-grade dysplasia: a randomized clinical trial**

Phoa KN, van Vilsteren FG, Weusten BL, Bisschops R, Schoon EJ*, Ragunath K, Fullarton G, Di Pietro M, Ravi N, Visser M, Offerhaus GJ, Seldenrijk CA, Meijer SL, ten Kate FJ, Tijssen JG, Bergman JJ

JAMA. 2014 Mar 26;311(12):1209-17

IMPORTANCE: Barrett esophagus containing low-grade dysplasia is associated with an increased risk of developing esophageal adenocarcinoma, a cancer with a rapidly increasing incidence in the western world.

OBJECTIVE: To investigate whether endoscopic radiofrequency ablation could decrease the rate of neoplastic progression.

DESIGN, SETTING, AND PARTICIPANTS: Multicenter randomized clinical trial that enrolled 136 patients with a confirmed diagnosis of Barrett esophagus containing low-grade dysplasia at 9 European sites between June 2007 and June 2011. Patient follow-up ended May 2013.

INTERVENTIONS: Eligible patients were randomly assigned in a 1:1 ratio to either endoscopic treatment with radiofrequency ablation (ablation) or endoscopic surveillance (control). Ablation was performed with the balloon device for circumferential ablation of the esophagus or the focal device for targeted ablation, with a maximum of 5 sessions allowed.

MAIN OUTCOMES AND MEASURES: The primary outcome was neoplastic progression to high-grade dysplasia or adenocarcinoma during a 3-year follow-up since randomization. Secondary outcomes were complete eradication of dysplasia and intestinal metaplasia and adverse events.

RESULTS: Sixty-eight patients were randomized to receive ablation and 68 to receive control. Ablation reduced the risk of progression to high-grade dysplasia or adenocarcinoma by 25.0% (1.5% for ablation vs 26.5% for control; 95% CI, 14.1%-35.9%; P?<?.001) and the risk of progression to adenocarcinoma by 7.4% (1.5% for ablation vs 8.8% for control; 95% CI, 0%-14.7%; P?=?.03). Among patients in the ablation group, complete eradication occurred in

92.6% for dysplasia and 88.2% for intestinal metaplasia compared with 27.9% for dysplasia and 0.0% for intestinal metaplasia among patients in the control group (P?<?.001). Treatment-related adverse events occurred in 19.1% of patients receiving ablation (P?<?.001). The most common adverse event was stricture, occurring in 8 patients receiving ablation (11.8%), all resolved by endoscopic dilation (median, 1 session). The data and safety monitoring board recommended early termination of the trial due to superiority of ablation for the primary outcome and the potential for patient safety issues if the trial continued. CONCLUSIONS AND RELEVANCE: In this randomized trial of patients with Barrett esophagus and a confirmed diagnosis of low-grade dysplasia, radiofrequency ablation resulted in a reduced risk of neoplastic progression over 3 years of follow-up. TRIAL REGISTRATION: trialregister.nl Identifier: NTR1198. Comment in: Radiofrequency ablation for Barrett esophagus with confirmed low-grade dysplasia. [JAMA. 2014]

*impactfactor: 30.387*

**Schoon EJ**

**Reply to Oh et Al**

van Vilsteren FG, Schoon EJ*, Bergman JJ

Endoscopy. 2014 May;46(5):452.

*impactfactor: 5.196*

**Schotborgh C**

**Effect of Sleeve Gastrectomy on Gastroesophageal Reflux**

Burgerhart JS, Schotborgh CA*, Schoon EJ*, Smulders JF*, van de Meeberg PC, Siersema PD, Smout AJ

Obes Surg. 2014 Sep;24(9):1436-41

Laparoscopic sleeve gastrectomy (LSG) is effective as a stand-alone bariatric procedure. Despite its positive effect with regard to weight loss and improvement of obesity-related co-morbidities, some patients develop gastroesophageal reflux symptoms postoperatively. The pathogenesis of these symptoms is not completely understood. Hence, this study aimed to assess the effect of sleeve gastrectomy on acid and non-acid gastroesophageal reflux, reflux symptoms and esophageal function. In a prospective study, patients underwent esophageal function tests (high-resolution manometry (HRM) and 24-h pH/impedance metry) before and 3 months after LSG. Preoperative and postoperative symptoms were assessed using the Reflux Disease Questionnaire (RDQ). In total, 20 patients (4 male/16 female, mean age 43?±?12 years, mean weight 137.3?±?25 kg, and mean BMI 47.6?±?6.1 kg/m2) participated in this study. GERD symptoms did not significantly change after sleeve gastrectomy, but other upper gastrointestinal symptoms, particularly belching, epigastric pain and vomiting increased. Esophageal acid exposure significantly increased after sleeve gastrectomy: upright from 5.1?±?4.4 to 12.6?±?9.8 % (p?=?0.003), supine from 1.4?±?2.4 to 11?±?15 % (p?=?0.003) and total acid exposure from 4.1?±?3.5 to 12?±?10.4 % (p?=?0.004). The percentage of normal peristaltic contractions remained unchanged, but the distal contractile integral decreased after LSG from 2,006.0?±?1,806.3 to 1,537.4?±?1,671.8 mmHg?·?cm?·?s (p?=?0.01). The lower esophageal sphincter (LES) pressure decreased from 18.3?±?9.2 to 11.0?±?7.0 mmHg (p?=?0.02). After LSG, patients have significantly higher esophageal acid exposure, which may well be due to a decrease in LES resting pressure following the procedure.

*impactfactor: 3.739*

**Wlazlo N**

**Complement Factor 3 Is Associated With Insulin Resistance and With Incident Type 2 Diabetes Mellitus Over a 7-Year Follow-up Period: The CODAM Study**

Wlazlo N*, van Greevenbroek MM, Ferreira I, Feskens EJ, van der Kallen CJ, Schalkwijk CG, Bravenboer B, Stehouwer CD

Diabetes Care. 2014 Jul;37(7):1900-9. Epub 2014 Apr 23

OBJECTIVE: Immune dysregulation can affect insulin resistance (IR) and ß-cell function and hence contribute to development of type 2 diabetes mellitus (T2DM). The complement system, as a regulator of immune and inflammatory homeostasis, may be a relevant contributor therein. However, longitudinal studies focusing on complement as a determinant of T2DM and IR are scarce. Therefore, we prospectively investigated the association of plasma complement factor 3 (C3) with (estimates of) IR in muscle, liver, and adipocytes, as well as with glucose tolerance, including incident T2DM.

RESEARCH DESIGN AND METHODS: Fasting C3, nonesterified fatty acids, glucose, and insulin (the latter two during oral glucose tolerance tests) were measured at baseline (n = 545) and after 7 years of follow-up (n = 394) in a prospective cohort study.RESULTSOver the 7-year period, C3 levels (per 0.1 g/L) were longitudinally associated with higher homeostasis model assessment of IR (HOMA2-IR; ß = 15.2% [95% CI 12.9-17.6]), hepatic IR (ß = 6.1% [95% CI 4.7-7.4]), adipocyte IR (ß = 16.0% [95% CI 13.0-19.1]), fasting glucose (ß = 1.8% [95% CI 1.2-2.4]), 2-h glucose (ß = 5.2% [95% CI 3.7-6.7]), and area under the curve for glucose (ß = 3.6% [95% CI 2.7-4.6]). In addition, greater changes in C3 (per 0.1 g/L) were associated with greater changes in HOMA2-IR (ß = 0.08 [95% CI 0.02-0.15]) and greater changes in hepatic IR (ß = 0.87 [95% CI 0.12-1.61]) over 7 years, but not glucose tolerance. Moreover, baseline C3 was associated with the 7-year incidence of T2DM (odds ratio 1.5 [95% CI 1.1-2.0]).

CONCLUSIONS: Changes in C3 were associated with changes in several measures of IR and may reflect progression of metabolic dysregulation, which eventually leads to abnormalities in glucose tolerance and T2DM.

*impactfactor: 8.750*

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# Medische psychologie

**Dijkmans SC**

**A brief mindfulness based intervention for increase in emotional well-being and quality of life in percutaneous coronary intervention (PCI) patients: the MindfulHeart randomized controlled trial**

Nyklícek I, Dijksman SC*, Lenders PJ, Fonteijn WA*, Koolen JJ*

J Behav Med. 2014 Feb;37(1):135-44. Epub 2012 Nov 23

In this study effects of a brief mindfulness-based stress reduction intervention were examined in cardiac patients who had a percutaneous coronary intervention (PCI). One-hundred-and-fourteen patients (mean age 55 ± 7 years, 18 % women) were randomly assigned to a 4-session mindfulness group intervention or a minimal mindfulness self-help control group that received a booklet containing identical information. Compared to self-help, the group intervention showed larger increases in psychological and social quality of life ($p < .05$, partial ?(2) = .04 and .05, respectively). For symptoms of anxiety and depression, and for perceived stress, this effect was evident only in patients younger than 60 years ($p < .01$, partial ?(2) = .10 and .15, respectively). These effects were partially or fully mediated by increase in mindfulness. The brief group mindfulness intervention seems beneficial for cardiac PCI patients regarding general psychosocial quality of life, although for specific psychological symptoms, this intervention can be recommended only for nonelderly patients.

*impactfactor: 2.855*

**Fonteijn WA A brief mindfulness based intervention for increase in emotional well-being and quality of life in percutaneous coronary intervention (PCI) patients: the MindfulHeart randomized controlled trial**

Nyklícek I, Dijksman SC*, Lenders PJ, Fonteijn WA*, Koolen JJ*

J Behav Med. 2014 Feb;37(1):135-44

*Voor abstract zie: Medische psychologie - Dijksman SC*

*impactfactor: 2.855*

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# Mondziekten

**Pijpe J**

**[Wrinkle fillers in cosmetic facial procedures]**

Jaspers GW, Schepers RH, Pijpe J*, Jansma J

Ned Tijdschr Tandheelkd. 2014 May;121(5):269-74

During the last decade cosmeticfacial procedures have become part of the professional work of both dentists and maxillofacial surgeons. A shift has taken place from invasive surgical treatment towards minimally invasive treatments. Besides the use ofbotulinum toxin type A, non-permanent wrinkle fillers can be an alternative to invasive surgical treatment. Since botulism was first described in the 18th century, the neurotoxin has continued to develop, as a result of which Botox, now available in synthetically produced form, can safely be employed in healthcare. The frequency with which patients visit dentists and maxillofacial surgeons offers the professional group the possibility to inform patients about cosmetic facial treatments and to carry them out according to diagnosis.

*impactfactor:* --

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# Multidisciplinaire oncologie

**Koornstra R**

**Panitumumab monotherapy as a second-line treatment in metastasised colorectal cancer: a single centre experience**

van Hellemond IE*, Creemers GJ*, van Warmerdam LJ*, de Jong FA, Koornstra RH*

Clin Oncol (R Coll Radiol). 2014 Mar;26(3):135-41. Epub 2013 Nov 15

*Voor abstract zie: van Hellemond IE - Inwendige geneeskunde*

*impactfactor: 2.826*

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# Neurologie

**Bouwman FH**

**Differences in Nutritional Status between very Mild Alzheimer's Disease Patients and Healthy Controls**

Olde Rikkert MG, Verhey FR, Sijben JW, Bouwman FH*, Dautzenberg PL, Lansink M, Sipers WM, van Asselt DZ, van Hees AM, Stevens M, Vellas B, Scheltens P J

Alzheimers Dis. 2014;41(1):261-71

Background: Studies on the systemic availability of nutrients and nutritional status in Alzheimer's disease (AD) are widely available, but the majority included patients in a moderate stage of AD. Objective: This study compares the nutritional status between mild AD outpatients and healthy controls. Methods: A subgroup of Dutch drug-naïve patients with mild AD (Mini-Mental State Examination (MMSE) =20) from the Souvenir II randomized controlled study (NTR1975) and a group of Dutch healthy controls were included. Nutritional status was assessed by measuring levels of several nutrients, conducting the Mini Nutritional Assessment (MNA®) questionnaire and through anthropometric measures. Results: In total, data of 93 healthy cognitively intact controls (MMSE 29.0 [23.0-30.0]) and 79 very mild AD patients (MMSE = 25.0 [20.0-30.0]) were included. Plasma selenium ($p < 0.001$) and uridine ($p = 0.046$) levels were significantly lower in AD patients, with a similar trend for plasma vitamin D ($p = 0.094$) levels. In addition, the fatty acid profile in erythrocyte membranes was different between groups for several fatty acids. Mean MNA screening score was significantly lower in AD patients ($p = 0.008$), but not indicative of malnutrition risk. No significant differences were observed for other micronutrient or anthropometric parameters. Conclusion: In non-malnourished patients with very mild AD, lower levels of some micronutrients, a different fatty acid profile in erythrocyte membranes and a slightly but significantly lower MNA screening score were observed. This suggests that subtle differences in nutrient status are present already in a very early stage of AD and in the absence of protein/energy malnutrition.

*impactfactor: 3.612*

**Gons RA**

**Observational Dutch Young Symptomatic StrokE studY (ODYSSEY): study rationale and protocol of a multicentre prospective cohort study**

Arntz RM, van Alebeek ME, Synhaeve NE, Brouwers PJ, van Dijk GW, Gons RA*, den Heijer T, de Kort PL, de Laat KF, van Norden AG, Vermeer SE, van der Vlugt MJ, Kessels RP, van Dijk EJ, de Leeuw FE

BMC Neurol. 2014 Mar 22;14:55

BACKGROUND: The proportion of strokes occurring in younger adults has been rising over the past decade. Due to the far longer life expectancy in the young, stroke in this group has an even larger socio-economic impact. However, information on etiology and prognosis remains scarce.

METHODS/DESIGN: ODYSSEY is a multicentre prospective cohort study on the prognosis and risk factors of patients with a first-ever TIA, ischemic stroke or intracerebral hemorrhage aged 18 to 49 years. Our aim is to include 1500 patients. Primary outcome will be all cause mortality and risk of recurrent vascular events. Secondary outcome will be the risk of post-stroke epilepsy and cognitive impairment. Patients will complete structured questionnaires on outcome measures and risk factors. Both well-documented and less well-documented risk factors and potentially acute trigger factors will be investigated. Patients will be followed every 6 months for at least 3 years. In addition, an extensive neuropsychological assessment will be administered both at baseline and 1 year after the stroke/TIA. Furthermore we will

include 250 stroke-free controls, who will complete baseline assessment and one neuropsychological assessment.

DISCUSSION: ODYSSEY is designed to prospectively determine prognosis after a young stroke and get more insight into etiology of patients with a TIA, ischemic stroke and intracerebral hemorrhage in patients aged 18 to 49 years old in a large sample size.

*impactfactor: 2.49*

**Hanse MC**

**Single-agent bevacizumab or lomustine versus a combination of bevacizumab plus lomustine in patients with recurrent glioblastoma (BELOB trial): a randomised controlled phase 2 trial**

Taal W, Oosterkamp HM, Walenkamp AM, Dubbink HJ, Beerepoot LV, Hanse MC*, Buter J, Honkoop AH, Boerman D, de Vos FY, Dinjens WN, Enting RH, Taphoorn MJ, van den Berkmortel FW, Jansen RL, Brandsma D, Bromberg JE, van Heuvel I, Vernhout RM, van der Holt B, van den Bent MJ

Lancet Oncol. 2014 Aug;15(9):943-53. Epub 2014 Jul 15

BACKGROUND: Treatment options for recurrent glioblastoma are scarce, with second-line chemotherapy showing only modest activity against the tumour. Despite the absence of well controlled trials, bevacizumab is widely used in the treatment of recurrent glioblastoma. Nonetheless, whether the high response rates reported after treatment with this drug translate into an overall survival benefit remains unclear. We report the results of the first randomised controlled phase 2 trial of bevacizumab in recurrent glioblastoma.

METHODS: The BELOB trial was an open-label, three-group, multicentre phase 2 study undertaken in 14 hospitals in the Netherlands. Adult patients (=18 years of age) with a first recurrence of a glioblastoma after temozolomide chemoradiotherapy were randomly allocated by a web-based program to treatment with oral lomustine 110 mg/m2 once every 6 weeks, intravenous bevacizumab 10 mg/kg once every 2 weeks, or combination treatment with lomustine 110 mg/m2 every 6 weeks and bevacizumab 10 mg/kg every 2 weeks. Randomisation of patients was stratified with a minimisation procedure, in which the stratification factors were centre, Eastern Cooperative Oncology Group performance status, and age. The primary outcome was overall survival at 9 months, analysed by intention to treat. A safety analysis was planned after the first ten patients completed two cycles of 6 weeks in the combination treatment group. This trial is registered with the Nederlands Trial Register (www.trialregister.nl, number NTR1929).

FINDINGS: Between Dec 11, 2009, and Nov 10, 2011, 153 patients were enrolled. The preplanned safety analysis was done after eight patients had been treated, because of haematological adverse events (three patients had grade 3 thrombocytopenia and two had grade 4 thrombocytopenia) which reduced bevacizumab dose intensity; the lomustine dose in the combination treatment group was thereafter reduced to 90 mg/m2. Thus, in addition to the eight patients who were randomly assigned to receive bevacizumab plus lomustine 110 mg/m2, 51 patients were assigned to receive bevacizumab alone, 47 to receive lomustine alone, and 47 to receive bevacizumab plus lomustine 90 mg/m2. Of these patients, 50 in the bevacizumab alone group, 46 in the lomustine alone group, and 44 in the bevacizumab and lomustine 90 mg/m2 group were eligible for analyses. 9-month overall survival was 43% (95% CI 29-57) in the lomustine group, 38% (25-51) in the bevacizumab group, 59% (43-72) in the bevacizumab and lomustine 90 mg/m2 group, 87% (39-98) in the bevacizumab and lomustine 110 mg/m2 group, and 63% (49-75) for the combined bevacizumab and lomustine groups. After the reduction in lomustine dose in the combination group, the combined treatment was well tolerated. The most frequent grade 3

or worse toxicities were hypertension (13 [26%] of 50 patients in the bevacizumab group, three [7%] of 46 in the lomustine group, and 11 [25%] of 44 in the bevacizumab and lomustine 90 mg/m2 group), fatigue (two [4%], four [9%], and eight [18%]), and infections (three [6%], two [4%], and five [11%]). At the time of this analysis, 144/148 (97%) of patients had died and three (2%) were still on treatment.

INTERPRETATION: The combination of bevacizumab and lomustine met prespecified criteria for assessment of this treatment in further phase 3 studies. However, the results in the bevacizumab alone group do not justify further studies of this treatment.

*impactfactor: 24.725*

**Hengstman GJ**

**Fluoxetine in Progressive Multiple Sclerosis (FLUOX-PMS): study protocol for a randomized controlled trial**

Cambron M, Mostert J, Haentjens P, D'Hooghe M, Nagels G, Willekens B, Heersema D, Debruyne J, Van Hecke W, Algoed L, De Klippel N, Fosselle E, Laureys G, Merckx H, Van Wijmeersch B, Vanopdenbosch L, Verhagen W, Hupperts R, Hengstman G*, Michiels V, Van Merhaegen-Wieleman A, De Keyser J

Trials. 2014 Jan 25;15(1):37

BACKGROUND: Currently available disease-modifying treatments acting by modifying the immune response are ineffective in progressive multiple sclerosis (MS), which is caused by a widespread axonal degeneration. Mechanisms suspected to be involved in this widespread axonal degeneration are reduced axonal energy metabolism, axonal glutamate toxicity, and reduced cerebral blood flow. Fluoxetine might theoretically reduce axonal degeneration in MS because it stimulates energy metabolism through enhancing glycogenolysis, stimulates the production of brain-derived neurotrophic factor, and dilates cerebral arterioles. The current document presents the protocol of a clinical trial to test the hypothesis that fluoxetine slows down the progressive phase of MS.

METHODS/DESIGN: The FLUOX-PMS trial is a multi-center, randomized, controlled and double-blind clinical study. A total of 120 patients with the diagnosis of either secondary or primary progressive MS will be treated either by fluoxetine (40 mg daily) or placebo for a total period of 108 weeks. The primary endpoint is the time to confirmed disease progression defined as either at least a 20% increase in the timed 25-Foot Walk or at least a 20% increase in the 9-Hole Peg Test. Secondary endpoints include the Hauser ambulation index, cognitive changes, fatigue, magnetic resonance imaging of the brain, and in a small subgroup optical coherence tomography.

DISCUSSION: The FLUOX-PMS trial will gives us information as to whether fluoxetine has neuroprotective effects in patients with progressive MS.

*impactfactor: 2.12*

**Nuenen BF van**

**A voxel-based morphometry and diffusion tensor imaging analysis of asymptomatic Parkinson's disease-related G2019S LRRK2 mutation carriers**

Thaler A, Artzi M, Mirelman A, Jacob Y, Helmich RC, van Nuenen BF*, Gurevich T, Orr-Urtreger A, Marder K, Bressman S, Bloem BR, Hendler T, Giladi N, Ben Bashat D Mov Disord. 2014 May;29(6):823-7. Epub 2014 Jan 30

BACKGROUND: Patients with Parkinson's disease have reduced gray matter volume and fractional anisotropy in both cortical and sub-cortical structures, yet changes in the pre-motor phase of the disease are unknown.

METHODS: A comprehensive imaging study using voxel-based morphometry and diffusion tensor imaging tract-based spatial statistics analysis was performed on 64 Ashkenazi Jewish asymptomatic first degree relatives of patients with Parkinson's disease (30 mutation carriers), who carry the G2019S mutation in the leucine-rich repeat kinase 2 (LRRK2) gene. RESULTS: No between-group differences in gray matter volume could be noted in either whole-brain or volume-of-interest analysis. Diffusion tensor imaging analysis did not identify group differences in white matter areas, and volume-of-interest analysis identified no differences in diffusivity parameters in Parkinson's disease-related structures. CONCLUSIONS: G2019S carriers do not manifest changes in gray matter volume or diffusivity parameters in Parkinson's disease-related structures prior to the appearance of motor symptoms. © 2014 International Parkinson and Movement Disorder Society. KEYWORDS: G2019S, LRRK2, Parkinson's disease, diffusion tensor imaging, magnetic resonance imaging, voxel-based morphometry

*impactfactor: 5.634*

**Nuenen BF van**

**Serum angiogenin levels are elevated in ALS, but not Parkinson's disease**
van Es MA, Veldink JH, Schelhaas HJ, Bloem BR, Sodaar P, van Nuenen BF*, Verbeek M, van de Warrenburg BP, van den Berg LH

J Neurol Neurosurg Psychiatry. 2014 Dec;85(12):1439-40. Epub 2014 May 29

*Geen abstract beschikbaar*

*impactfactor: 5.580*

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# Nucleaire geneeskunde

**Huysmans DA**

**Long-term efficacy of modified-release recombinant human thyrotropin augmented radioiodine therapy for benign multinodular goiter: results from a multicenter, international, randomized, placebo-controlled, dose-selection study**

Fast S, Hegedüs L, Pacini F, Pinchera A, Leung AM, Vaisman M, Reiners C, Wemeau JL, Huysmans DA*, Harper W, Rachinsky I, de Souza HN, Castagna MG, Antonangeli L, Braverman LE, Corbo R, Düren C, Proust-Lemoine E, Marriott C, Driedger A, Grupe P, Watt T, Magner J, Purvis A, Graf H

Thyroid. 2014 Apr;24(4):727-35

BACKGROUND: Enhanced reduction of multinodular goiter (MNG) can be achieved by stimulation with recombinant human thyrotropin (rhTSH) before radioiodine ((131)I) therapy. The objective was to compare the long-term efficacy and safety of two low doses of modified release rhTSH (MRrhTSH) in combination with (131)I therapy.

METHODS: In this phase II, single-blinded, placebo-controlled study, 95 patients (57.2 ± 9.6 years old, 85% women, 83% Caucasians) with MNG (median size 96.0 mL; range 31.9-242.2 mL) were randomized to receive placebo (n=32), 0.01 mg MRrhTSH (n=30), or 0.03 mg MRrhTSH (n=33) 24 hours before a calculated (131)I activity. Thyroid volume (TV) and smallest cross-sectional area of trachea (SCAT) were measured (by computed tomography scan) at baseline, six months, and 36 months. Thyroid function and quality of life (QoL) was evaluated at three-month and yearly intervals respectively.

RESULTS: At six months, TV reduction was enhanced in the 0.03 mg MRrhTSH group (32.9% vs. 23.1% in the placebo group; p=0.03) but not in the 0.01 mg MRrhTSH group. At 36 months, the mean percent TV reduction from baseline was 44 ± 12.7% (SD) in the placebo group, 41 ± 21.0% in the 0.01 mg MRrhTSH group, and 53 ± 18.6% in the 0.03 mg MRrhTSH group, with no statistically significant differences among the groups, p=0.105. In the 0.03 mg MRrhTSH group, the subset of patients with basal (131)I uptake <20% had a 24% greater TV reduction at 36 months than the corresponding subset of patients in the placebo group (p=0.01). At 36 months, the largest relative increase in SCAT was observed in the 0.03 mg MRrhTSH group (13.4 ± 23.2%), but this was not statistically different from the increases observed in the placebo or the 0.01 mg MRrhTSH group (p=0.15). Goiter-related symptoms were reduced and QoL improved, without any enhanced benefit from using MRrhTSH. At three years, the prevalence of permanent hypothyroidism was 13%, 33%, and 45% in the placebo, 0.01 mg, and 0.03 mg MRrhTSH groups respectively. The overall safety profile of the study was favorable.

CONCLUSIONS: When used as adjuvant to (131)I, enhanced MNG reduction could not be demonstrated with MRrhTSH doses = 0.03 mg, indicating that the lower threshold for efficacy is around this level.

*impactfactor: 3.843*

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O & O

**Houterman S**

**Bicycle Testing as an Alternative Diagnostic Tool in Patients Suspected of Intermittent Claudication**

Fokkenrood HJ*, Houterman S*, Schep G, Teijink JA*, Scheltinga MR

Ann Vasc Surg. 2014 Apr;28(3):614-9. Epub 2013 Oct 9

*Voor abstract zie: Chirurgie - Fokkenrood HJ*

*impactfactor: 1.029*

**Houterman S**

**Computer-supported collaborative learning at the clinical workplace: Students' perceptions and the effect of knowledge construction on learning outcome**

Koops W, van der Vleuten C, de Leng B, Houterman S*, Snoeck L

J Contemp Med Edu. 2014; 2(2): 71-8

*impactfactor: --*

**Houterman S**

**Fetal heart rate variability during pregnancy, obtained from non-invasive electrocardiogram recordings**

Van Laar JO, Warmerdam GJ, Verdurmen KM, Vullings R, Peters CH, Houterman S*, Wijn PF, Andriessen P, Van Pul C, Oei SG

Acta Obstet Gynecol Scand. 2014 Jan;93(1):93-101. Epub 2013 Dec 3

OBJECTIVE: Non-invasive spectral analysis of fetal heart rate variability is a promising new field of fetal monitoring. To validate this method properly, we studied the relation between gestational age and the influence of fetal rest-activity state on spectral estimates of fetal heart rate variability. Design Prospective longitudinal study.

SETTING: Tertiary care teaching hospital.

POPULATION: 40 healthy women with an uneventful singleton pregnancy. METHODS: Non-invasive fetal electrocardiogram measurements via the maternal abdomen were performed at regular intervals between 14 and 40 weeks of gestation and processed to detect beat-to-beat fetal heart rate. Simultaneous ultrasound recordings were performed to assess fetal rest-activity state.

MAIN OUTCOME MEASURES: Absolute and normalized power of fetal heart rate variability in the low (0.04-0.15 Hz) and high (0.4-1.5 Hz) frequency band were obtained, using a Fourier Transform.

RESULTS: 14% of all measurements and 3% of the total amount of abdominal data (330 segments) was usable for spectral analysis. During 21 to 30 weeks of gestation, a significant increase in absolute low and high frequency power was observed. During the active state near term, absolute and normalized low frequency power were significantly higher and normalized high frequency power was significantly lower compared to the quiet state.

CONCLUSIONS: The observed increase in absolute spectral estimates in preterm fetuses, was probably due to increased sympathetic and parasympathetic modulation and might be a sign of autonomic development. Further improvements in signal processing need to be made before this new method of fetal monitoring can be introduced in clinical practice.

*impactfactor: 2.005*

**Houterman S**

**Preoperative hemoglobin level as a predictor of mortality after aortic valve replacement surgery: reply**

van Straten AH*, Houterman S*, Ibrahim Özdemir H*, Elenbaas TW*, Soliman Hamad MA*

J Cardiothorac Vasc Anesth. 2014 Aug;28(4):e36-7

*Geen abstract beschikbaar*

*impactfactor: 1.482*

**Houterman S**

**The Effect of Supervision on Walking Distance in Patients with Intermittent Claudication: A Meta-analysis**

Gommans LN*, Saarloos R*, Scheltinga MR, Houterman S*, de Bie RA, Fokkenrood HJ*, Teijink JA*

Eur J Vasc Endovasc Surg. 2014 Aug;48(2):169-84. Epub 2014 Jun 10

*Voor abstract zie: Chirurgie - Gommans LN*

*impactfactor: 3.070*

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# Oogheelkunde

**Beems EM**

**Reconstruction of the lower eyelid using Hughes' tarsoconjunctival flap: Follow up of 28 cases**

Ooms LS*, Beets MR*, Grosfeld EC*, Beems EM*, Krekels GA, Smit JM*, Hoogbergen MM*

J Plast Reconstr Aesthet Surg. 2014 Jul;67(7):e177-9

*Geen abstract beschikbaar*

*impactfactor: 1.474*

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## Operatie Kamers

**Stepaniak PS**

**Improving the efficiency of the cardiac catheterization laboratories through understanding the stochastic behavior of the scheduled procedures**

Stepaniak P*, Soliman Hamad MA*, Dekker LR*, Koolen JJ*

Cardiol J. 2014;21(4):343-9. Epub 2013 Aug 30

Background: In this study, we sought to analyze the stochastic behavior of Cath Labs procedures in our institution. Statistical models may help to improve estimated case durations to support management in the cost-effective use of expensive surgical resources. Methods: We retrospectively analyzed all the procedures performed in the Cath Labs during 2012. The procedure duration of procedures is strictly positive (larger than zero) and have mostly a large minimum duration. Because of the strict positive character of the Cath Lab procedures, a fit of a lognormal model may be desirable. Having a minimum duration requires an estimate of the threshold (shift) parameter of the lognormal model. Therefore, the three-parameter lognormal model is interesting. To avoid heterogeneous groups of observations, we tested every group-cardiologist-procedure combination for the normal, two- and three-parameter lognormal distribution. Results: The total number of elective and emergency procedures performed was 6,393 (8,186 hours). The final analysis included 6,135 procedures (7,779 hours). Electrophysiology (intervention) procedures fit the three-parameter lognormal model 86.1% (80.1%). Using Friedman test statistic, we conclude that the 3-parameter lognormal model is superior to the 2-parameter lognormal model. Further, the 2-parameter lognormal is superior to the normal model. Conclusions: Cath Lab procedures are well-modeled by lognormal models. This information helps to improve and to refine Cath Lab schedules and hence its efficient use.

*impactfactor: 1.215*

**Stepaniak PS**

**STOP-Bang and the effect on patient outcome and length of hospital stay when patients are not using continuous positive airway pressure**

Proczko MA, Stepaniak PS*, de Quelerij M, van der Lely FH*, Smulders JF, Kaska L, Soliman Hamad MA*

J Anesth. 2014 Dec;28(6):891-7. Epub 2014 May 29

BACKGROUND: In patients undergoing surgical interventions under general anesthesia, obstructive sleep apnea syndrome (OSA) can cause serious perioperative cardiovascular or respiratory complications leading to fatal consequences, even sudden death. In this study we test the hypothesis that morbidly obese patients diagnosed by a polysomnography test and using continuous positive airway pressure (CPAP) therapy have fewer and less severe perioperative complications and a shorter hospital stay than patients who have a medical history that meets at least three STOP-Bang criteria and are not using CPAP therapy.

METHODS: Postoperative hospital stay and pulmonary complications were analyzed in three groups of morbidly obese patients undergoing bariatric surgery (Roux-en-Y gastric bypass and laparoscopic sleeve gastrectomy) between January 2009 and November 2013 (n = 693). Group A comprised 99 patients who were preoperatively diagnosed with OSA based on polysomnography results. These patients used CPAP therapy before and after surgery. Group B consisted of 182 patients who met at least three STOP-Bang criteria but who were not diagnosed with OSA based on polysomnography results. These patients did not use CPAP. Group C, the reference group, comprised 412 patients who scored one to two items on the STOP-Bang.

RESULTS: During the perioperative period, Group B patients had a significantly ($p < 0.001$) higher cumulative rate of pulmonary complications, worse oxygen saturation, respiratory rates, and increased length of stay in hospital. There was also two cases of sudden death in this group.

CONCLUSION: Based on these results, we conclude that patients meeting at least three STOP-BANG criteria have higher postoperative complications and an increased length of hospital stay than patients using CPAP.

*impactfactor: 1.117*

**Stepaniak PS**

**The true value of decreased delayed starts of the first case**

Stepaniak PS

Acta Anaesthesiol Scand. 2014 Feb;58(2):258

*Geen abstract beschikbaar*

*impactfactor: 2.31*

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# Orthopedie

**Steen MC van der**

**Basic timing abilities stay intact in patients with musician's dystonia**

van der Steen MC, van Vugt FT, Keller PE, Altenmüller E

PLoS One. 2014 Mar 25;9(3):e92906.

Task-specific focal dystonia is a movement disorder that is characterized by the loss of voluntary motor control in extensively trained movements. Musician's dystonia is a type of task-specific dystonia that is elicited in professional musicians during instrumental playing. The disorder has been associated with deficits in timing. In order to test the hypothesis that basic timing abilities are affected by musician's dystonia, we investigated a group of patients (N = 15) and a matched control group (N = 15) on a battery of sensory and sensorimotor synchronization tasks. Results did not show any deficits in auditory-motor processing for patients relative to controls. Both groups benefited from a pacing sequence that adapted to their timing (in a sensorimotor synchronization task at a stable tempo). In a purely perceptual task, both groups were able to detect a misaligned metronome when it was late rather than early relative to a musical beat. Overall, the results suggest that basic timing abilities stay intact in patients with musician's dystonia. This supports the idea that musician's dystonia is a highly task-specific movement disorder in which patients are mostly impaired in tasks closely related to the demands of actually playing their instrument.

*impactfactor: --*

*Ten tijde van publicatie werkzaam bij: Institute of Music Physiology and Musicians' Medicine, University of Music, Drama, and Media, Hanover, Germany; Max Planck Research Group "Music Cognition and Action", Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany*

**Steen MC van der**

**Expert pianists do not listen: the expertise-dependent influence of temporal perturbation on the production of sequential movements**

van der Steen MC, Molendijk EB, Altenmüller E, Furuya S

Neuroscience. 2014 Jun 6;269:290-8. Epub 2014 Apr 5

Auditory information plays an important role in fine motor control such as speech and musical performance. The purpose of this study was to assess expertise-dependent differences in the role of temporal information of auditory feedback in the production of sequential movements. Differences in motor responses to the transient delay of tone production during musical performance between expert pianists and non-musicians were evaluated. Compared to expert pianists, non-musicians showed more pronounced movement disruptions following the delayed auditory feedback. For example, in response to a perturbation the inter-keystroke interval was prolonged and the key-press was longer in non-musicians, while the expert pianist marginally shortened both measures. These distinct differences between groups suggest that extensive musical training influences feedback control in sequential finger movements. Furthermore, there was a significant positive correlation between the age at which the expert pianists commenced their musical training and the amount of disruption. Overall, these findings suggest that expert pianists have a higher level of robustness against perturbations and depend less on auditory feedback during the performance of sequential movements.

*impactfactor: 3.327*

*Ten tijde van publicatie werkzaam bij: Institute of Music Physiology and Musicians' Medicine, University of Music, Drama, and Media, Hanover, Germany; Max Planck Research Group "Music Cognition and Action", Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany*

## Pamm

**Jansz AR**

**Effects of Decontamination of the Oropharynx and Intestinal Tract on Antibiotic Resistance in ICUs: A Randomized Clinical Trial**

Oostdijk EA, Kesecioglu J, Schultz MJ, Visser CE, de Jonge E, van Essen EH, Bernards AT, Purmer I, Brimicombe R, Bergmans D, van Tiel F, Bosch FH, Mascini E,
van Griethuysen A, Bindels A,* Jansz A*, van Steveninck FA, van der Zwet WC, Fijen JW, Thijsen S, de Jong R, Oudbier J, Raben A, van der Vorm E, Koeman M, Rothbarth P, Rijkeboer A, Gruteke P, Hart-Sweet H, Peerbooms P, Winsser LJ,
van Elsacker-Niele A M, Demmendaal K, Brandenburg A, de Smet AM, Bonten MJ
JAMA. 2014 Oct 8;312(14):1429-1437

*Voor abstract zie:* *Bindels AJ - Intensive Care*
*Impactfactor* *30.387*

**Wegdam-Blans MC**

**A Combination of IFN-? and IL-2 Production by Coxiella burnetii Stimulated Circulating Cells Discriminates Between Chronic Q Fever and Past Q Fever**

Schoffelen T, Sprong T, Bleeker-Rovers CP, Wegdam-Blans MC*, Ammerdorffer A, Pronk MJ*, Soethoudt YE, van Kasteren ME, Herremans T, Bijlmer HA, Netea MG,
van der Meer JW, Joosten LA, van Deuren M
Clin Microbiol Infect. 2014 Jul;20(7):642-50. Epub 2013 Nov 18

Infection with Coxiella burnetii may lead to life-threatening chronic Q fever endocarditis or vascular infections, which are often difficult to diagnose. The present study aims to investigate whether measurement of in-vitro interferon-gamma (IFN-?) production, a key cytokine in the immune response against C.burnetii, differentiates chronic from a past cleared infection, and whether measurement of other cytokines would improve the discriminative power. First, C.burnetii-specific IFN-? production was measured in whole blood of 28 definite chronic Q fever patients, and compared to 135 individuals with past Q fever (seropositive controls), and 908 seronegative controls. IFN-? production was significantly higher in chronic Q fever patients than in controls, but with overlapping values between patients and seropositives. Secondly, the production of a series of other cytokines was measured in a subset of patients and controls, which showed that interleukin (IL)-2 production was significantly lower in patients than in seropositive controls. Subsequently measuring IL-2 in all patients and all controls with substantial IFN-? production showed that an IFN-?/IL-2 ratio >11 had a sensitivity and specificity of 79% and 96%, respectively to diagnose chronic Q fever. This indicates that a high IFN-?/IL-2 ratio is highly suggestive for chronic Q fever. In an additional group of 25 individuals with persistent high anti-Coxiella phase I IgG titres without definite chronic infection, all but six showed IFN-?/IL-2 ratio < 11. In conclusion, these findings hold promise for the often difficult diagnostic work-up of Q fever and IFN-?/IL-2 ratio may be used as an additional diagnostic marker.

*impactfactor:* *5.197*

**Wegdam-Blans MC**

**Chronic q Fever in the Netherlands 5 years after the start of the q Fever epidemic: results from the dutch chronic q Fever database**

Kampschreur LM, Delsing CE, Groenwold RH, Wegdam-Blans MC*, Bleeker-Rovers CP, de Jager-Leclercq MG, Hoepelman AI, van Kasteren ME, Buijs J, Renders NH, Nabuurs-Franssen MH, Oosterheert JJ, Wever PC

J Clin Microbiol. 2014 May;52(5):1637-43

Coxiella burnetii causes Q fever, a zoonosis, which has acute and chronic manifestations. From 2007 to 2010, the Netherlands experienced a large Q fever outbreak, which has offered a unique opportunity to analyze chronic Q fever cases. In an observational cohort study, baseline characteristics and clinical characteristics, as well as mortality, of patients with proven, probable, or possible chronic Q fever in the Netherlands, were analyzed. In total, 284 chronic Q fever patients were identified, of which 151 (53.7%) had proven, 64 (22.5%) probable, and 69 (24.3%) possible chronic Q fever. Among proven and probable chronic Q fever patients, vascular infection focus (56.7%) was more prevalent than endocarditis (34.9%). An acute Q fever episode was recalled by 27.0% of the patients. The all-cause mortality rate was 19.1%, while the chronic Q fever-related mortality rate was 13.0%, with mortality rates of 9.3% among endocarditis patients and 18% among patients with a vascular focus of infection. Increasing age (P = 0.004 and 0.010), proven chronic Q fever (P = 0.020 and 0.002), vascular chronic Q fever (P = 0.024 and 0.005), acute presentation with chronic Q fever (P = 0.002 and P < 0.001), and surgical treatment of chronic Q fever (P = 0.025 and P < 0.001) were significantly associated with all-cause mortality and chronic Q fever-related mortality, respectively.

*impactfactor: 4.232*

**Wegdam-Blans MC**

**Serology in chronic Q fever is still surrounded by question marks**

Wegdam-Blans MC*, Tjhie HT, Korbeeck JM, Nabuurs-Franssen MN, Kampschreur LM, Sprong T, Teijink JA*, Koopmans MP

Eur J Clin Microbiol Infect Dis. 2014 Jul;33(7):1089-94

Detection of antibodies using immunofluoresence tests (IFAT) is recommended for diagnosis of chronic Q fever, but other commercial antibody assays are also available. We compared an enzyme-linked immunosorbent assay (ELISA) (Virion/Serion) and a complement fixation test (CFT) (Virion/Serion) for the detection of Coxiella burnetii IgG phase I and IgA phase I in early- and follow-up serum samples from patients with chronic Q fever, diagnosed according to an algorithm that involves IFAT. For this, we tested sera of 49 patients, including 30 proven, 14 probable and five possible chronic Q fever cases. Sensitivity of CFT for diagnosis of chronic Q fever was suboptimal (85 %), as eight patients, including five with chronic Q fever, tested negative at time of diagnosis, whereas IgG phase I antibodies were detected in these five patients by ELISA. Sensitivity of ELISA was higher, although three probable patients were missed. No differences in ELISA IgA phase I detection between proven chronic Q fever and probable were observed; instead possible patients were in majority IgA negative (60 %). Serological examination using ELISA and CFT in follow-up sera from 26 patients on treatment was unsatisfactory. Like IFAT, all kinetic options were possible: decreasing, remaining stable or even increase during time.

This study demonstrated that the sensitivity of CFT-based phase I antibody detection is low and therefore not recommended for diagnosis of chronic Q fever. Based on our results, serological follow-up to guide treatment decisions was of limited value.

*impactfactor: 2.544*

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# Pathologie

**Hoevenaars B**

**Intra-abdominal esophageal duplication cyst: A case report and review of the literature**

Castelijns PS*, Woensdregt K*, Hoevenaars B*, Nieuwenhuijzen GA*

World J Gastrointest Surg. 2014 Jun 27;6(6):112-6

*Voor abstract zie:* *Chirurgie - Castelijns PS*

*impactfactor:* --

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# Plastische chirurgie

**Beets MR**

**Reconstruction of the lower eyelid using Hughes' tarsoconjunctival flap: Follow up of 28 cases**

Ooms LS*, Beets MR*, Grosfeld EC*, Beems EM*, Krekels GA*, Smit JM*, Hoogbergen MM*

J Plast Reconstr Aesthet Surg. 2014 Jul;67(7):e177-9]

*Geen abstract beschikbaar*

*impactfactor: 1.474*

**Boer H de**

**[Interpretation of hand injuries: 10 tips]**

Veth IM*, Nguyen DT*, de Boer HL*, Smit JM*

Ned Tijdschr Geneeskd. 2014;158(0):A7570

*Voor abstract zie: Plastische Chirurgie - Veth IM*

*impactfactor: --*

**Grosfeld EC**

**Facial reconstruction following mohs micrographic surgery: a report of 622 cases**

Grosfeld EC*, Smit JM*, Krekels GA, van Rappard JH*, Hoogbergen MM*

J Cutan Med Surg. 2014 Jul-Aug;18(4):265-70

Background:Around 100 to 200 patients undergo surgical reconstruction every year at our department of plastic and reconstructive surgery after Mohs micrographic surgery for nonmelanoma skin cancer.Objective:The aim of this report is to provide an overview of the type of facial reconstructions performed and investigate whether we achieved increased, definitive closure rates of the defect on the day of the excision after further improving the collaboration between the involved departments.Methods:All patients who underwent facial reconstruction at the Department of Plastic and Reconstructive Surgery following Mohs micrographic surgery between January 2006 and January 2011 were retrospectively systematically reviewed.Results:A total of 564 patients with 622 defects were identified. The different reconstructions used per aesthetic unit are described. The number of cases in which a reconstruction was performed on the same day as the resection significantly increased from 31 to 81% ($p < .001$).Conclusion:Facial reconstruction following Mohs micrographic surgery is challenging. The type of reconstruction used depends on the type of defect and patient characteristics. A structured multidisciplinary approach improves the process from defect to reconstruction and can facilitate referrals.

*impactfactor: 0.714*

**Grosfeld EC**

**Reconstruction of the lower eyelid using Hughes' tarsoconjunctival flap: Follow up of 28 cases**

Ooms LS*, Beets MR*, Grosfeld EC*, Beems EM*, Krekels GA*, Smit JM*, Hoogbergen MM*

J Plast Reconstr Aesthet Surg. 2014 Jul;67(7):e177-9

*Geen abstract beschikbaar*

*impactfactor: 1.474*

**Hoogbergen MM**

**Facial reconstruction following mohs micrographic surgery: a report of 622 cases**

Grosfeld EC*, Smit JM*, Krekels GA, van Rappard JH*, Hoogbergen MM*

J Cutan Med Surg. 2014 Jul-Aug;18(4):265-70

*Voor abstract zie: Plastische Chirurgie - Grosfeld EC*

*impactfactor: 0.714*

**Hoogbergen MM**

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Ooms LS*, Beets MR*, Grosfeld EC*, Beems EM*, Krekels GA*, Smit JM*, Hoogbergen MM*

J Plast Reconstr Aesthet Surg. 2014 Jul;67(7):e177-9

*Geen abstract beschikbaar*

*impactfactor: 1.474*

**Klein S**

**Is There an Indication for Digital Subtraction Angiography in the Assessment of Irradiation-Induced Vascular Damage before Free Flap Surgery by the Means of the Internal Mammary Vessels?**

Klein S*, Hoving S, Werker P, Russell N

J Reconstr Microsurg. 2014 Jan;30(1):47-52. Epub 2013 Jul 29

Secondary breast reconstruction is increasingly performed after postmastectomy radiotherapy. Damage to blood vessel walls is one of the adverse effects of irradiation therapy, which may jeopardize reconstructive free flap surgery. It would be of great importance to be informed about the quality of the recipient vessel before reconstructive surgery. The aim of this study was to prospectively assess the value of preoperative angiography in the assessment of radiation-induced arterial damage and to relate the findings to the degree of vascular damage found during the operation and with histology. This study included women who had been treated with thoracic radiotherapy and required free flap breast reconstruction. Preoperative angiographic, intraoperative quality and histological findings of vessels were scored and compared together with the occurrence of postoperative complications. In 34 patients a total of 40 free flaps breast reconstruction were performed. Total 21 internal mammary arteries had been within the field of irradiation. In only two out of six patients with aberrant angiographies the internal mammary artery has been within the field of irradiation. This study concludes that damage to the internal mammary vessels cannot always be detected preoperatively by angiography, or even by intraoperative examination.

*impactfactor: 1.006*

*Ten tijde van publicatie werkzaam bij: Department of Plastic and Reconstructive Surgery, University Medical Center Groningen, Groningen*

**Nguyen, DT**

**[Interpretation of hand injuries: 10 tips]**

Veth IM*, Nguyen DT*, de Boer HL*, Smit JM*

Ned Tijdschr Geneeskd. 2014;158(0):A7570.

*Voor abstract zie: Plastische Chirurgie - Veth IM*

*impactfactor: --*

**Nguyen, DT**

**Patency of the internal mammary arteries after removal of the Nuss bar: an initial report**

Külcü K*, Elenbaas TW*, Nguyen DT*, Verhees RP*, Mihl C*, Verberkmoes NY*, van Straten AH*, Soliman Hamad MA*

Interact Cardiovasc Thorac Surg. 2014 Jul;19(1):6-9. Epub 2014 Mar 30

*Voor abstract zie: Cardiothoracale chirurgie - Külcü K*

*impactfactor: 1.109*

**Ooms L**

**Reconstruction of the lower eyelid using Hughes' tarsoconjunctival flap: Follow up of 28 cases**

Ooms LS*, Beets MR*, Grosfeld EC*, Beems EM*, Krekels GA*, Smit JM*, Hoogbergen MM*

J Plast Reconstr Aesthet Surg. 2014 Jul;67(7):e177-9

*Geen abstract beschikbaar*

*impactfactor: 1.474*

**Rappard JH van**

**Facial reconstruction following mohs micrographic surgery: a report of 622 cases**

Grosfeld EC*, Smit JM*, Krekels GA, van Rappard JH*, Hoogbergen MM*

J Cutan Med Surg. 2014 Jul-Aug;18(4):265-70

*Voor abstract zie: Plastische Chirurgie - Grosfeld EC*

*impactfactor: 0.714*

**Smit JM**

**Facial reconstruction following mohs micrographic surgery: a report of 622 cases**

Grosfeld EC*, Smit JM*, Krekels GA, van Rappard JH*, Hoogbergen MM*

J Cutan Med Surg. 2014 Jul-Aug;18(4):265-70

Voor abstract zie: Plastische Chirurgie - Grosfeld EC

impactfactor: 0.714

**Smit JM**

**[Interpretation of hand injuries: 10 tips]**

Veth IM*, Nguyen DT, de Boer HL, Smit JM*

Ned Tijdschr Geneeskd. 2014;158(0):A7570.

*Voor abstract zie: Plastische Chirurgie - Veth IM*

*impactfactor: --*

**Smit JM**

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Ooms LS*, Beets MR*, Grosfeld EC*, Beems EM*, Krekels GA*, Smit JM*, Hoogbergen MM*

J Plast Reconstr Aesthet Surg. 2014 Jul;67(7):e177-9

*Geen abstract beschikbaar*

*impactfactor: 1.474*

**Smit JM**

**Recurrence of invasive ductal breast carcinoma 10 months after autologous fat grafting**

Smit JM*, Tielemans HJ, de Vries B, Tuinder SM

J Plast Reconstr Aesthet Surg. 2014 May;67(5):e127-8. epub 2014 Jan 4

*Geen abstract beschikbaar*

*impactfactor: 1.474*

**Veth I**

**[Interpretation of hand injuries: 10 tips]**

Veth IM*, Nguyen DT*, de Boer HL*, Smit JM*

Ned Tijdschr Geneeskd. 2014;158(0):A7570.

The treatment of hand injuries is an important part of the daily practice of healthcare professionals in primary, secondary and tertiary care. The complex anatomy and the specific physical examination required may make it difficult for a healthcare professional to establish a proper diagnosis. Based on the literature and our personal experience in hand surgery, we will describe 10 practical tips. These 10 tips will contribute to the detection of small lesions in daily practice.

*impactfactor: --*

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# Radiologie

**Bosch HC van den**

**Comparison of gadobenate dimeglumine-enhanced breast MRI and gadopentetate dimeglumine-enhanced breast MRI with mammography and ultrasound for the detection of breast cancer**

Gilbert FJ, van den Bosch HC*, Petrillo A, Siegmann K, Heverhagen JT, Panizza P, Gehl HB, Pediconi F, Diekmann F, Peng WJ, Ma L, Sardanelli F, Belli P, Corcione S, Zechmann CM, Faivre-Pierret M, Martincich L

J Magn Reson Imaging. 2014 May;39(5):1272-86

PURPOSE: To compare gadobenate dimeglumine-enhanced magnetic resonance imaging (MRI) with gadopentetate dimeglumine-enhanced MRI, mammography, and ultrasound for breast cancer detection across different malignant lesion types and across different densities of breast tissue.

MATERIALS AND METHODS: In all, 153 women with Breast Imaging Reporting and Data System (BI-RADS) 3–5 findings on mammography and/or ultrasound underwent identical breast MRI exams at 1.5T with gadobenate dimeglumine and gadopentetate dimeglumine. Images were evaluated by three independent blinded radiologists. Mammography, ultrasound, and combined mammography and/or ultrasound findings were available for 108, 109, and 131 women. Imaging findings were matched with histology data by a fourth, independent, blinded radiologist. Malignant lesion detection rates and diagnostic performance were compared.

RESULTS: In all, 120, 120, and 140 confirmed malignant lesions were present in patients undergoing MRI+mammography, MRI+ultrasound, and MRI+mammography and/or ultrasound, respectively. Significantly greater cancer detection rates were noted by all three readers for comparisons of gadobenate dimeglumine-enhanced MRI with mammography (Δ15.8–17.5%; $P < 0.0001$), ultrasound (Δ18.3–20.0%; $P < 0.0001$), and mammography and/or ultrasound (Δ8.6–10.7%; $P \leq 0.0105$) but not for comparisons of gadopentetate dimeglumine-enhanced MRI with conventional techniques ($P > 0.05$). The false-positive detection rates were lower on gadobenate dimeglumine-enhanced MRI than on conventional imaging (4.0–5.5% vs. 11.1% at mammography; 6.3–8.4% vs. 15.5% at ultrasound). Significantly improved cancer detection on MRI was noted in heterogeneously dense breast (91.2–97.3% on gadobenate dimeglumine-enhanced MRI vs. 77.2–84.9% on gadopentetate dimeglumine-enhanced MRI vs. 71.9-84.9% with conventional techniques) and for invasive cancers (93.2–96.2% for invasive ductal carcinoma [IDC] on gadobenate dimeglumine-enhanced MRI vs. 79.7–88.5% on gadopentetate dimeglumine-enhanced MRI vs. 77.0–84.4% with conventional techniques). Overall diagnostic performance for the detection of cancer was superior on gadobenate dimeglumine-enhanced MRI than on conventional imaging or gadopentetate dimeglumine-enhanced MRI.

CONCLUSION: Gadobenate dimeglumine-enhanced MRI significantly improves cancer detection compared to gadopentetate dimeglumine-enhanced MRI, mammography, and ultrasound in a selected group of patients undergoing breast MRI for preoperative staging or because of inconclusive findings at conventional imaging.

*Impactfactor: 2.566*

**Daniels-Gooszen A**

**Dyspneu en hoesten na cholecystectomie**

Tom Hermans, Jorrit de Vries, Evert Koldewijn, Alette Daniels-Gooszen

Medisch Contact, 2014;69(42):2035

*Geen abstract beschikbaar*

*impactfactor: --*

**Jansen FH**

**Impact of the transition from screen-film to digital screening mammography on interval cancer characteristics and treatment - A population based study from the Netherlands**

Nederend J*, Duijm LE, Louwman MW, Coebergh JW, Roumen RM, Lohle PN, Roukema JA, Rutten MJ, van Steenbergen LN, Ernst MF, Jansen FH*, Plaisier ML, Hooijen MJ, Voogd AC

Eur J Cancer. 2014 Jan;50(1):31-9.

*Voor abstract zie:* *Radiologie – Nederend J*
*impactfactor:* *4.819*

**Jansen FH**

**Trends in surgery for screen-detected and interval breast cancers in a national screening programme**

Nederend J*, Duijm LE, Louwman MW, Roumen RM, Jansen FH*, Voogd AC

Br J Surg. 2014 Jul;101(8):949-58

*Voor abstract zie:* *Radiologie - Nederend J*
*impactfactor:* *5.21*

**Jansen FH**

**Variations in screening outcome among pairs of screening radiologists at non-blinded double reading of screening mammograms: a population-based study**

Klompenhouwer EG*, Duijm LE, Voogd AC, den Heeten GJ, Nederend J, Jansen FH*, Broeders MJ

Eur Radiol. 2014 May;24(5):1097-104. Epub 2014 Feb 6

*Voor abstract zie:* *Radiologie - Klompenhouwer EG*
*impactfactor:* *4.338*

**Klompenhouwer E**

**Editor's choice--Use of disposable radiation-absorbing surgical drapes results in significant dose reduction during EVAR procedures**

Kloeze C*, Klompenhouwer EG*, Brands PJ*, van Sambeek MR*, Cuypers PW*, Teijink JA*

Eur J Vasc Endovasc Surg. 2014 Mar;47(3):268-72

*Voor abstract zie:* *Klinische Fysica - Kloeze C*
*impactfactor:* *3.070*

**Klompenhouwer E**

**Re-attendance at biennial screening mammography following a repeated false positive recall**

Klompenhouwer EG*, Duijm LE, Voogd AC, den Heeten GJ, Strobbe LJ, Louwman MW, Coebergh JW, Venderink D, Broeders MJ

Breast Cancer Res Treat. 2014 Jun;145(2):429-37. Epub 2014 Apr 19

We determined the re-attendance rate at screening mammography after a single or a repeated false positive recall and we assessed the effects of transition from screen-film mammography (SFM) to full-field digital mammography (FFDM) on screening outcome in women recalled twice for the same mammographic abnormality. The study population

consisted of a consecutive series of 302,912 SFM and 90,288 FFDM screens. During a 2 years follow-up period (until the next biennial screen), we collected the breast imaging reports and biopsy results of all recalled women. Re-attendance at biennial screening mammography was 93.2 % (95 % CI 93.1-93.3 %) for women with a negative screen (i.e., no recall at screening mammography), 65.4 % (95 % CI 64.0-66.8 %) for women recalled once, 56.7 % (95 % CI 47.1-66.4 %) for women recalled twice but for different lesions and 44.3 % (95 % CI 31.4-57.1 %) for women recalled twice for the same lesion. FFDM recalls comprised a significantly larger proportion of women who had been recalled twice for the same lesion (1.9 % of recalls (52 women) at FFDM vs. 0.9 % of recalls (37 women) at SFM, P < 0.001) and the positive predictive value of these recalls (PPV) was significantly lower at FFDM (15.4 vs. 35.1 %, P = 0.03). At review, 20 of 52 women (39.5 %, all with benign outcome) would not have been recalled for a second time at FFDM if the previous hard copy SFM screen had been available for comparison. We conclude that a repeated false positive recall for the same lesion significantly lowered the probability of screening re-attendance. The first round of FFDM significantly increased the proportion of women recalled twice for the same lesion, with a significantly lower PPV of these lesions. Almost 40 % of repeatedly recalled women would not have been recalled the second time if the previous hard copy SFM screen had been available for comparison at the time of FFDM.

*Voor abstract zie:*
*impactfactor: 4.198*

**Klompenhouwer E**

**Treatment of temporal artery pseudoaneurysms**

Thomassen I*, Klompenhouwer EG*, Willigendael EM*, Teijink JA*

Vascular. 2014 Aug;22(4):274-9. Epub 2013 Jun 11

*Voor abstract zie: Chirurgie - Thomassen I*
*impactfactor: 1.000*

**Klompenhouwer E**

**Variations in screening outcome among pairs of screening radiologists at non-blinded double reading of screening mammograms: a population-based study**

Klompenhouwer EG*, Duijm LE, Voogd AC, den Heeten GJ, Nederend J*, Jansen FH*, Broeders MJ

Eur Radiol. 2014 May;24(5):1097-104. Epub 2014 Feb 6

OBJECTIVES: Substantial inter-observer variability in screening mammography interpretation has been reported at single reading. However, screening results of pairs of screening radiologists have not yet been published. We determined variations in screening performances among pairs of screening radiologists at non-blinded double reading.

METHODS: We included pairs of screening radiologists with at least 7,500 screening examinations per pair, obtained between 1997 and 2011. During 2-year follow-up, breast imaging reports, surgical reports and pathology results were collected of all referred women and interval cancers. Referral rate, cancer detection rate, positive predictive value and sensitivity were calculated for each pair.

RESULTS: A total of 310,906 screening mammograms, read by 26 pairs of screening radiologists, were included for analysis. The referral rate ranged from 1.0 % (95 % CI 0.8 %-1.2 %) to 1.5 % (95 % CI 1.3 %-1.8 %), the cancer detection rate from 4.0 (95 % CI 2.8-5.2) to 6.3 (95 % CI 4.5-8.0) per 1,000 screens. The programme sensitivity and positive predictive value of referral ranged from 55.1 % (95 % CI 45.1 %-65.1 %) to 81.5 % (95 % CI 73.4 %-

89.6 %) and from 28.7 % (95 % CI 20.8 %-36.6 %) to 49.5 % (95 % CI 39.7 %-59.3 %), respectively.

CONCLUSION: We found significant variations in screening outcomes among pairs of screening radiologists at non-blinded double reading. This stresses the importance of monitoring screening results on a local scale.

KEY POINTS:

• Substantial inter-observer variability in screening mammography interpretation is known at single reading • Population-based study showed significant variations in outcomes among pairs of screening radiologists.

• Local monitoring and regular feedback are important to optimise screening outcome.

*impactfactor: 4.338*

**Mihl, C**

**Patency of the internal mammary arteries after removal of the Nuss bar: an initial report**

Külcü K*, Elenbaas TW*, Nguyen DT*, Verhees RP*, Mihl C*, Verberkmoes NY*, van Straten AH*, Soliman Hamad MA*

Interact Cardiovasc Thorac Surg. 2014 Jul;19(1):6-9. Epub 2014 Mar 30

*Voor abstract zie: Cardiothoracale chirurgie - Külcü K*

*impactfactor: 1.109*

**Nederend J**

**Impact of the transition from screen-film to digital screening mammography on interval cancer characteristics and treatment - A population based study from the Netherlands**

Nederend J*, Duijm LE, Louwman MW, Coebergh JW, Roumen RM, Lohle PN, Roukema JA, Rutten MJ, van Steenbergen LN, Ernst MF, Jansen FH*, Plaisier ML, Hooijen MJ, Voogd AC

Eur J Cancer. 2014 Jan;50(1):31-9.

INTRODUCTION: In most breast screening programmes screen-film mammography (SFM) has been replaced by full-field digital mammography (FFDM). We compared interval cancer characteristics at SFM and FFDM screening mammography.

PATIENTS AND METHODS: We included all 297 screen-detected and 104 interval cancers in 60,770 SFM examinations and 427 screen-detected and 124 interval cancers in 63,182 FFDM examinations, in women screened in the period 2008-2010. Breast imaging reports, biopsy results and surgical reports of all cancers were collected. Two radiologists reviewed prior and diagnostic mammograms of all interval cancers. They determined breast density, described mammographic abnormalities and classified interval cancers as missed, showing a minimal sign abnormality or true negative.

RESULTS: The referral rate and cancer detection at SFM were 1.5% and 4.9‰ respectively, compared to 3.0% ($p<0.001$) and 6.6‰ ($p<0.001$) at FFDM. Screening sensitivity was 74.1% at SFM (297/401, 95% confidence interval (CI)=69.8-78.4%) and 77.5% at FFDM (427/551, 95% CI=74.0-81.0%). Significantly more interval cancers were true negative at prior FFDM than at prior SFM screening mammography (65.3% (81/124) versus 47.1% (49/104), $p=0.02$). For interval cancers following SFM or FFDM screening mammography, no significant differences were observed in breast density or mammographic abnormalities at the prior screen, tumour size, lymph node status, receptor status, Nottingham tumour grade or surgical treatment (mastectomy versus breast conserving therapy).

CONCLUSION: FFDM resulted in a significantly higher cancer detection rate, but sensitivity was similar for SFM and FFDM. Interval cancers are more likely to be true negative at prior FFDM than at prior SFM screening mammography, whereas their tumour characteristics and type of surgical treatment are comparable.

*impactfactor: 4.819*

**Nederend J**

**Trends in surgery for screen-detected and interval breast cancers in a national screening programme**

Nederend J*, Duijm LE, Louwman MW, Roumen RM, Jansen FH*, Voogd AC

Br J Surg. 2014 Jul;101(8):949-58

BACKGROUND: This population-based study aimed to evaluate trends in surgical approach for screen-detected cancer versus interval breast cancer, and to determine the factors associated with positive resection margins.

METHODS: Screening mammograms of women aged 50-75 years, who underwent biennial screening in a Dutch breast-screening region between 1997 and 2011, were included. Patient and tumour characteristics were compared between women who underwent mastectomy or breast-conserving surgery (BCS) for screen-detected or interval cancer, and women with a negative or positive resection margin after BCS.

RESULTS: Some 417?013 consecutive screening mammograms were included. A total of 2224 screen-detected and 825 interval cancers were diagnosed. The BCS rate remained stable (mean 6·1 per 1000 screened women; P?=?0·099), whereas mastectomy rates increased significantly during the study from 0·9 (1997-1998) to 1·9 (2009-2010) per 1000 screened women (P?<?0·001). The proportion of positive resection margins for invasive cancer was 19·6 and 7·6 per cent in 1997-1998 and 2009-2010 respectively (P?<?0·001), with significant variation between hospitals. Dense breasts, preoperative magnetic resonance imaging, microcalcifications, architectural distortion, tumour size over 20?mm, axillary lymph node metastasis and treating hospital were independent risk factors for mastectomy. Interval cancer, image-guided tumour localization, microcalcifications, breast parenchyma asymmetry, tumour size greater than 20?mm, lobular tumour histology, low tumour grade, extensive invasive component and treating hospital were independent risk factors for positive resection margins.

CONCLUSION: Mastectomy rates doubled during a 14-year period of screening mammography and the proportion of positive resection margins decreased, with variation among hospitals. The latter observation stresses the importance of quality control programmes for hospitals treating women with breast cancer.

*impactfactor: 5.21*

**Nederend J**

**Variations in screening outcome among pairs of screening radiologists at non-blinded double reading of screening mammograms: a population-based study**

Klompenhouwer EG*, Duijm LE, Voogd AC, den Heeten GJ, Nederend J*, Jansen FH*, Broeders MJ

Eur Radiol. 2014 May;24(5):1097-104. Epub 2014 Feb 6

*Voor abstract zie: Radiologie – Klompenhouwer EG*

*impactfactor: 4.338*

**Ommen W van**

**Whole-liver CT texture analysis in colorectal cancer: Does the presence of liver metastases affect the texture of the remaining liver?**

Rao SX, Lambregts DM, Schnerr RS, van Ommen W*, van Nijnatten TJ, Martens MH4, Heijnen LA, Backes WH, Verhoef C, Zeng MS, Beets GL, Beets-Tan RG. United European Gastroenterol J. 2014 Dec;2(6):530-8

BACKGROUND:

Liver metastases limit survival in colorectal cancer. Earlier detection of (occult) metastatic disease may benefit treatment and survival.

OBJECTIVE:

The objective of this article is to evaluate the potential of whole-liver CT texture analysis of apparently disease-free liver parenchyma for discriminating between colorectal cancer (CRC) patients with and without hepatic metastases.

METHODS:

The primary staging CT examinations of 29 CRC patients were retrospectively analysed. Patients were divided into three groups: patients without liver metastases (n?=?15), with synchronous liver metastases (n?=?10) and metachronous liver metastases within 18 months following primary staging (n?=?4). Whole-liver texture analysis was performed by delineation of the apparently non-diseased liver parenchyma (excluding metastases or other focal liver lesions) on portal phase images. Mean grey-level intensity (M), entropy (E) and uniformity (U) were derived with no filtration and different filter widths (0.5?=?fine, 1.5?=?medium, 2.5?=?coarse).

RESULTS:

Mean E1.5 and E2.5 for the whole liver in patients with synchronous metastases were significantly higher compared with the non-metastatic patients (p?=?0.02 and p?=?0.01). Mean U1.5 and U2.5 were significantly lower in the synchronous metastases group compared with the non-metastatic group (p?=?0.04 and p?=?0.02). Texture parameters for the metachronous metastases group were not significantly different from the non-metastatic group or synchronous metastases group (p?>?0.05), although - similar to the synchronous metastases group - there was a subtle trend towards increased E1.5, E2.5 and decreased U1.5, U2.5 values. Areas under the ROC curve for the diagnosis of synchronous metastatic disease based on the texture parameters E1.5,2.5 and U1.5,2.5 ranged between 0.73 and 0.78.

CONCLUSION:

Texture analysis of the apparently non-diseased liver holds promise to differentiate between CRC patients with and without metastatic liver disease. Further research is required to determine whether these findings may be used to benefit the prediction of metachronous liver disease.

*impactfactor:* --

**Tielbeek AV**

**How should I treat a symptomatic post dissection carotid aneurysm?**

Rouchaud A, Klein I, Amarenco P, Mazighi M, Pacchioni A, Torsello G, Reimers B, van Sambeek MR*, Tielbeek AV*, Teijink JA*, Cuypers PW*

EuroIntervention. 2014 Jan 22;9(9):1121-3

*Geen abstract beschikbaar*

*impactfactor: 3.758*

**Tielbeek AV**

**Statin Therapy is associated with improved survival after endovascular and open aneurysm repair**

De Bruin Jl, Baas AF, Heymans MW, Buimer MG, Prinssen M, Grobbee DE, Blankensteijn JD; DREAM Study Group (Cuypers PW, van Sambeek MRHM, Tielbeek AV, Teijink JA)

J Vasc Surg 2014;59:39-44

*Voor abstract zie:* *Chirurgie - Cuypers PW*
*impactfactor:* *2.980*

**Verhees, R**

**Patency of the internal mammary arteries after removal of the Nuss bar: an initial report**

Külcü K*, Elenbaas TW*, Nguyen DT*, Verhees RP*, Mihl C*, Verberkmoes NY*, van Straten AH*, Soliman Hamad MA*

Interact Cardiovasc Thorac Surg. 2014 Jul;19(1):6-9. Epub 2014 Mar 30

*Voor abstract zie:* *Cardiothoracale chirurgie - Külcü K*
*impactfactor:* *1.109*

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# Radiotherapie

**Jaeger K de**

**Patient selection for whole brain radiotherapy (WBRT) in a large lung cancer cohort: Impact of a new Dutch guideline on brain metastases**

Hendriks LE, Troost EG, Steward A, Bootsma GP, De Jaeger K*, van den Borne BE*, Dingemans AM

Acta Oncol. 2014 Jul;53(7):945-51. Epub 2014 Apr 23

Median survival after diagnosis of brain metastases is, depending on the Recursive Partitioning Analysis (RPA) classes, 7.1 (class I) to 2.3 months (class III). In 2011 the Dutch guideline on brain metastases was revised, advising to withhold whole brain radiotherapy (WBRT) in RPA class III. In this large retrospective study, we evaluated the guideline's use in daily practice. Material and methods. Data of 428 lung cancer patients undergoing WBRT for brain metastases (2004-2012) referred from three Dutch hospitals were retrospectively analyzed. Details on Karnofsky performance score (KPS), age, control of primary tumor, extracranial metastases, histology, and survival after diagnosis of brain metastases were collected. RPA class was determined using the first four items. Results. In total 327 patients had non-small cell lung cancer (NSCLC) and 101 small cell lung cancer (SCLC). For NSCLC, 6.1%, 71.9%, and 16.2% were classified as RPA I, II, and III, respectively, and 5.8% could not be classified. For SCLC this was 8.9%, 66.3%, 14.9%, and 9.9%, respectively. Before the revised guideline was implemented, 11.3-21.3% of WBRT patients were annually classified as RPA III. In the year thereafter, this was 13.0% (p = 0.646). Median survival (95% CI) for NSCLC RPA class I, II, and III was 11.4 (9.9-12.9), 4.0 (3.4-4.7), and 1.7 (1.3-2.0) months, respectively. For SCLC this was 7.9 (4.1-11.7), 4.7 (3.3-6.1), and 1.7 (1.5-1.8) months. Conclusions. Although it is advised to withhold WBRT in RPA class III patients, in daily practice 11.3-21.3% of WBRT-treated patients were classified as RPA III. The new guideline did not result in a decrease. Reasons for referral of RPA III patients despite a low KPS were not found. Despite WBRT, survival of RPA III patients remains poor and this poor outcome should be stressed in practice guidelines. Therefore, better awareness amongst physicians would prevent some patients from being treated unnecessarily.

*impactfactor: 3.71*

**Lybeert ML**

**Cryopreservation, semen use and the likelihood of fatherhood in male Hodgkin lymphoma survivors: an EORTC-GELA Lymphoma Group cohort study**

van der Kaaij MA, van Echten-Arends J, Heutte N, Meijnders P, Abeilard-Lemoisson E, Spina M, Moser EC, Allgeier A, Meulemans B, Lugtenburg PJ, Aleman BM, Noordijk EM, Fermé C, Thomas J, Stamatoullas A, Fruchart C, Eghbali H, Brice P, Smit WG, Sebban C, Doorduijn JK, Roesink JM, Gaillard I, Coiffier B, Lybeert ML*, Casasnovas O, André M, Raemaekers JM, Henry-Amar M, Kluin-Nelemans JC

Hum Reprod. 2014 Mar;29(3):525-33

STUDY QUESTION: How does the successful cryopreservation of semen affect the odds of post-treatment fatherhood among Hodgkin lymphoma (HL) survivors?

SUMMARY ANSWER: Among 334 survivors who wanted to have children, the availability of cryopreserved semen doubled the odds of post-treatment fatherhood. WHAT IS KNOWN ALREADY: Cryopreservation of semen is the easiest, safest and most accessible way to safeguard fertility in male patients facing cancer treatment. Little is known about what proportion of patients achieve successful semen cryopreservation. To our knowledge, neither the factors which influence the occurrence of semen cryopreservation nor the rates of fatherhood after semen has been cryopreserved have been analysed before.

STUDY DESIGN, SIZE, DURATION: This is a cohort study with nested case-control analyses of consecutive Hodgkin survivors treated between 1974 and 2004 in multi-centre randomized controlled trials. A written questionnaire was developed and sent to 1849 male survivors.
PARTICIPANTS/MATERIALS, SETTING, METHODS: Nine hundred and two survivors provided analysable answers. The median age at treatment was 31 years. The median follow-up after cryopreservation was 13 years (range 5-36).
MAIN RESULTS AND THE ROLE OF CHANCE: Three hundred and sixty-three out of 902 men (40%) cryopreserved semen before the start of potentially gonadotoxic treatment. The likelihood of semen cryopreservation was influenced by age, treatment period, disease stage, treatment modality and education level. Seventy eight of 363 men (21%) used their cryopreserved semen. Men treated between 1994 and 2004 had significantly lower odds of cryopreserved semen use compared with those treated earlier, whereas alkylating or second-line (chemo)therapy significantly increased the odds of use; no other influencing factors were identified. We found an adjusted odds ratio of 2.03 (95% confidence interval 1.11-3.73, P = 0.02) for post-treatment fatherhood if semen cryopreservation was performed. Forty-eight out of 258 men (19%) who had children after HL treatment became a father using cryopreserved semen.
LIMITATIONS, REASONS FOR CAUTION: Data came from questionnaires and so this study potentially suffers from response bias. We could not perform an analysis with correction for duration of follow-up or provide an actuarial use rate due to lack of dates of semen utilization. We do not have detailed information on either the techniques used in cryopreserved semen utilization or the number of cycles needed.

*impactfactor:* *4.585*

**Martijn H**

**Conditional survival for long-term colorectal cancer survivors in the Netherlands: who do best?**

van Erning FN, van Steenbergen LN, Lemmens VE, Rutten HJ*, Martijn H*,
van Spronsen DJ, Janssen-Heijnen ML
Eur J Cancer. 2014 Jul;50(10):1731-9

*Voor abstract zie:* *Chirurgie - Rutten HJ*
*impactfactor:* *4.819*

**Martijn H**

**Feasibility of reirradiation in the treatment of locally recurrent rectal cancer**

Bosman SJ*, Holman FA*, Nieuwenhuijzen GA*, Martijn H*, Creemers GJ*, Rutten HJ*
Br J Surg. 2014 Sep;101(10):1280-9. Epub 2014 Jul 22

*Voor abstract zie:* *Chirurgie - Bosman SJ*
*impactfactor:* *5.21*

**Sangen MJ van der**

**Lymph node retrieval during esophagectomy with and without neoadjuvant chemoradiotherapy: prognostic and therapeutic impact on survival**

Koen Talsma A, Shapiro J, Looman CW, van Hagen P, Steyerberg EW, van der Gaast A, van Berge Henegouwen MI, Wijnhoven BP, van Lanschot JJ; CROSS Study Group, Hulshof MC, van Laarhoven HW, Nieuwenhuijzen GA, Hospers GA, Bonenkamp JJ, Cuesta MA, Blaisse RJ, Busch OR, ten Kate FJ, Creemers GJ, Punt CJ, Plukker JT, Verheul HM, van Dekken H, van der Sangen MJ, Rozema T, Biermann K, Beukema JC, Piet AH, van Rij CM, Reinders JG, Tilanus HW

Ann Surg. 2014 Nov;260(5):786-92; discussion 792-3

*Voor abstract zie: Chirurgie - Nieuwenhuijzen GA*

*impactfactor: 7.188*

**Sangen MJ van der**

**Patterns of recurrence after surgery alone versus preoperative chemoradiotherapy and surgery in the CROSS trials**

Oppedijk V, van der Gaast A, van Lanschot JJ, van Hagen P, van Os R, van Rij CM, van der Sangen MJ*, Beukema JC, Rütten H, Spruit PH, Reinders JG, Richel DJ, van Berge Henegouwen MI, Hulshof MC

J Clin Oncol. 2014 Feb 10;32(5):385-91

PURPOSE: To analyze recurrence patterns in patients with cancer of the esophagus or gastroesophageal junction treated with either preoperative chemoradiotherapy (CRT) plus surgery or surgery alone.

PATIENTS AND METHODS: Recurrence pattern was analyzed in patients from the previously published CROSS I and II trials in relation to radiation target volumes. CRT consisted of five weekly courses of paclitaxel and carboplatin combined with a concurrent radiation dose of 41.4 Gy in 1.8-Gy fractions to the tumor and pathologic lymph nodes with margin. RESULTS: Of the 422 patients included from 2001 to 2008, 418 were available for analysis. Histology was mostly adenocarcinoma (75%). Of the 374 patients who underwent resection, 86% were allocated to surgery and 92% to CRT plus surgery. On January 1, 2011, after a minimum follow-up of 24 months (median, 45 months), the overall recurrence rate in the surgery arm was 58% versus 35% in the CRT plus surgery arm. Preoperative CRT reduced locoregional recurrence (LRR) from 34% to 14% (P < .001) and peritoneal carcinomatosis from 14% to 4% (P < .001). There was a small but significant effect on hematogenous dissemination in favor of the CRT group (35% v 29%; P = .025). LRR occurred in 5% within the target volume, in 2% in the margins, and in 6% outside the radiation target volume. In 1%, the exact site in relation to the target volume was unclear. Only 1% had an isolated infield recurrence after CRT plus surgery.

CONCLUSION: Preoperative CRT in patients with esophageal cancer reduced LRR and peritoneal carcinomatosis. Recurrence within the radiation target volume occurred in only 5%, mostly combined with outfield failures.

*impactfactor: 17.960*

**Sangen MJ van der**

**Prolonged time to surgery after neoadjuvant chemoradiotherapy increases histopathological response without affecting survival in patients with esophageal or junctional cancer**

Shapiro J1, van Hagen P, Lingsma HF, Wijnhoven BP, Biermann K, ten Kate FJ, Steyerberg EW, van der Gaast A, van Lanschot JJ; CROSS Study Group. (Nieuwenhuijzen GA, Creemers GJ, van der Sangen MJ)

Ann Surg. 2014 Nov;260(5):807-13; discussion 813-4

*Voor abstract zie:* *Chirurgie - Nieuwenhuijzen GA*
*impactfactor:* *7.188*

**Sangen MJ van der**

**Target volume delineation in external beam partial breast irradiation: Less inter-observer variation with preoperative- compared to postoperative delineation**

van der Leij F, Elkhuizen PH, Janssen TM, Poortmans P, van der Sangen M*,
Scholten AN, van Vliet-Vroegindeweij C, Boersma LJ

Radiother Oncol. 2014 Mar;110(3):467-70. Epub 2013 Nov 18

The challenge of adequate target volume definition in external beam partial breast irradiation (PBI) could be overcome with preoperative irradiation, due to less inter-observer variation. We compared the target volume delineation for external beam PBI on preoperative versus postoperative CT scans of twenty-four breast cancer patients.

*impactfactor:* *4.857*

**Smet M de**

**Temperature-sensitive paramagnetic liposomes for image-guided drug delivery: Mn(2+) versus [Gd(HPDO3A)(H2O)]**

Yeo SY, de Smet M*, Langereis S, Vander Elst L, Muller RN, Grüll H

Biochim Biophys Acta. 2014 Nov;1838(11):2807-16

Temperature-sensitive liposomes (TSLs) loaded with doxorubicin (Dox), and Magnetic Resonance Imaging contrast agents (CAs), either manganese (Mn(2+)) or [Gd(HPDO3A)(H2O)], provide the advantage of drug delivery under MR image guidance. Encapsulated MRI CAs have low longitudinal relaxivity (r1) due to limited transmembrane water exchange. Upon triggered release at hyperthermic temperature, the r1 will increase and hence, provides a means to monitor drug distribution in situ. Here, the effects of encapsulated CAs on the phospholipid bilayer and the resulting change in r1 were investigated using MR titration studies and (1)H Nuclear Magnetic Relaxation Dispersion (NMRD) profiles. Our results show that Mn(2+) interacted with the phospholipid bilayer of TSLs and consequently, reduced doxorubicin retention capability at 37°C within the interior of the liposomes over time. Despite that, Mn(2+)-phospholipid interaction resulted in higher r1 increase, from 5.1±1.3mM(-1)s(-1) before heating to 32.2±3mM(-1)s(-1) after heating at 60MHz and 37°C as compared to TSL(Gd,Dox) where the longitudinal relaxivities before and after heating were 1.2±0.3mM(-1)s(-1) and 4.4±0.3mM(-1)s(-1), respectively. Upon heating, Dox was released from TSL(Mn,Dox) and complexation of Mn(2+) to Dox resulted in a similar Mn(2+) release profile. From 25 to 38°C, r1 of [Gd(HPDO3A)(H2O)] gradually increased due to increase transmembrane water exchange, while no Dox release was observed. From 38°C, the release of [Gd(HPDO3A)(H2O)] and Dox was irreversible and the release profiles coincided.

By understanding the non-covalent interactions between the MRI CAs and phospholipid bilayer, the properties of the paramagnetic TSLs can be tailored for MR guided drug delivery

*impactfactor: 3.431*

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# Revalidatie

**Hitters M**

**Prevention and treatment of hand oedema after stroke**

Kuppens SP, Pijlman HC, Hitters MW*, van Heugten CM

Disabil Rehabil. 2014;36(11):900-6

PURPOSE: As there is no evidence for a specific treatment for post-stroke-induced hand oedema, rehabilitation centre Blixembosch formalized a best practice protocol. We investigated whether the Blixembosch hand oedema protocol is usable in daily practice and leads to lower incidence (prevention) and shorter duration (treatment) compared with care as usual.

METHODS: In a non-randomised comparative trial, we investigated 206 post-stroke patients admitted to two Dutch rehabilitation centres. Hand volumes were measured at least bi-weekly using a volumeter. Treatment was started according the protocol (Blixembosch) or following care as usual (Leijpark). Usability was assessed with a survey among professionals.

RESULTS: In the Blixembosch group, 16% developed oedema after admission, compared with 21% in the control group (p?=?0.019). Average duration of oedema (both developed before and after admission) was 6.5 weeks in the Blixembosch group compared with 3.1 weeks in the control group (p?=?0.000). Professionals were positive about the protocol.

CONCLUSION: The study showed that the protocol is usable in daily practice and has a small beneficial effect on hand oedema incidence rates compared with care as usual. The negative effect on duration of hand oedema could also be caused by the difference in prognosis between the two groups.

*impactfactor:* --

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## SEH

**Scholtens LC**

**C-reactive protein and fibrinogen levels as determinants of recurrent preeclampsia: a prospective cohort study**

van Rijn BB, Veerbeek JH, Scholtens LC*, Post Uiterweer ED, Koster MP, Peeters LL, Koenen SV, Bruinse HW, Franx A

J Hypertens. 2014 Feb;32(2):408-14

OBJECTIVE:

Women with a history of early-onset preeclampsia have an increased risk of recurrent preeclampsia and are more prone to develop future cardiovascular disease. At present, risk factors underlying this association are not well characterized. We investigated whether the risk of recurrent preeclampsia is associated with pre-pregnancy levels of common cardiovascular and inflammatory markers.

METHODS:

Reproductive follow-up and cardiovascular parameters were obtained for 150 primiparae with a history of early-onset preeclampsia 6-12 months after their first delivery. Simultaneously, fasting plasma samples were collected and tested for lipids, glucose, C-reactive protein and fibrinogen. The relative contribution of each marker to the recurrence risk of preeclampsia and preterm delivery was estimated by Cox proportional hazard models.

RESULTS:

Forty-two women (28%) developed preeclampsia in a next pregnancy. Recurrent preeclampsia was related to elevated pre-pregnancy levels of C-reactive protein and fibrinogen when compared to women who did not develop recurrent disease. We found no associations between recurrent preeclampsia and maternal age, pre-pregnancy BMI, smoking or fasting levels of total cholesterol, high-density lipoprotein-cholesterol, low-density lipoprotein-cholesterol, triglycerides and glucose.

CONCLUSION:

These observations support a role for inflammation in recurrent hypertensive disorders of pregnancy similar to its contribution to later-life atherosclerosis and risk of cardiovascular disease.

Comment in:

Effect of serum C-reactive protein and plasma fibrinogen levels on recurrent preeclampsia. [J Hypertens. 2015]

*impactfactor: 4.222*

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# Urologie

**Berkers CH**

**Evaluation of the Educational Value of a Virtual Reality TURP Simulator According to a Curriculum-based Approach**

Tjiam IM*, Berkers CH*, Schout BM, Brinkman WM*, Witjes JA, Scherpbier AJ, Hendrikx AJ*, Koldewijn EL*

Simul Healthc. 2014 Oct;9(5):288-94

*Voor abstract zie:* *Urologie - Tjiam IM*
*impactfactor:* *1.593*

**Hendrikx AJ**

**Ergonomics in endourology and laparoscopy: an overview of musculoskeletal problems in urology**

Tjiam IM*, Goossens RH, Schout BM, Koldewijn EL*, Hendrikx AJ*, Muijtjens AM, Scherpbier AJ, Witjes JA

J Endourol. 2014 May;28(5):605-11

*Voor abstract zie:* *Urologie - Tjiam IM*
*impactfactor:* *2.095*

**Hendrikx AJ**

**Evaluation of the Educational Value of a Virtual Reality TURP Simulator According to a Curriculum-based Approach**

Tjiam IM*, Berkers CH*, Schout BM, Brinkman WM*, Witjes JA, Scherpbier AJ, Hendrikx AJ*, Koldewijn EL*

Simul Healthc. 2014 Oct;9(5):288-94

*Voor abstract zie:* *Urologie - Tjiam IM*
*impactfactor:* *1.593*

**Hendrikx AJ**

**The clinical research office of the endourological society percutaneous nephrolithotomy global study: Outcomes in the morbidly obese patient - a case control analysis**

Fuller A, Razvi H, Denstedt JD, Nott L, Hendrikx A*, Luke M, Pal SK, de la Rosette J Can Urol Assoc J. 2014 May;8(5-6):E393-7

BACKGROUND: Efficacy and safety of percutaneous nephrolithotomy (PCNL) have been demonstrated in obese individuals. Yet, there is a paucity of data on the outcomes of PCNL in morbidly obese patients (body mass index [BMI] >40).

METHODS: Perioperative and stone-related outcomes following PCNL in morbidly obese patients was assessed using a prospective database administered by the Clinical Research Office of the Endourological Society (CROES). A multidimensional match of 97 morbidly obese patients with those of normal weight was created using propensity score matching. Student's t-test and Chi-square tests were used to assess for differences between the groups.

RESULTS: In total, 97 patients with a BMI >40 kg/m(2) were matched by stone characteristics with 97 patients of normal weight. The morbidly obese population demonstrated higher rates of diabetes mellitus (43% vs. 6%, $p < 0.001$) and cardiovascular disease (56% vs. 18%, ($p < 0.001$). Access was achieved more frequently by radiologists in the morbidly obese group

(19% vs. 6%, p = 0.016). Mean operative duration was longer in the morbidly obese group (112 ± 56 min vs. 86 ± 43.5 min, p < 0.001). Stone-free rates were lower in the morbidly obese group (66% vs. 77%, p = 0.071). There was no significant difference in length of hospital stay or transfusion rate. Morbidly obese patients were significantly more likely to experience a postoperative complication (22% vs. 6%, p = 0.004).

INTERPRETATION: PCNL in morbidly obese patients is associated with longer operative duration, higher rates of re-intervention and an increased risk of perioperative complications. With this knowledge, urologists should seek to develop strategies to optimize the perioperative management of such patients.

*impactfactor: 1.92*

**Hermans T**

**Dyspneu en hoesten na cholecystectomie**

Tom Hermans, Jorrit de Vries, Evert Koldewijn, Alette Daniels-Gooszen

Medisch Contact, 2014;69(42):2035

*Geen abstract beschikbaar*

*impactfactor: --*

**Koldewijn EL**

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**Koldewijn EL**

**Ergonomics in endourology and laparoscopy: an overview of musculoskeletal problems in urology**

Tjiam IM*, Goossens RH, Schout BM, Koldewijn EL*, Hendrikx AJ*, Muijtjens AM, Scherpbier AJ, Witjes JA

J Endourol. 2014 May;28(5):605-11

*Voor abstract zie: Urologie - Tjiam IM*

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Simul Healthc. 2014 Oct;9(5):288-94

*Voor abstract zie: Urologie - Tjiam IM*

*impactfactor: 1.593*

**Koldewijn EL**

**Patients with prostate cancer continue to have excess mortality up to 15 years after diagnosis**

Husson O, van Steenbergen LN, Koldewijn EL*, Poortmans PM, Coebergh JW, Janssen-Heijnen ML

BJU Int. 2014 Nov;114(5):691-7. Epub 2014 Feb 20

OBJECTIVE: To estimate the population-based conditional 5-year relative survival rates for prostate cancer patients.

PATIENTS AND METHODS: All 98,672 patients diagnosed in the Netherlands with prostate cancer (clinical T stage 1-4) in 1989-2008 aged 45-89 years were selected from the Netherlands Cancer Registry and followed until 2010. Conditional 5-year relative survival was estimated for every subsequent year of survival up to 15 years after diagnosis.

RESULTS: Conditional 5-year relative survival decreased with time of survival since diagnosis. Excess mortality (conditional 5-year relative survival <95%) for patients with clinical T1 stage became only manifest 5 years after diagnosis and increased to almost 10% after 10 years. Patients with more advanced disease (cT2-cT4) exhibited an excess mortality of 6-12% at diagnosis which increased up to 15-22% after 10 years. Excess mortality occurred earlier for the older age groups. Five-year relative survival at diagnosis was <90% for all age groups of patients with cT3/cT4 and excess mortality for this group increased to over 20% for those who had already survived for 5 years since diagnosis.

CONCLUSION: Prostate cancer patients exhibited some excess mortality within 10 years after diagnosis, being earlier for more advanced stage and older age groups. Quantitative insight into conditional survival is useful for caregivers to help planning optimal cancer treatment and surveillance and to inform patients about their actual prognosis during follow-up, taking the current condition of the patient into account.

*impactfactor: 3.13*

**Koldewijn EL**

**Results of the European Basic Laparoscopic Urological Skills Examination**

Brinkman WM*, Tjiam IM*, Schout BM, Muijtjens AM, Van Cleynenbreugel B, Koldewijn EL*, Witjes JA

Eur Urol. 2014 Feb;65(2):490-6. Epub 2013 Nov 6

*Voor abstract zie: Chirurgie - Brinkman WM*

*impactfactor: 12.480*

**Tjiam IM**

**Ergonomics in endourology and laparoscopy: an overview of musculoskeletal problems in urology**

Tjiam IM*, Goossens RH, Schout BM, Koldewijn EL*, Hendrikx AJ*, Muijtjens AM, Scherpbier AJ, Witjes JA

J Endourol. 2014 May;28(5):605-11

PURPOSE: This study aims to provide an overview of type and frequency of musculoskeletal complaints among urologists. In addition, the urologists' knowledge about ergonomic conditions during minimally invasive urology was assessed, and they were asked how they would prefer to gain knowledge about this topic.

MATERIALS AND METHODS: An online and hard copy version questionnaire was administered to urologists from different countries, mainly from Europe, performing endourology and laparoscopy.

RESULTS: Of the 285 respondents, 245 (86.0%) urologists experienced musculoskeletal complaints in the past 12 months and 62.1% were considered to be work related. Most common areas for chronic complaints were neck, back, and shoulders. Almost 50% of the urologists experienced chronic musculoskeletal complaints, for which endourology (odds ratio [OR] 3.06; 95% confidence interval [CI] 1.37-6.80) and laparoscopy (OR 1.70; 95% CI 1.27-2.28) were significant risk factors. One third of the urologists considered their knowledge about ergonomics minimal, and 8% stated that they had no knowledge about these topics. Fifty percent of the respondents preferred to integrate information about ergonomic rules into hands-on training of urologic skills.

CONCLUSION: High prevalence of experienced musculoskeletal complaints was found among urologists predominantly related to endourology and laparoscopy. Urologists indicate that they have a lack of knowledge about ergonomics in the operating room. Hence, we recommend integration of ergonomics in hands-on training programs early in the residency curriculum to gain knowledge and awareness and hopefully to offer possibilities to prevent these complaints in the future.

*impactfactor: 2.095*

**Tjiam IM**

**Evaluation of the Educational Value of a Virtual Reality TURP Simulator According to a Curriculum-based Approach**

Tjiam IM*, Berkers CH*, Schout BM, Brinkman WM*, Witjes JA, Scherpbier AJ, Hendrikx AJ*, Koldewijn EL*

Simul Healthc. 2014 Oct;9(5):288-94

PURPOSE: This study aimed to evaluate the place of the TURPsim (Simbionix/VirtaMed, Beit Goal, Israel) within a urologic residency training curriculum, including training needs analysis (TNA) and investigating its validity.

MATERIALS AND METHODS: Training needs analysis was conducted by an expert panel to identify procedural steps and pitfalls. Performance metrics of the simulator were compared with the TNA results. Participants were distributed according to their level of experience (completed transurethral resection of the prostate [TURP] procedures) as follows: novices (0), intermediates (1-50), and experts (>50). They followed standardized instructions and then performed 2 complete TURP procedures on the TURPsim.

RESULTS: Ten of 22 procedural steps (TNA) and 4 of 11 pitfalls were covered by the TURPsim. A total of 66 participants, 22 in each group, were included. Median general judgment (face and content) about the TURPsim was rated 7.3 (median, 7; range, 3-9). Ninety-three percent of all participants qualified the TURPsim as a useful training model. Intermediates and experts had a significant faster resection time and less blood loss compared with novices (construct) ($P = 0.001$). Novices needed to re-resect previous lobes, and they also resected the prostate in the incorrect order more frequently compared with intermediates and experts.

CONCLUSIONS: Training needs analysis is of paramount importance in the evaluation process of a training program. This curriculum-based approach including validity of a simulator seems valuable and may narrow the gap between skills laboratory and clinical practice. This study showed face, content, and construct validity of the TURPsim, and this simulator finds its place in the current urologic curriculum to train basic and procedural TURP skills.

*impactfactor: 1.593*

**Tjiam IM**

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Brinkman WM*, Tjiam IM*, Schout BM, Muijtjens AM, Van Cleynenbreugel B, Koldewijn EL*, Witjes JA
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*Voor abstract zie: Chirurgie - Brinkman WM*
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**Vries J de**

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Medisch Contact, 2014;69(42):2035
*Geen abstract beschikbaar*
*impactfactor: --*

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# Boeken

## Anesthesiologie

Smulders JF, Jakimowicz JJ, **Buise MP**
**Chapter 6: Surgical Practicalities: Fast-Track Lessons from a Bariatric Surgery Unit** - p. 55-69
In: The Globesity Challenge to General SurgeryM. Foletto, R.J. Rosenthal (eds.)
Milan : Springer, 2014
ISBN: 978-88-470-5382-3

## Chirurgie

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In: The Globesity Challenge to General SurgeryM. Foletto, R.J. Rosenthal (eds.)
Milan : Springer, 2014
ISBN: 978-88-470-5382-3

## Facilitair Bedrijf

**Hendriks Hugo**
**Procesmanagement in de praktijk : Beschrijven, besturen, analyseren en verbeteren**
Hilversum : Concept uitgeefgroep, 2014
ISBN: 9789491743030

## Spoedeisende Hulp

**Smits Gael**
**Hoofdstuk 7.3: Acuut hartfalen – 123-5**
**Hoofdstuk 13.2: Procedurele sedatie en analgesie - 229-232**
In: Leerboek acute geneeskunde
A.B. van Vugt, M.I. Gaakeer, W. Henny, C. Motz, S.E. Schutte, E.C.T.H. Tan
Doetinchem : Reed Business Education, 2014
ISBN: 9789035236233

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## Anesthesiologie

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**Optimal Technique in Cardiac Anesthesia Recovery**
Utrecht : Universiteit Utrecht, 2014
ISBN: 978-90-8590-058-0

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**Scheepers-Hoeks AM**
**Alert methods as succes factors : influecing effectiveness of a clinical decision support system in clinical practice**
Eindhoven : De Wit Mediaconsultancy, 2014
ISBN: 9789053359259
*Promotor: Korsten HHM*
*Copromotor: Grouls RJE*

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**Left Bundle Branch Block : Controversies in Aortic Valve Interventions and Cardiac Resynchronization Therapy**
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ISBN: 978 94 6159 328 3
*Copromotor: Gelder LM van*

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**Brinkman WM**
**Learning laparoscopic and robotic surgery in urology**
Nijmegen : Radboud Universiteit Nijmegen, 2014
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*Promotor: Jakimowicz JJ*
*Copromotor: Koldewijn EL*

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**Clinical dilemmas in sentinel node biopsy for breast cancer**
Maastricht : Universiteit Maastricht, 2014
ISBN: 9789064647376
*Promotor: Rutten HJT*
*Copromotor: Nieuwenhuijzen G.A.P*

**Thomassen I**
**Peritoneal carcinomatosis of gastro-intestinal origin**
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978-90-9028564-1
*Promotor : Rutten, HJT*
*Copromotor: de Hingh IHJT*

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**Effectiveness and side effects of hormonal contraceptives**
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*Co-promotor: Vliet HA van*

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*Promotor: Prof. dr. J.A.W. Teijink*

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**Nederend J**
**Breast cancer detected and missed by screen-film and digital screening mammography: Studies on trends in classification and surgical treatment in the south of the Netherlands since 1997**
Rotterdam : Erasmus Universiteit, 2014
ISBN: 9789080795501

**Setz-Pels W**
**Improving screening mammography in the south of the Netherlands : using an extended data collection on diagnostic procedures and outcome parameters**
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ISBN: 9789461085894
*Copromotor: Duijm LEM*

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**Tjiam IM**
**Learning in Urology : Designing Simulator Based Skills : Training & Assessment**
Maastricht : Universiteit Maastricht, 2014
ISBN: 9789461695307
*Promotor: Hendrikx AJM*

# Wetenschapsavond
# Catharina Ziekenhuis
# 2015

# Presentaties

## Anesthesiologie

**Herold IH**

**Intra- and inter-rater reliability and agreement of pulmonary transit time assessment using contrast enhanced ultrasound**

I.H.F. Herold1*, S. Saporito, R.A. Bouwman, P. Houthuizen*, H.C. van Assen, M. Mischi, H.H.M. Korsten*

Aims: Pulmonary transit time (PTT) is an indirect measure of preload and left ventricular function, which can be estimated using contrast enhanced ultrasound (CEUS). The aim of this study is to investigate the inter- and intra-rater reliability of PTT measurement in patients between and within raters with different experience levels.

Methods and results: Four physicians and four technicians estimated the mean transit time (MTT) of an ultrasound contrast bolus in the right and left ventricle at two time points. The MTTs were estimated by drawing a region of interest (ROI) in each cardiac ventricle in the CEUS loops, followed by rendering acoustic-intensity dilution curves from each ROI. Model fitting was used to determine the MTT from both dilution curves. PTT was calculated as the difference of the MTTs. Intra-class correlations were calculated for intra- and inter-rater reliability. Bland-Altman analysis was used to estimate the agreement between PTTs measured by physicians and technicians. Fifteen patients were included. The mean PTT was 11.8 ± 3.1 s at time moment 1 and 11.7 ± 2.9 s at time moment 2. The inter-rater reliability showed for PTT an intra-class correlation coefficient (ICC) of 0.94. The intra-rater reliability showed for PTT an ICC between 0.81 and 0.99. Bland-Altman analysis revealed a bias of 0.10 s between the physicians and technicians with limits of agreement of -0.95 to 1.16 s.

Conclusions: PTT estimation using CEUS and indicator dilution modeling shows a high inter- and intra-rater reliability that is independent of the level of experience in CEUS.

## Chirurgie

**Bakens M**

**Hospital of diagnosis for pancreatic cancer influences surgery rate and survival in a nationwide analysis: a plea for further centralization**

MJAM Bakens*, YRBM van Gestel, M. Bongers*, MGH Besselink, CHC Dejong, VEPP Lemmens, IHJT de Hingh*; On behalf of the Dutch Pancreatic Cancer Group (DPCG)

Aims: Since surgical resection is the only chance for long-term survival, determining the resectability of a pancreatic tumor is a crucial step. The current study investigated whether hospital of diagnosis influenced the chance of undergoing surgery and the effect on survival.

Methods: All patients diagnosed with M0-pancreatic cancer between 2005 and 2012 in The Netherlands were included. Data were obtained from the Netherlands Cancer Registry.

Hospitals were classified as “pancreatic center” or “non-pancreatic center”, based on high-volume (>15/year) pancreatoduodenectomies performed in 2012. Groups were compared using chi-square tests. Relationship between diagnostic center and chance of undergoing surgery was analyzed by multivariable logistic regression. Influence of diagnostic center on overall survival was assessed using multivariable Cox regression analysis.

Results: Nineteen hospitals were designated as pancreatic center (19.6%). Of the 7276 included patients, 2657 (36.5%) underwent surgery. This proportion was 50.6% of patients diagnosed in pancreatic centers and 29.6% for non-pancreatic centers. Actual resection was performed in 41.3% for pancreatic centers and 23.0% for non-pancreatic centers. In multivariable analysis, patients diagnosed in a pancreatic center were more likely to undergo surgery (OR2.26 95%CI 2.02-2.53). Diagnosis in a pancreatic center was associated with improved survival compared to diagnosis in a non-pancreatic center (HR0.93; 95%CI 0.88–0.98).

Conclusions: In this nationwide analysis, patients diagnosed with M0-pancreatic cancer in a pancreatic center were more likely to undergo a potentially curative resection and had better survival. This suggests that patients with M0-pancreatic cancer who are not referred for resection should undergo assessment by a specialized team.

## Geriatrie

**Cox C**

**Association between psychotropic drug prescription and falling in nursing home residents**

C.A. Cox*, H.J. van Jaarsveld, S. Houterman*, J.C.G.H. van der Stegen, A.T.M. Wasylewicz*, R.J.E. Grouls*, C.M.J. van der Linden*

Background: Falling is a common problem in the elderly and it seems to be the major cause of death by an accident in this population. Previous studies suggest that the use of psychotropic drugs increase the risk of falling. However, the contribution of these drugs on fall risk has not been quantified among the population of nursing homes until now.

Objective: The objective of this study was to evaluate the association between fall incidence and the prescription of psychotropic drugs among nursing home residents.

Methods: **I**n this retrospective study we retrieved data about the fall incidence and the prescription of antipsychotics, antidepressants and benzodiazepines for each resident and for each day over a 2-year period. Patients were included if they lived in one of the nursing homes of the Vitalis WoonZorg Groep (VWZG) in Eindhoven, the Netherlands. Generalized Estimating Equations was used to analyze the relationship between psychotropic drug prescription and falling.

Results: A total of 2,369 nursing home residents were included, which resulted in a data set of 539,305 person-days. Fall risk was slightly increased with age (OR 1.026; 95% CI 1.010 – 1.042) and males had a 85% higher fall risk than females (OR 1.846; 95% CI 1.345 – 2.533). The prescription of a psychotropic drug on a scheduled basis showed an almost threefold increase in fall risk (odds ratio [OR] 2.983; 95% confidence interval [CI] 1.588 – 5.603). Prescription of a psychotropic drug only on an as-needed basis showed a twofold increase in fall risk (OR 2.123; 95% CI 1.003 – 4.497).

Conclusions: The prescription of psychotropic drugs is associated with a strongly increased risk of falling among nursing home residents. Even psychotropic drugs prescribed only on an as-needed basis are associated with a twofold increased risk to fall.

## Maag-darm-leverziekten

**Strijbos D**

**Antibiotic gazes in Percutaneous Endoscopic Gastrostomy (PEG) placement are equally effective in preventing infections as intravenous antibiotics**

D. Strijbos, Bsc*, L.P.L Gilissen MD, PhD*

Objectives: The most common complication after Percutaneous Endoscopic Gastrostomy (PEG) placement is peristomal wound infection (10-15% if using antibiotic prophylaxis). Current practice advises single dose parenteral prophylactic antibiotics. We assume local antibiotic treatment with bactericide gazes might have a prolonged prophylactic effect, are more patient friendly and pragmatic in use. This study is the first describing bactericide gazes in preventing infections in PEG, without other antibiotics.

Aims: Retrospective data analysis was performed of all patients with PEG insertion between January 2009 and October 2014, in the Catharina Hospital Eindhoven, including the first 2 weeks after PEG placement.

Methods : All patients received a locally applied bactericide gaze (Polyhexamethylene Biguanide; PHMB) immediately following PEG insertion for three days. No other antibiotics were given. Usual wound care was performed.

Main outcomes were wound infection, peritonitis and necrotizing fasciitis, secondary were other complications.

Results: 381 patients underwent PEG insertion. After exclusion of 50 patients with parenteral antibiotics, 331 patients with only bactericide gazes were analyzed. Total infection rate 2 weeks after PEG was 9.4%, including 8.2% minor and 1.2% major infections. These results accord with previous literature on parenteral antibiotic prophylaxis and seem at least equally effective. Gazes are 5 times less expensive, more patient friendly, more practical in use and may be leading to less antibiotics resistance than parenteral antibiotics.

Conclusion: Bactericide gazes show at least equal results as parenteral antibiotics in preventing peristomal wound infection after PEG placement.

## Radiotherapie

**Smet M de**

**Hippocampal Avoidance Prophylactic Cranial Irradiation – development of a new radiotherapy technique and clinical implementation of a phase III study**

Mariska de Smet*, Katrien de Jaeger*, Helma van Berkum*, Maarten van Lieshout*, Anke Habraken*, Fanny van Aarle*, Cindy Maandag*, Dennis Hellegers*, Tom Budiharto* John Wondergem*, Ben van den Borne*, Monique Hanse* and Paul van Haaren*

Background: In patients receiving whole brain radiation therapy (WBRT), sparing of the hippocampus potentially decreases neurocognitive deficits. To test this hypothesis, the multicentre phase III 'Hippocampal Avoidance Prophylactic Cranial Irradiation' trial was designed, randomising small cell lung cancer patients to receive WBRT with or without hippocampus avoidance.

Goal:The aim of this study was the clinical implementation of the complex study protocol, including extensive MRI scanning sessions, neurocognitive function and Quality Of Life assessments. This presentation will focus on the development of a hippocampus avoiding WBRT (HA-WBRT) technique.

Methods: For the development of the technique, CT and MRI scans of 7 patients were used. Different radiation techniques were tested and the resulting calculated dose distributions were verified by measurements of the actual dose delivery.

Results: The developed Volumetric Modulated Arc Therapy (VMAT) technique provided high quality dose distributions, delivering a radiation dose of 25 Gray (Gy) to the Planning Target Volume (PTV = whole brain + a safety margin of 4mm), while sparing the hippocampi (mean dose < 8.5 Gy) and eye lenses (max dose < 10 Gy), meeting all criteria of the study protocol. In comparison with techniques described in literature, the treatment planning as well as the delivery of the radiation of this technique is fast and easy to execute.

Conclusion: The study protocol was successfully implemented and of the first 24 patients included, 10 patients have been included by CZE. The new developed radiotherapy technique ensures that HA-WBRT is planned and delivered in an efficient manner.

Innovative elements of this study: Hippocampus avoiding whole brain radiotherapy is increasingly being explored in order to decrease neurocognitive deficits. Thanks to a close intra- and interdisciplinary collaboration we have been able to safely introduce a high tech innovative radiation treatment maintaining clinical workflow and reducing strain on limited health care resources.

*Beste presentatie wetenschapsavond Catharina Ziekenhuis 2015*

# Posters

## Algemeen Klinisch Laboratorium

**Berkel M van**

**The influence of anti-hypertensive drugs on the aldosterone to renin ratio: an automated evaluation**

Miranda van Berkel*, Charlotte G. Krol*, Jerôme M.H. Kisters* and Arjen-Kars Boer*

Context: One of the initial landmark in the diagnosis of primary hyperaldosteronism is the aldosterone-to-renin ratio (ARR). However, for an accurate interpretation of the ARR, additional clinical and biochemical information is essential. Furthermore, antihypertensive medication should be discontinued, which is often problematical for patients with resistant hypertension. Retrieval of above mentioned information from medical charts is time-consuming and complicated. Here, a clinical decision support system (CDSS) Gaston is presented, which can be used to construct a context-dependent reference values of the ARR.

Objective: We describe quantitative effect of interfering factors on the ARR with the use of Gaston.

Design and setting: In this observational study data from patients' medical charts was collected at the time aldosterone was determined for diagnostic reason using CDSS Gaston in 2009-2012.

Results: A database was created within 2-3 hours with 668 aldosterone results and clinical information including age, gender, potassium- and sodium concentration, anti-hypertensive drugs and diagnosis. Half of the ARR (47%) were determined while maintaining one of more antihypertensive drugs. Significant changes in ARR occurred in patients on antihypertensive drugs, with the caveat to misinterpret the ARR. Retrospective re-evaluation of the medical charts of patients exceeding the 90th percentile of the context dependent reference values revealed in 43% of the cases the patient were qualified for further testing, whereas using the classical reference values these patients were missed.

Conclusion: Gaston is a very effective aid in generating context-dependent reference values for the ARR. In conclusion, use of Gaston can improve clinical decision making in patients with resistant hypertension.

**Schmitz EM**

**Analytical performance of commercially available ELISA kits for quantification of infliximab (Remicade®) and antibodies-to-infliximab**

E.M.H. SCHMITZ*, M.A.C. BROEREN, D. VAN DE KERKHOF*, J.L.J. VAN DONGEN, P. KUIJPER, V. SCHARNHORST*, L. BRUNSVELD

Introduction: Infliximab (IFX; Remicade®) is effectively used for treatment of inflammatory diseases. However, a substantial number of patients does not respond to IFX (1). This could be due to various reasons, demanding different treatment optimization strategies. The trough level of IFX and presence/absence of antibodies-to-infliximab (ATI) predict the cause of non-response. Therapeutic drug monitoring (TDM) as part of routine care could thus improve therapy efficiency and reduce costs (2).

Goal: To determine whether commercially available ELISA kits for quantification of IFX and ATI have acceptable analytical performance for TDM purpose.

Methods: The commercially available kits of Theradiag, Progenika and apDia for quantification of IFX and ATI were implemented on a DSX 4-Plate ELISA Processing System. Imprecision was determined by triplicate measurements of patient samples on five days. To determine accuracy, patient samples and spiked samples were measured and sent to

Sanquin Research. Comparison was done by calculating linear regression and Bland-Altman plots.

Results: Imprecision was considered acceptable for the ELISA kits (IFX: =21%, ATI: =31%). Due to the sigmoid calibration line of Theradiag's and Progenika's kits, imprecision is higher near the limits of quantification. This is not the case for the apDia kit, which has a linear calibration line. Also, differences in accuracy were found between the assays. For the ATI assays, sensitivity and quantification range were not comparable.

Conclusion: Despite the fact that the tested ELISA kits show differences, we believe that each kit could be suitable for TDM. However, application of a therapeutic range for IFX will be problematic without assay standardization.

## Anesthesiologie

**Loon FH van**

### Development of the A-DIVA scale : A clinical predictive scale to identify a difficult intravenous access in adult patients based on clinical observations

drs. F.H.J. van Loon*, L.A.P.M. Puijn*, dr. S. Houterman*, dr. R.A. Bouwman*

Introduction: Peripheral intravenous cannulation is the most common invasive procedure in anaesthesia and among hospitalized patients, approximately 70% to 80% need a peripheral intravenous catheter. However, intravenous access is not easily obtained in all patients and multiple unsuccessful attempts exposes patients at risk for central venous cannulation. A difficult intravenous access scale for adult patients (A-DIVA scale) is currently lacking, while such a scale creates the possibility to use other techniques, such as ultrasound, in an earlier time frame. The aim of this study was to develop a simplified predictive scale to classify patients with a difficult intravenous access prospectively.

Methods: Adult patients were eligible if scheduled for any surgical procedure. The primary outcome variable was defined as failed peripheral intravenous cannulation on the first attempt, whereas an attempt was determined as the period between the needle first touched the skin until the needle was removed from the skin. Significant associated items with the primary outcome from the univariate logistic model were entered in a multivariate logistic regression model. The definitive predictive scale was constructed by including significant variables from the multivariate logistic analysis. The weighted A-DIVA scale was than created by deriving ß coefficients from this logistic regression model. Each patient received a weighted risk score based on the sum of the points of each predictor and three risk groups (low, medium and high risk) were created. Bootstrap resampling resulted in stable and nearly unbiased estimates of performance, the overall fit (calibration) of the predictive scale was assessed using Hosmer-Lemeshow statistic and the AUC of the plotted ROC curve represents the discriminative acquisition of the weighted A-DIVA scale.

Results: Failure on the first attempt of intravenous cannulation was observed in 82/504 patients (16.3%). As a result of the multivariate logistic analyses, five variables were associated with a failed first attempt of peripheral intravenous cannulation: palpability of the vein, visibility of the vein, history of difficult intravenous access, unplanned indication for surgery and a smaller vein diameter (table 1). These variables are included in the A-DIVA scale (table 2). The A-DIVA scale was applied in the total study cohort and three risk groups were created: a low risk group a medium risk group and a high-risk group (table 3). The ROC curve of the weighted A-DIVA scale showed an AUC of 89.5% (se = 0.021) and is represented in figure 1.

Conclusion: In conclusion, the five-variable weighted A-DIVA scale is a reliable and accurate predictive rule that implies the probability to identify patients with a difficult intravenous

access and creates a possibility to use other techniques in an earlier time frame. Refinement of this scale in an extern cohort will improve usability in the total hospitalized population.

## Cardiologie

**Heuvel M van den**

**Culture negative spondylodiscitis after intravesical BCG therapy? Think of Mycobacterium bovis spondylodiscitis**

van den Heuvel MCE*, Ammerlaan HSM*

Introduction: Intravesical Bacillus Calmette-Guerin (BCG) therapy has proven to be effective for superficial bladder cancer (Lamm 2000). This immunotherapy consists of an attenuated strain of Mycobacterium bovis causing a local antitumor activity (Prescott 2000). Complications appear in less than five percent of patients, ranging from mild irritative cystitis or flulike symptoms until severe systemic infections (Lamm 2000, Gonzalez 2003). Only six case reports were published describing spondylodiscitis as a late complication (ref 4-9).

Case Report: We report a 75-year old man who received intravesical BCG therapy for bladder cancer two years before presentation. He presented in another hospital with back pain since six months due to a spondylodiscitis and was treated with flucloxacilline for six months without obtainment of vertebral bone cultures. An MRI six months later showed progression of infection. He was referred to our hospital where antibiotics were stopped and three months later a vertebral bone culture for regular microorganisms was performed. A tuberculin skin test and bronchoalveolar lavage culture were both negative for Mycobacterium tuberculosis. The patient was, one year after first presentation, referred to an infectiologist. Because of the history of BCG therapy additional PCR test for Mycobacterium tuberculosis complex (including M. bovis) on the previously taken bone biopsy was found to be positive. Treatment with tuberculostatics was started immediately and four weeks later patient was pain free.

Discussion: M. bovis spondylodiscitis is a rare complication of intravesical BCG therapy. It is essential to consider an M. bovis infection even years after treatment.

**Leus S**

**Evaluation of the techniques of bifurcation stenting in the year 2013**

Stefan J.L. Leus*, Nico H.J. Pijls*

Bifurcation lesions of coronary arteries can be treated with different stenting techniques. The aim of this study was to compare different techniques of bifurcation stenting (Balloon only, Provisional, Culotte, Crush, T-stenting) and to evaluate differences in the 1-year outcome in all patients undergoing bifurcation stenting in 2013.

Methods: This retrospective study included 264 consecutive patients who underwent non-primary(elective or urgent) percutaneous coronary intervention (PCI) of a bifurcation lesion in the Catharina Hospital Eindhoven in 2013. Patients were classified into different groups, depending on the Medina Classification, the used technique of stenting and the involved segments of the lesion (lesion location). Primary end-point was the rate of restenosis after 1 year (12 to 14 months). All used techniques and differences between the groups in procedural complications (side-branch occlusion, not possible to stent a coronary and periprocedural infarction) and events after 1 year (deaths, myocardial infarctions and target vessel revascularisation (Coronary Artery Bypass Grafting or re-PCI)) were observed.

Results: After 1 year, restenosis occurred in 10 patients (3.8%) without any significant difference between the different techniques (P=0.27). Comparing restenosis in Provisional

stenting versus non-Provisional (Culotte, Crush and T-stenting) also showed no significant difference (P=0.16).

Rates of death, myocardial infarctions, target vessel revascularisations and a composite of them showed no significant difference.

Conclusions: There is no significant difference between the rate of restenosis in the groups after 1 year. Besides, there were no significant differences between the rate of death, myocardial infarction, and target vessel revascularisations.

**Nunen LX van**

**Fractional Flow Reserve Versus Angiography for Guiding Percutaneous Coronary Intervention in Patients With Multivessel Coronary Artery Disease: 5-year Follow-up of the FAME study**

Lokien X. van Nunen MD, Frederik M. Zimmermann MD, Pim A.L. Tonino MD PhD, Marcel van 't Veer PhD, Nico H.J. Pijls MD PhD, Bernard De Bruijne MD PhD, for the FAME Study Investigators

Background: In patient with multivessel coronary artery disease (CAD) undergoing percutaneous coronary intervention (PCI), coronary angiography is often used for guiding stent placement. The FAME (Fractional Flow Reserve Versus Angiography for Multivessel Evaluation) study showed that routine FFR in addition to angiography improves outcomes of PCI at 2 years.

Objectives: The purpose of this study was to investigate 5-year outcome of FFR-guided PCI in patients with multivessel CAD.

Methods: At 20 world-wide medical centers, 1005 patients with multivessel CAD were randomly assigned to PCI with drug-eluting stents guided by angiography alone or guided by FFR measurements. Before randomization, lesions requiring PCI were identified based on their angiographic appearance. Patients randomized to angiography-guided PCI underwent stenting of all indicated lesions, whereas those randomized to FFR-guided PCI underwent stenting of indicated lesions only if the FFR was =0.80.

Results: The number of indicated lesions was 2.9±0.9 in the angiography-guided group and 2.8±1.0 in the FFR-guided group (p=0.34). The number of stents used was 2.7±1.2 and 1.9±1.3 respectively (p<0.001). The 5-year combined rate of death, nonfatal myocardial infarction (MI), and revascularization was 31.0% versus 28.1%, respectively (p=0.31). Rates of death or MI were 19.8% and 16.9%, respectively (p=0.24). Rates of cardiac death or MI were 15.7% and 12.9%, respectively (p=0.21).

Conclusions: After 5 years of follow-up, primary outcome events occurred 10-20% lower in the FFR-guided group compared to the angiography-guided group. These clinical benefits no longer achieve statistical significance due to the fact that this study was only powered for a 2-year follow-up.

Importance of this study

The FAME study is one of the landmark trials investigating routine FFR-guided revascularization compared to angiography-guided PCI. The results from FAME have changed the guidelines and are cited worldwide. The long-term results of FAME are of extreme importance and are anticipated by cardiologists worldwide.

**Zimmermann, FM**

**Very Long Follow-up After Percutaneous Coronary Intervention of Functionally Nonsignificant Stenosis. 15-Year Follow-up of The Randomized DEFER Trial**

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Background Percutaneous coronary intervention (PCI) of an intermediate stenosis without evidence of ischemia is often performed, but its benefit is unproven. Fractional flow reserve (FFR) is an invasive index used to identify a stenosis responsible for reversible ischemia. Five-year follow-up of the DEFER trial showed that outcome after deferral of PCI of an intermediate coronary stenosis based on FFR >0.75 is excellent and was not improved by stenting. The aim of this study was to confirm these results of the very long term.

Methods In 325 patients scheduled for PCI of an intermediate stenosis, FFR was measured just before the planned intervention. If FFR was =0.75, patients were randomly assigned to deferral (Defer group; n=91) or performance (Perform group; n = 90) of PCI. If FFR was <0.75, PCI was performed as planned (Reference group; n = 144). Clinical follow-up was 15 years.

Results There were no differences in baseline clinical characteristics between the 3 groups. Complete follow-up was obtained in 91% of the patients. After 15 years follow-up, Kaplan-Meier estimates of myocardial infarction were 2,1% in the DEFER group and 10,3% in the Perform (p=0.01). All-cause death (33,0% in the DEFER group vs. 30,0% in the Perform group vs. 30,6% in the Reference group; p=0,862) were not significantly different between groups.

Conclusions Deferral of PCI of a functional nonsignificant intermediate coronary stenosis is excellent, even after 15 years of follow up. Stenting this stenosis significantly increases the risk of myocardial infarction. Therefore, those lesions should not be stented.

Importance of this study

The DEFER trial was the first randomized multicenter trial worldwide implementing physiology in coronary decision-making. The 2- and 5 year follow-up made Fractional Flow Reserve (FFR) standard of care in the cath-lab and changed guidelines. We report the longest follow-up of a randomized trial using FFR-guided PCI.

## Chirurgie

**Broos PP**

**Endovascular treatment of ruptured abdominal aortic aneurysms with hostile aortic neck anatomy**

P.P.H.L. Broos*, Y.W. ‘t Mannetje*, Ph.W.M. Cuypers*, M.R.H.M. van Sambeek*, J.A.W. Teijink*

Objectives: To compare the midterm results of endovascular aortic aneurysm repair (EVAR) for ruptured abdominal aortic aneurysms (RAAAs) in patients with favourable aortic neck anatomy (FNA) and hostile aortic neck anatomy (HNA).

Methods: Patients treated for a RAAA in a high-volume endovascular centre in the Netherlands between February 2009 and January 2014 were retrospectively identified and divided into two groups based on aortic neck anatomy, FNA and HNA. HNA was defined as RAAA with a proximal neck of <10 mm, or a proximal neck of 10 - 15 mm with a suprarenal angulation (a) >45° and/or an infrarenal angulation (ß) >60°, or a proximal neck of >15 mm combined with a >60° and/or ß >75°. Patient demographics, procedure details, 30-day and one-year outcomes were recorded.

Results: Of 39 included patients, 17 (43.6%) had HNA. Technical success was 100% for FNA and 88.2% for HNA (p = .184). There were no type IA endoleaks at completion angiography in either groups, however more adjunctive procedures were necessary for intraoperative type

IA endoleaks in the HNA group (23.5% vs. 0%, p = .029). Thirty-day mortality rates were comparable, FNA 13.6% vs. HNA 11.8%, p = 1.000. There were no statistically significant differences at one-year follow up in type I endoleaks, secondary endovascular procedures, and all-cause mortality.

Conclusions: In our experience, emergency EVAR provided excellent results for the treatment of RAAA patients with both FNA and HNA. EVAR in RAAAs with HNA is technically feasible and safe in experienced endovascular centres.

**Castelijns PSSA**

**systematic review of biological versus synthetic mesh-reinforcement during laparoscopic repair of hiatal hernias in Nissen fundoplication**

PSS Castelijns*, Bsc; JEH Ponten*, MD; MCG Van de Poll2, MD, PhD; SW Nienhuijs*, MD, PhD; JF Smulders*, MD

Laparoscopic cruroplasty and fundoplication has become gold the standard in the treatment of hiatal hernia and gastroesophageal reflux disease (GERD). The use of a mesh-reinforcement of the cruroplasty has been proven effective, although there is a lack of evidence regarding which mesh type is superior.

Aim:Aim of this study was to compare recurrence rates after mesh reinforced cruroplasty using biological versus synthetic meshes.

Methods: We performed a systematic review of all clinical trials published between January 2004 and March 2014 describing the application of a mesh in the hiatal hernia repair during Nissen fundoplication for both GERD and hiatal hernia. Primary outcome was recurrence rate and secondary outcomes were complication rate, mortality and symptomatic outcome.

Results: We included 17 studies and extracted data regarding 1016 mesh operated patients. Two hundred and two received a biological mesh and 814 received a synthetic mesh. The mean follow up was 48.3 months. Recurrence rate in the synthetic mesh group was 6.6% compared to 10.3% in the biological mesh group (p=0.088). The complication rate was 6.5% and 7.3% (p=0.653) respectively and there was only one reported mesh related complication. No mesh-related mortality was reported.

Conclusion: Mesh reinforcement of hiatal hernia repair is safe. Available literature suggests no clear advantage of biological over synthetic meshes. Regarding cost-efficiency and long term results the use of synthetic non-absorbable meshes may be advocated.

**Castelijns PSS**

**Quality of life after mesh-reinforced cruroplasty in the treatment of intrathoracic stomach: Follow-up of up to 9 years**

PSS Castelijns*, Bsc; JEH Ponten*, MD; MCG Van de Poll, MD, PhD; SW Nienhuijs*, MD, PhD; JF Smulders*, MD

Intrathoracic stomach accounts for less than 5% of all hiatal hernias. Nevertheless it may result in serious complications if left untreated and therefore elective repair has been advocated. There is lack of evidence describing the long-term follow-up of hiatal hernia repair in intrathoracic stomach. No data are at hand concerning the quality of life after mesh-reinforced cruroplasty

Aim: Aim of this study was to assess Quality of Life after mesh-reinforced cruroplasty for intrathoracic stomach.

Method: A retrospective analysis was performed on all patients undergoing hiatal hernia repair for an intrathoracic stomach between January 2004 and October 2014. Additional to hiatal closure the patients received antireflux surgery. Outcome measures included patient characteristics, operative details, complications and postoperative morbidity.

Results: Seven patients had a recurrence during the follow-up (7.8%) with two having a mesh based hiatal hernia repair. Patients presented with a recurrence 2 days to 3.1 years after surgery with a mean of 10 months. The median follow up in the study is 2.8 years (range 0-9). There were six complications during surgery (6.7%). There were no conversions to open surgery and mortality was zero.

Conclusion: Hiatal hernia repair is a safe procedure with low morbidity and a mortality of zero. Recurrence rate is low and most recurrences occur in the first year after surgery. Laparoscopic repair of hiatal hernia with intrathoracic stomach is a safe procedure with good long-term outcomes.

**Gommans L**

**Intermittent claudication affects gait parameters during treadmill walking**

AT Smid*, LNM Gommans*, K Meijer, N Verhofstad*, JAW Teijink*

What's new?: Supervised exercise therapy (SET) is the first choice symptomatic treatment in patients with intermittent claudication (IC). An altered gait pattern has already been described. However, specific changes are unknown. With this study we contributed to this knowledge dearth aiming to provide future gait-specific training instructions for SET programs.

Background: IC is the most common symptom of peripheral arterial disease and presents as exercise induced muscle pain of the lower limb(s), that resolves in rest. SET, mainly performed on a treadmill, is the first-choice treatment for IC and improves walking performance. Appropriate gait analysis during treadmill walking in patients with IC has not been investigated before.

Methods: IC patients and age-matched controls walked on a treadmill at a self-selected pace. Spatio-temporal gait parameters (e.g. step length and foot settlement) were obtained using the validated Optogait® photoelectric system. Patients performed bot a pain-free and a painful trial, whereas controls completed only one session. Parameters were compared between groups and within patients.

Results: 11 patients and 15 controls were examined. IC patients walked 0.8 km/h slower than controls (p=0.031), and their step length was significantly shorter in both trials. Within the patient group, a 1.2% shorter contact phase (p=0.006) and a 3% increased foot flat phase (p=0.022) was noted during painful walking. Also, patients appeared to spend more time in double support phase (?4%, p=0.041).

Conclusion: IC patients walk slower and take shorter steps than healthy controls, even in pain-free walking. During painful walking disturbances in foot settlement appear, as IC patients drop their foot faster, resulting in an increased foot flat time and double support phase. The effect of gait-specific training should be further investigated.

**Gommans L**

**Supervised exercise therapy for intermittent claudication: gender differences following twelve months of follow up**

Lindy N.M. Gommans*, Marc R.M. Scheltinga, Marc R.H.M. van Sambeek*, Angela H.E.M. Maas, Bianca Bendermacher, Joep A.W. Teijink*

What's new?: Paucity of data regarding gender differences is in line with a recent statement of the American Heart Association, for more research. This study is one of the first investigating gender-based outcomes of supervised exercise therapy in patients with intermittent claudication.

Background: Peripheral arterial disease is a chronic disease of lower extremities caused by atherosclerosis, and affecting more than 12% of the aging population. Intermittent claudication (IC) is a common manifestation and defined as muscle discomfort and pain of

the lower limb(s) elicited by exercise that resolves after rest. Supervised exercise therapy (SET) is recommended as first choice treatment for IC. So far, gender-based analysis of SET in patients with IC have been sparsely conducted and with conflicting results. The present study evaluated whether men and women respond differently to SET.

Methods: We conducted a follow-up analysis on data from a multicentre randomized controlled trial. Patients with IC, randomized to a SET program, were used in the current study. Standardized treadmill testing, quality of life (SF-36) and walking (dis)ability (WIQ) were measured at baseline and during follow-up at 3, 6, 9 and 12 months.

Results: A total of 113 men and 56 women was available for analysis. Groups were similar in terms of clinical characteristics and baseline walking distances. Women improved from SET, however with significantlyshorter maximal walking distances compared to men after twelve months of follow-up (men: 660 meters; women 565 meters, P=0.032). Women also reported greater walking disability. No differences on quality of life were found between groups, except for significantly lower mental health scores for women at baseline (P=0.031).

Conclusion: Women benefit from SET, although their maximal walking distance was significantly shorter after one year. Women also experienced greater walking disability and poorer mental health at baseline.

**Mannetje Y 't**

**A ruptured abdominal aortic aneurysm requiring preoperative cardiopulmonary resuscitation is not necessarily lethal**

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Objectives: A ruptured abdominal aortic aneurysm (RAAA) is associated with a high mortality rate. If cardiopulmonary resuscitation (CPR) is required prior to operative repair, mortality rates approximate 100%. Aim of the study was to study outcome in RAAA patients who required CPR prior to a surgical (endovascular or open) repair (CPR group). RAAA patients who did not need CPR served as controls (non-CPR group).

Methods: Over a five-year time period, demographics, clinical characteristics and specifics of preoperative CPR if necessary were studied in all patients who were treated for a RAAA in three large, non-academic hospitals.

Results: A total of 199 consecutive RAAA patients were available for analysis, and 176 patients were surgically treated. Thirteen of these 176 patients (7.4%) needed CPR, whereas 163 (92.6%) did not. A 38.5% (5/13) survival rate was observed in the CPR group. Thirty-day mortality was almost three times higher in the CPR group compared to the non-CPR group (resp. 61.5% vs. 22.7%, p = .005). Both CPR patients receiving EVAR survived. In contrast, survival in 11 CPR patients undergoing open RAAA repair was 27% (3/11, p = .128). Higher Hardman index scores were found in CPR compared to non-CPR, however not significant (p = .052). The 30-day mortality in patients with a 0, 1, 2 or 3 Hardman index was 16.1%, 31.0%, 37.9% and 33.3%, respectively (p = .093).

Conclusions: A RAAA requiring preoperative cardiopulmonary resuscitation is not a necessarily lethal combination. Selection must be tailored before (endo)vascular surgery is denied.

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**Peters EG**

**The effects of stimulation of the autonomic nervous system via perioperative nutrition on postoperative ileus and anastomotic leakage following colorectal surgery (SANICS II trial)**

Emmeline G Peters*, Boudewijn JJ Smeets*, Marc D Buise*, Wouter J de Jonge, Wim A Buurman, Misha DP Luyer*

Postoperative ileus (POI) and anastomotic leakage (AL) are important complications following colorectal surgery associated with short-term morbidity and mortality. Previous experimental and preclinical studies have shown that a short intervention with enriched enteral nutrition dampens inflammation via stimulation of the autonomic nervous system and thereby reduces POI. Furthermore, early administration of enteral nutrition reduced AL.

Aim : To investigate the effect of nutritional stimulation of the autonomic nervous system just before, during and early after colorectal surgery on inflammation, POI and AL.

Methods/Design: This prospective, double-blind, RCT will include 280 patients undergoing colorectal surgery. All patients will receive a selfmigrating nasojejunal tube that will be connected to a specially designed blinded tubing system. Patients will be allocated either to the intervention group, receiving perioperative nutrition, or to the control group, receiving no nutrition. The primary endpoint is POI. Secondary endpoints include AL, local and systemic inflammation, (aspiration)pneumonia, surgical complications, quality of life, gut barrier integrity and time until functional recovery. Furthermore, a cost-effectiveness analysis will be performed.

Results: We expect to include our 40th patient shortly and perform a blinded safety analysis. We expect that stomach retentions operatively are minimal (50-80 cc), no aspiration or severe complication will have taken place.

Conclusion: Activation of the autonomic nervous system via perioperative enteral feeding is expected to dampen the inflammatory response and to be safe. Consequently, POI will be reduced as well as AL. This study is the first to investigate the effects of enriched nutrition administrated perioperatively in a clinical setting.

**Pouwels S**

**Beneficial effects of preoperative exercise therapy in patients with an abdominal aortic aneurysm: a systematic review**

Sjaak Pouwels, BSc*,; Edith M. Willigendael, MD, PhD; Marc R.H.M van Sambeek, MD PhD*; Simon W. Nienhuijs, MD PhD*; Philippe W.M. Cuypers, MD, PhD*; Joep A.W. Teijink, MD, PhD*.

Objectives:The impact of postoperative complications in Abdominal Aortic Aneurysm (AAA) surgery is substantial and increasing with age and the concomitant comorbidities. This systematic review focuses on the possible effects of preoperative exercise therapy (PET) in AAA patients on postoperative complications, aerobic capacity, physical fitness and recovery.

Methods: A systematic search on PET prior to AAA surgery was conducted. The methodological quality of the included studies was rated using the Physiotherapy Evidence Database (PEDro) scale. The agreement between the reviewers was assessed with Cohen's kappa.

Results: A total of 5 studies were included with a methodological quality ranging from moderate to good. The Cohen's kappa was 0.79. Three studies focussed on patients with an AAA (without indication for surgical repair) with physical fitness as outcome measure. One study focussed on PET in patients awaiting AAA surgery and one study focussed on the effects of PET on the postoperative complications, length of stay, and recovery.

Conclusion: Preoperative exercise therapy has beneficial effects on various physical fitness variables of patients with an AAA. Whether this leads to less complications or faster recovery remains unclear. In view of the large impact of postoperative complications, it is valuable to explore the possible benefits of a PET program in AAA surgery.

**Pouwels S**

**Effects of bariatric surgery on inspiratory muscle strength**

Sjaak Pouwels, MD*; Marieke Kools-Aarts*; Mohammed Said, BSc*; Joep A.W. Teijink, MD, PhD*; Simon W. Nienhuijs, MD, PhD*

Background : The respiratory function is affected by obesity due to an increased deposition of fat on the chest wall. The objective of this study was to investigate the strength of the respiratory muscles of obese individuals (before and after bariatric surgery) by measuring the Maximum Inspiratory Pressure.

Methods: Patients referred to a bariatric centre between the 3rd of October 2011 and the 3rd of May 2012 were screened preoperatively by a multidisciplinary team. Their Maximum Inspiratory Pressure (MIP) was measured at screening and 3, 6 and 9 months postoperative.

Results: In total 124 patients were included. The mean age was 42.9 ± 11.0 years and mean BMI was 43.1 ± 5.2 kg/m2. The mean predicted MIP preoperatively was 127 ± 31 in cm H2O and the mean measured MIP was 102 ± 24 in cm H2O. Three patients (2.4%) received training. Three months after surgery the MIP was 76 ± 26 cm H2O, after 6 months 82 ± 28 cm H2O and after 9 months 86 ± 28 cm H2O. All postoperative measurements were significant lower than preoperatively ($P<0.05$). The only influencing factor for the preoperative MIP was age ($p=0.014$).

Conclusion: The preoperative Maximum Inspiratory Pressure values were significantly lower than the predicted MIP values, probably due to altered respiratory mechanics in the studied population and the used predictive equation. A significant decrease in inspiratory pressures was found at 3, 6 and 9 months after bariatric surgery. Age was found to be an important factor for a decreased preoperative MIP.

**Simkens GA**

**Serious Postoperative Complications Affect Early Recurrence After Cytoreductive Surgery and HIPEC for Colorectal Peritoneal Carcinomatosis**

Geert A. Simkens MD*, Thijs R. van Oudheusden MD*, Misha D. Luyer MD PhD*, Simon W. Nienhuijs MD PhD*, Grard A. Nieuwenhuijzen MD PhD* Harm J. Rutten MD PhD*, Ignace H. de Hingh MD PhD*

Background. The prognosis of patients with peritoneally metastasized colorectal cancer has improved significantly with the introduction of cytoreductive surgery followed by hyperthermic intraperitoneal chemotherapy (CRS+HIPEC). Although a macroscopically complete resection is achieved in nearly every patient, recurrence rates are high. This study aims to identify risk factors for early recurrence, thereby offering ways to reduce its occurrence.

Methods. All patients with colorectal peritoneal carcinomatosis treated with CRS+HIPEC and a minimum follow-up of 12 months in April 2014 were analyzed. Patient data were compared between patients with or without recurrence within 12 months after CRS+HIPEC. Risk factors were determined using logistic regression analysis. Postoperative complications were graded according to the Serious Adverse Events (SAE) score, with grade 3 or higher indicating complications requiring intervention.

Results. A complete macroscopic cytoreduction was achieved in 96% of all patients treated with CRS+HIPEC. Forty-six of 133 patients (35%) developed recurrence within 12 months. SAE=3 after CRS+HIPEC was the only significant risk factor found for early recurrence

(OR=2.3; p=0.046). Median survival in the early recurrence group was 19.3 months, compared to 43.2 months in the group without early recurrence (p<0.001). Patients with SAE=3 showed a reduced survival compared to patients without such complications (22.1 vs. 31.0 months, respectively, p=0.02).

Conclusion. Early recurrence after CRS+HIPEC is associated with a significant reduction in overall survival. This study identifies post-operative complications requiring intervention as the only significant risk factor for early recurrence, independent of the extent of peritoneal disease, highlighting the importance of minimizing the risk of post-operative complications.

## ECC

**Feron JC**

**The efficacy of early warning score for early recognition of deterioration in a postoperative setting: a systematic review**

Coen Feron*, Marc Buise*, Koen Reesink, Erik Korsten*, R. Arthur Bouwman*

Background: Early warning scores (EWS) are recommended in healthcare for early detection of patient deterioration in a wide range of clinical conditions. In this systematic review we aimed to assess the clinical value and the proposed parameters of EWS in the direct post-operative period.

Methods: Studies of all epidemiologic designs were included, if patients were aged >13 years, underwent a surgical procedure and if an EWS for postoperative monitoring was used. Analysis was performed according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol.

Results: 34 articles were retrieved by the initial literature search. 5 articles involving cumulatively 4285 patients were included in the final analysis. The limited number of articles and the heterogeneity in the EWS between studies did not allow pooling of data. All articles showed that EWS scores predicted adverse post-operative outcomes, like mortality, length of stay, unplanned ICU-admission and re-admission with acceptable discriminative power (AUC's on the ROC curves ranging from 0.538 – 0.630). Oxygen saturation, age, heart rate and respiratory rate were identified as the most discriminating parameters (AUC ranging from 0.74 – 0.82), although the different input parameters and algorithms to calculate EWS prohibited elucidation of absolute thresholds.

Conclusion: Current literature seems to substantiate the added value of EWS systems in the prediction of patient deterioration in the direct postoperative period. Although absolute thresholds cannot be determined, the input parameters, oxygen saturation, age, heart rate and respiratory rate are identified as the most discriminating in the prediction for patient deterioration.

## Gynaecologie

**Kuijsters N**

**Validating measurement of uterine movement with sonographic strain imaging, using speckle tracking: A prospective observational comparative study**

Nienke P.M. Kuijsters M.D.* Yvonne A.C. Vriens B.Sc.* Chiara Rabotti PhD Massimo Mischi PhD, Benedictus C. Schoot M.D. PhD*

Background: Normal and abnormal uterine peristalsis in a non-pregnant uterus has proven to play a role in natural fecundity. However, validated, objective quantification of uterine movement is not yet available.

Objectives: In this feasibility study measurements of uterine activity, velocity and amplitude are performed during the most active (A) and non-active (NA) phases of the cycle, using strain analysis.
Methods: Design: Prospective observational comparative study.
Setting: Non-university teaching hospital.
Patients: 14 women aged 18-40, with regular menstrual cycles.
Interventions: Transvaginal sonography (TVS) followed by strain analysis.
Measurements & main results: In 14 women (8 during active (A) preovulatory phase; 6 in non-active (NA) late luteal phase) 20 seconds of TVS were recorded and analyzed using speckle tracking at a later stage. As expected, cervical area showed little to no activity in all recordings: median of 0 (0-1) compared to the fundus (median of 3 (0-14); p=0,003. The fundal area was significantly more active compared tot the cervix in the A group (p=0,012). In contrast, such a significant difference was absent in the NA group (p=0,102). Fundal movements were significantly more present in the A group (7/20sec, range 2-14) compared to the NA group (0,5/20sec, range 0-3): p=0,009. If fundal movement occurred, amplitude or velocity did not significantly differ between A and NA groups.
Conclusion:This feasibility study shows that transvaginal sonographic strain imaging is able to measure frequency, amplitude as well as velocity of uterine movement. This technique might be able to easily measure uterine contractions in fertility work-up or treatment.

## Inwendige geneeskunde

**Hermans C**

**The value of videocapsule endoscopy prior to double balloon enteroscopy in diagnostics and therapy of small bowel pathology**

CJM Hermans*, A Stronkhorst, MD, PhD*, LPL Gilissen, MD, PhD*

Background: Videocapsule endoscopy (VCE) and double balloon enteroscopy (DBE) allow deep exploration in patients with suspected small bowel pathology. VCE is often performed as initial small bowel examination.
Study aims: To evaluate VCE and DBE indications, detection rates, concordance between both techniques, interventions and complications.
Methods: Retrospective observational study in a tertiary referral hospital
Results: VCE (n=363) was positive in 54%, showing mostly angiodysplasias (45%), often located in the proximal jejunum (45%). In case of (occult) bleeding/anemia detection rate was higher (56%) than in patients with abdominal pain/diarrhea (43%). No major complications occurred. Incomplete VCE occurred in 22% due to inadequate bowel cleansing or technical reasons.
DBE (n=285) was positive in 78%. Angiodysplasias were most common findings in antegrade DBE (43%). In retrograde DBE colonic polyps (28%) were most frequent. In 68% of DBE a biopsy or intervention was done. Major complications in DBE were only perforations (0.7%), no pancreatitis occurred. Overall agreement between 148 DBE with preceded VCE was 64% (kappa = 0.05).
Conclusion: VCE detection rate is comparable to previous studies, with better results for (occult) bleeding/anemia than abdominal complaints. DBE results are better than previous reports (43-69%), possibly due to the selection of patients with preceding examinations such as VCE, CT or MRI. Remarkably frequent colonic pathology was found, despite earlier colonoscopy. The concordance between DBE and preceding VCE is relatively poor. Nevertheless VCE seems to be an adequate initial examination before performing DBE, to select patients and choose the optimal insertion route.

New insights

This large retrospective observational study showed that (occult) bleeding / iron deficiency anemia is a good indication for VCE and/or DBE, as opposed to abdominal complaints. VCE seems to be a good method for selecting patients for DBE and determining insertion route.

**Meulen K ter**

**HOW EFFECTIVE IS A MULTIDISCIPLINARY PRE-DIALYSIS PROGRAM?**

Karlien ter Meulen*, Marijke Dekker*, Hanneke Bogers*, Marieke Kerskes, Constantijn Konings*

Background: It is mandatory to include patients with end stage renal disease (MDRD <30 ml/min) in a multidisciplinary pre-dialysis program in the Netherlands. Patients will be educated and prepared for renal replacement therapy. There could be a permanent access created or to investigate the option for pre-emptive transplantation.

Purpose: Our institution started with the pre-dialysis program in 2008. The expected outcome is that this would lead to more starts on a correct access, less urgent starts and reduced mortality. We would like to analyze if this is applicable for our dialysis population.

Methods: In this retrospective study, medical records of patients that started with peritoneal (PD) or hemodialysis (HD) from 2002 to 2013 were analyzed in search of factors associated with outcome.

Results: 355 patients were included and 274 patients (77.2%) started with HD. 93 patients (26.2%) attended the pre-dialysis program (PDP) and 40 patients (14.6%) attended this longer than 6 months (PDP6). 71 patients (27%) in the non pre-dialysis group had the correct access at time of dialysis compared to 24 patients (45%) less than 6 months in the PDP and 28 patients (70%) of patients in the PDP6 group. 171 patients (65.3%) in the non pre-dialysis group had an urgent start versus 3 patients (7.5%) in the PDP6. The mortality during the first six months of dialysis was reduced from 23.3% to 10.0% by including patients more than six months in PDP.

Conclusion: A multidisciplinary pre-dialysis program is effective if patients are included more than six months before starting dialysis. Therefore early referral remains essential

## Maag-darm-leverziekten

**Strijbos D**

**Clinical experiences with percutaneous endoscopic colonostomy**

D.Strijbos, Bsc*, J.P de Zoete MD*, L.P.L. Gilissen, MD, PhD*

Objectives: Percutaneous endoscopic colonostomy (PEC) is a technique derived from gastrostomy (PEG). When conservative treatment of chronic constipation, recurrent volvulus or megacolon fails, colonirrigation through PEC seems less invasive than surgery (appendicostomy or colono/ileostomy).

Aims: To evaluate the results of PEC performed in the Catharina Hospital Eindhoven.

Methods: Retrospective analysis was performed of all patients that underwent PEC in our hospital.

Results: Ten patients received PEC, for chronic constipation (n=8), volvulus (n=1), or megacolon (n=1). PEC placement and irrigation was safe and effective in relieving symptoms in 8 patients. Two patients had a moderate or only short-term effect.

Three patients developed minor peristomal infection, easily treated with antibiotics. Two patients had a prolonged hospital admission due to focal pain after PEC insertion, without infection, treated with (local) analgesics. No other complications or mortality occurred. One patient developed a buried bumper after 2 years, with abscess and colocutaneous fistula after PEC removal. In total, three PEC tubes were removed after 0.5 to 2 years: because of a

buried bumper (n=1), irrigation was no longer needed (n=1) and at wish of the patient, who preferred a colonostomy (n=1). This patient underwent colonostomy without complications, because of recurrent constipation one year after PEC.

Conclusions: PEC was safe and effective in this series. PEC may be an alternative for surgery in patients with chronic constipation, volvulus or megacolon not responding to conventional therapy.

## Spoedeisende Hulp

**Smits G**

**Highly concentrated intranasal fentanyl for analgesia in adults and children in the emergency department – an observational study**

Gaël JP SMITS*, Emergency Physician KNMG Wendy AM THIJSSEN, PhD*, Emergency Physician KNMG, Erik HM KORSTEN, PhD*

Background: For intranasal analgesia in the emergency department (ED) fentanyl volumes (at doses 1.5 to 2 µg/kg) exceed the ideal volumes per nostril in patients weighing >20-50kg, resulting in runoff of some of the dose out of the nose. This has been shown to reduce its analgesic effect.

Objective: To investigate the analgesic effect of a highly concentrated intranasal fentanyl spray (50-200ug/0.1mL) for acute non-cancer pain in the emergency department (ED).

Methods: Prospective, observational, single centre study in adults and children weighing >20kg with moderate to severe non-cancer pain (verbal numerical rating scale [VNRS] 4 or more) of any origin in an ED of a large teaching hospital. Fentanyl was dosed according to a dosing table.

The primary outcome was reduction in VNRS after 10 minutes of intranasal administration. The secondary outcomes were: side effects, VNRS reduction in patients under and over 50kg.

Results: In 75 patients aged 5-87, the mean VNRS dropped from 7.9 to 5.3 after 10 minutes (difference 2.6; $p<0.001$; 95% CI 2.1-3.1). Mean fentanyl dose was 1.8 µg/kg. No desaturation occurred. One patient had asymptomatic hypotension.

Conclusion: Highly concentrated intranasal fentanyl spray results in clinical perceivable analgesia for acute pain in ED patients weighing 20 kg or more.

## Urologie

**Bilt - Sonderegger L van de**

**Hoe dilateert Nederland?**

Lisette vd Bilt-Sonderegger*, Ellen Martin,

Achtergrond: Zelfdilatatie is een eenvoudige praktische handeling die aangeleerd wordt bij patiënten met urethrastricturen. In de internationale literatuur bestaat er nog geen evidence based richtlijn om patiënten te instrueren bij zelfdilatatie. Ook bestaat geen inzicht welke factoren van belang zijn bij het aanleren van zelfdilatatie waarbij de patiënt de minste kans heeft op nadelige gevolgen van deze behandeling, zoals pijnklachten, beleving van de patiënten en beschadiging van de urethra.

Doelstelling: Het doel van deze enquête is gericht op het verkrijgen van inzicht hoe het proces van zelfdilatatie wordt aangeleerd in Nederland door de verschillende zorgprofessionals.

Methode: Er is een landelijke en cross-sectionele survey gehouden onder 115 urologie- en continentieverpleegkundigen in Nederland. Een digitale enquête is verstuurd. Om de inhoudsvaliditeit te borgen is gebruik gemaakt van een expertgroep.
Resultaten: Op de enquête die werd verstuurd naar de urologie/ continentieverpleegkundigen in Nederland(N=115), werd een respons verkregen van 65%.
De belangrijkste bevinding is dat er veel variabele werkwijze zijn als het gaat om keuzes van charrière, frequentie en wijze van aanleren;
Van alle respondenten geeft 36,7% te dilateren met katheter ch 16. Daarentegen dilateert 20% met ch 18 en 35% met een combinatie van verschillende ch.
Met betrekking tot frequentie geeft 16,9% van de respondenten aan 1 tot 2x per week te dilateren terwijl 47,5% een eigen schema hanteert ( niet specifiek beschreven)
Een grote groep van 48,3% laat de katheter tijdens dilateren niet in situ terwijl ruim 40% de katheter 1 minuut of langer in de urethra laten.
Conclusie: De grote diversiteit van de werkwijzen vraagt om vervolgonderzoek. Dit vervolgonderzoek richt zich eerst op retrospectief dossieronderzoek om de analyses vanuit de enquête te bevestigen. De analyse van de verkregen gegevens zullen zich richten op de werkwijze van aanleren en kwaliteit van leven.

**Sar E van der**

**Univariate en multivariate analyse van een gecombineerde klinische en dosimetrische database van een cohort van 1123 brachytherapie patiënten prostaat carcinoom**

E.C.A. van der Sar*, H.A. van den Berg*, J.H. Weterings, M.J.A.M. de Wild*t

Sedert 2000 is het Catharina ziekenhuis gestart met brachytherapie voor prostaatkanker. Het is een vruchtbare samenwerking tussen de afdelingen Radiotherapie, Klinische Fysica en Urologie.
Doelstelling: De klinische database is met de dosimetrische database gecombineerd. Dit ter identificatie van factoren die het succes van brachytherapie of bijwerkingen bepalen. Dit maakt toekomstige betere selectie van patiënten mogelijk.
Methode: Retrospectieve data collectie is uitgevoerd van alle brachy patiënten van de afgelopen 14 jaar. Twee behandel regimes zijn toegepast: het low en high risk (LR en HR) protocol.
Resultaten: LR patiënten doen het significant beter in hun Biochemical Progression-Free Survival (BPFS).
Multivariate analyse van de LR groep (n= 1026) laat zien dat:

- Prostaatgrootte, neo-adjuvante hormoon therapie (NAHT) en risico categorie voorspellend zijn voor BPFS.
- Gebruik van alpha-blokkers pre-brachytherapie, International Prostate Symptoms Score (IPSS) en dosimetrische Du90 zijn voorspellend voor mictie complicaties. NAHT is voorspellend voor een transurethrale resectie van de prostaat in de follow up.

Univariate analyse van de LR groep laat zien dat:

- Vr100, Dr10 en Dr30 voorspellend zijn voor radiatie proctitis en rectum complicaties.

Univariate analyse van de HR groep (n= 97) laat zien dat:

- Tumor-stadium een voorspellende factor is voor BPFS.
- Gebruik van alpha-blokkers pre-brachytherapie een voorspellende factor is voor mictie-complicaties.
- Prostaat grootte voorspellend voor urine retentie.

Conclusie: Er zijn meerdere factoren geïdentificeerd die invloed hebben op het succes: BPFS en bijwerkingen: urethra complicaties en rectale complicaties van brachytherapie.

**Spakman J**

**Implementatie van MRI Fusie prostaatbiopten**

J.I. Spakman*, J. Nederend*, W. Scheepens*, M.J.A.M. de Wildt*

Detectie van prostaatcarcinoom is aan verandering onderhevig. MRI wordt vaker ingezet om nauwkeurigheid en detectiegraad te verhogen. MRI geleide biopten zijn kostbaar en beperkt beschikbaar. MRI fusie maakt echogeleide bioptering nauwkeuriger.

Doelstelling: Meerwaarde van MRI fusie biopten in dagelijkse praktijk aantonen.

Methode: Patiënten met verhoogd PSA en afwijkende MRI werden gebiopteerd met de Hitachi Hi Vision Preirus met fusie module. Standaardbiopten (SB) werden afgenomen voordat men de MRI beelden had gezien. Nadien werd de MRI in het echoapparaat ingeladen en werden laesies na matching echografisch gericht gebiopteerd.

Resultaten: 73 mannen van gemiddeld 65.6 jaar met een gemiddeld PSA van 9.9 (1.3-63) ug/L) werden gebiopteerd.

3 van 4 (75%) mannen hadden positieve fusiebiopten (FB) bij stijgend PSA na curatieve therapie. Bij 7 patiënten waren enkel FB afgenomen, hiervan waren er 4 positief (57%).

Van de overige 55 werden SB en FB afgenomen. 33 (60%) bleken prostaatkanker te hebben. 21 (38%) hadden positieve SB en FB met gelijke Gleason score (Gl). 7 (13%) patiënten hadden alleen positieve FB, waarvan 6 (86%) Gl =7. Bij 7 patiënten (13%) waren FB negatief, maar SB positief, waarvan 6 (85%) Gl 6.

Gemiddeld percentage positieve biopten was 71.1% in FB en 30.2% in SB ($p = 0.000$). Het percentage tumorlengte was hoger in FB (55.8%) dan in SB (33.7%) ($p = 0.004$).

Conclusies: MRI fusiebiopten lijken in deze gemêleerde patiëntenpopulatie trefzeker, met hogere tumorpercentages en detectie van hooggradige tumoren. Patiënten met negatieve fusiebiopten hadden bovendien meestal Gl 6 in standaardbiopten. Dit suggereert dat MRI fusie weinig hooggradige tumoren mist.

# Tabellen

**Tabel 1: Overzicht aantal publicaties**

| Specialisme | Tijdschrift artikelen | Promoties | Boeken | Hoofstuk | Totaal |
|---|---|---|---|---|---|
| Algemeen Klinisch Laboratorium | 4 | | | | 4 |
| Anesthesiologie | 11 | 1 | | | 12 |
| Apotheek | 1 | 1 | | | 2 |
| Cardiologie | 39 | 1 | | | 40 |
| Cardiothoracale chirurgie | 5 | | | | 5 |
| Chirurgie | 70 | 3 | | 1 | 74 |
| Dermatologie | 14 | | | | 14 |
| ECC | 1 | | | | 1 |
| Facilitair bedrijf | | | 1 | | 1 |
| Geestelijke verzorging | 2 | | | | 2 |
| Geriatrie | 1 | | | | 1 |
| Gynaecologie | 23 | 2 | | | 25 |
| Intensive Care | 2 | | | | 2 |
| Inwendige geneeskunde | 15 | 1 | | | 16 |
| Kindergeneeskunde | 6 | | | | 6 |
| Klinische Fysica | 11 | | | | 11 |
| Kwaliteit | 3 | 1 | | | 4 |
| Longgeneeskunde | 8 | 1 | | | 9 |
| Maag, darm en leverziekten | 8 | | | | 8 |
| Medische psychologie | 1 | | | | 1 |
| Mondziekten en kaakchirurgie | 1 | | | | 1 |
| Neurologie | 6 | | | | 6 |
| Nucleaire geneeskunde | 1 | | | | 1 |
| Onderwijs en Onderzoek | 2 | | | | 2 |
| Operatie Kamers | 3 | | | | 3 |
| Orthopedie | 2 | | | | 2 |
| Pamm | 3 | 1 | | | 4 |
| Plastische chirurgie | 5 | | | | 5 |
| Radiologie | 5 | 2 | | | 7 |
| Radiotherapie | 5 | | | | 5 |
| Revalidatie | 1 | | | | 1 |
| SEH | 1 | | | 2 | 3 |
| Urologie | 5 | 1 | | | 6 |
| **Totaal** | **265** | **15** | **1** | **3** | **284** |

**Tabel 2 Wetenschapsavond**

| **Specialisme** | Wetenschaps avond 2015 Presentaties | Wetenschaps avond 2015 Posters | Totaal |
|---|---|---|---|
| Algemeen Klinisch Laboratorium | | 2 | 2 |
| Anesthesiologie | 1 | 1 | 2 |
| Cardiologie | | 4 | 4 |
| Chirurgie | 1 | 10 | 11 |
| ECC | | 1 | 1 |
| Geriatrie | 1 | | 1 |
| Gynaecologie | | 1 | 1 |
| Inwendige geneeskunde | | 2 | 2 |
| Maag, darm en leverziekten | 1 | 1 | 2 |
| Radiotherapie | 1 | | 1 |
| Spoedeisende hulp | | 1 | 1 |
| Urologie | | 3 | 3 |
| **Totaal** | **5** | **26** | **31** |

**Tabel 3: Overzicht aantal artikelen en gemiddelde impactfactor per specialisme**

| Specialisme | Artikelen met impactfactor | Artikelen zonder impactfactor | Totaal aantal artikelen | Gemiddelde impactfactor | Standaard deviatie |
|---|---|---|---|---|---|
| Algemeen Klinisch Laboratorium | 4 | 0 | 4 | 4,173 | 1,727 |
| Anesthesiologie | 10 | 1 | 11 | 3,403 | 3,280 |
| Apotheek | 0 | 1 | 1 | 0 | 0 |
| Cardiologie | 36 | 3 | 39 | 5,467 | 9,057 |
| Cardiothoracale chirurgie | 5 | 0 | 5 | 2,292 | 1.488 |
| Chirurgie | 64 | 6 | 70 | 3,921 | 3,745 |
| Dermatologie | 11 | 3 | 14 | 4,700 | 3,914 |
| ECC | 1 | 0 | 1 | 1,083 | 0 |
| Geestelijke verzorging | 0 | 2 | 2 | 0 | 0 |
| Geriatrie | 0 | 1 | 1 | 0 | 0 |
| Gynaecologie | 19 | 4 | 23 | 2,047 | 1,276 |
| Intensive Care | 2 | 0 | 2 | 17,200 | 18,650 |
| Inwendige geneeskunde | 12 | 2 | 14 | 3,135 | 1,762 |
| Kindergeneeskunde | 3 | 3 | 6 | 4,691 | 5,306 |
| Klinische Fysica | 11 | 0 | 11 | 3,520 | 1,314 |
| Kwaliteit | 3 | 0 | 3 | 4,311 | 0,673 |
| Longgeneeskunde | 8 | 0 | 8 | 3,206 | 1,610 |
| Maag, darm en leverziekten | 9 | 0 | 9 | 8,197 | 8,461 |
| Medische Psychologie | 1 | 0 | 1 | 2,855 | 0 |
| Mond en Kaakchirurgie | 0 | 1 | 1 | 0 | 0 |
| Neurologie | 6 | 0 | 6 | 7,360 | 8,636 |
| Nucleaire geneeskunde | 1 | 0 | 1 | 3,843 | 0 |
| Onderwijs en Onderzoek | 1 | 1 | 2 | 1,003 | 1,418 |
| Operatie Kamers | 3 | 0 | 3 | 1,547 | 0,662 |
| Orthopedie | 1 | 1 | 2 | 1,664 | 2,353 |
| Pamm | 3 | 0 | 3 | 3,991 | 1,343 |
| Plastische chirurgie | 4 | 1 | 5 | 0,799 | 0,618 |
| Radiologie | 5 | 1 | 6 | 3,713 | 2,114 |
| Radiotherapie | 5 | 0 | 5 | 6,909 | 6,206 |
| Revalidatie | 0 | 1 | 1 | 0 | 0 |
| SEH | 1 | 0 | 1 | 4,222 | 0 |
| Urologie | 4 | 1 | 5 | 1,748 | 1,134 |
| **Totaal** | **233** | **33** | **266** | **4,105** | **5,284** |

**Tabel 4: Impactfactor per tijdschrift**

| Titel | Impact factor | Titel | Impact factor |
|---|---|---|---|
| Acta Anaesthesiol Scand | 2.31 | Clin Breast Cancer | 2.628 |
| Acta Derm Venereol | 4.244 | Clin Chem Lab Med | 2.955 |
| Acta Obstet Gynecol Scand | 2.005 | Clin Gastroenterol Hepatol | 6.534 |
| Acta Oncol | 3.71 | Clin Genet | 3.652 |
| Am J Physiol Heart Circ Physiol | 4.012 | Clin Microbiol Infect | 5.197 |
| Am J Respir Crit Care Med | 11.986 | Clin Oncol | 2.826 |
| Am J Surg Pathol | 4.592 | Clin Res Cardiol | 4.167 |
| Anaesth Intensive Care | 1.47 | Clin Ther | 2.586 |
| Anaesthesia | 3.846 | Contrast Media Mol Imaging | 3.333 |
| Ann Oncol | 6.578 | Coron Artery Dis | 1.302 |
| Ann Surg Oncol | 3.943 | Curr Cardiol Rep | -- |
| Ann Surg | 7.188 | Curr Oncol Rep | 2.868 |
| Ann Thorac Surg | 3.631 | | |
| Ann Vasc Surg | 1.029 | Diabetes Care | 8.750 |
| Arch Gynecol Obstet | 1.279 | Dig Surg | 1.742 |
| Atherosclerosis | 3.971 | Disabil Rehabil | -- |
| Autophagy | 11.423 | | |
| | | E-spen Journal | -- |
| Biochim Biophys Acta | 3.431 | Early Hum Dev | 1.931 |
| BJOG | 3.76 | Endoscopy | 5.196 |
| BJU Int | 3.13 | Eur Heart J | 14.723 |
| Blood | 9.775 | Eur J Anaesthesiol | 3.011 |
| BMC Cancer | 3.32 | Eur J Cancer | 4.819 |
| BMC Cardiovasc Disord | 1.50 | Eur J Clin Microbiol Infect Dis | 2.544 |
| BMC Health Serv Res | 1.66 | Eur J Hum Genet | 4.225 |
| BMC Neurol | 2.49 | Eur J Surg Oncol | 2.892 |
| BMC Pediatr | 1.92 | Eur J Vasc Endovasc Surg | 3.070 |
| BMC Pregnancy Childbirth | 2.15 | Eur Radiol | 4.338 |
| BMC Pulm Med | 2.49 | Eur Respir J | 7.125 |
| BMC Surg | 1.24 | Eur Urol | 12.480 |
| BMJ Case Rep | -- | EuroIntervention | 3.758 |
| BMJ Open | 2.063 | Europace | 3.050 |
| Br J Anaesth | 4.354 | Expert Opin Drug Saf | 2.735 |
| Br J Dermatol | 4.1 | | |
| Br J Surg | 5.21 | Fertil Steril | 4.295 |
| Breast Cancer Res Treat. | 4.198 | | |
| | | Gastroenterology | 12.821 |
| Can Urol Assoc J | 1.92 | Heart Lung Circ | 1.172 |
| Cancer Epidemiol | 2.558 | Heart Rhythm | 4.918 |
| Cancer Treat Rev | 6.466 | Hum Reprod | 4.585 |
| Cardiol J | 1.215 | | |
| Cardiovasc Diabetol | 3.71 | IEEE Trans Biomed Eng | -- |
| Cardiovasc Ultrasound | 1.28 | Int J Behav Med | 2.210 |
| Circulation | 15.202 | Int J Cancer | 5.007 |

| | |
|---|---|
| Int J Cardiol | 6.175 |
| Int J Gynaecol Cancer | 1.949 |
| Int J Nurs Stud | 2.248 |
| Int J Radiat Oncol Biol Phys | 4.524 |
| Int J Surg | 1.650 |
| Intensive Care Med | 5.544 |
| Interact Cardiovasc Thorac Surg | 1.109 |
| J Allergy Clin Immunol | 11.248 |
| J Alzheimers Dis | 3.612 |
| J Am Acad Dermatol | 5.004 |
| J Am Coll Cardiol | 15.343 |
| J Anesth | 1.117 |
| J Behav Med | 2.855 |
| J Biomech | 2.496 |
| J Biomed Mater Res B Appl Biomater | 2.328 |
| J Card Surg | 0.888 |
| J Cardiothorac Vasc Anesth | 1.482 |
| J Cardiovasc Pharmacol | 2.111 |
| J Cardiovasc Surg | 1.365 |
| J Cardiovasc Transl Res | 2.691 |
| J Clin Anesth | 1.210 |
| J Clin Invest | 13.765 |
| J Clin Microbiol | 4.232 |
| J Clin Oncol | 17.960 |
| J Contemp Med Edu | -- |
| j crohns colitis | 3.562 |
| J Cutan Med Surg | 0.714 |
| J Electrocardiol | 1.363 |
| J Endourol | 2.095 |
| J Gastrointest Surg | 2.391 |
| J Haert Valve Dis | 1.071 |
| J Hypertens | 4.222 |
| J Invest Dermatol | 6.372 |
| J Magn Reson Imaging | 2.566 |
| J Med Internet Res | 4.7 |
| J Minim Invasive gynecol | 1.575 |
| J Neurol Neurosurg Psychiatry | 5.580 |
| J Obstet Gynaecol Can | -- |
| J Plast Reconstr Aesthet Surg | 1.474 |
| J Psychosom Res | 2.839 |
| J Reconstr Microsurg | 1.006 |
| J Surg Educ | -- |
| J Surg Oncol | 2.843 |
| J Thorac Cardiovasc Surg | 3.991 |
| J Thromb Haemost | 5.55 |
| J Vasc Surg | 2.980 |
| JACC Cardiovasc Interv | 7.440 |
| JAMA | 30.387 |
| Lancet Oncol | 24.725 |
| Leuk Res | 2.692 |
| Med Eng Phys | 1.839 |
| Medisch Contact | -- |
| Midwifery | 1.707 |
| Minerva Anestesiol | 2.272 |
| Mov Disord | 5.634 |
| Muscle Nerve | 2.311 |
| N Engl J Med | 54.42 |
| Ned Tijdschr Geneeskd | -- |
| Ned Tijdschr Tandheelkd | -- |
| Neth Heart J | 2.263 |
| Neuroscience | 3.327 |
| Nucl Med Commun | 1.371 |
| Obes Surg | 3.739 |
| Perfusion | 1.083 |
| Pharmaceutisch Weekblad | -- |
| Physiol Meas | 1.617 |
| Platelets | 2.627 |
| PLoS One | -- |
| Psychosom Med | 4.085 |
| PW Wetenschappelijk Platform | -- |
| Radiat Oncol | 2.36 |
| Radiother Oncol | 4.857 |
| Recent Results Cancer Res | -- |
| Reprod Biomed Online | 2.980 |
| Respir Res | 3.38 |
| Rheumatology (Oxford) | 4.435 |
| Simul Healthc | 1.593 |
| Stroke | 6.018 |
| support care cancer | 2.495 |
| Surg Endosc | 3.313 |
| Surg Innov | 1.338 |
| Surg Technol Int | -- |
| Tech Coloproctol | 1.344 |
| Thromb Haemost | 5.760 |
| Thromb Res | 2.427 |
| Thyroid | 3.843 |
| Tijdschrift voor Kindergeneeskd | -- |
| Tijdschrift voor Ouderenzorg | -- |
| Trials | 2.12 |

| | |
|---|---|
| Ultrasound Med Biol | 2.099 |
| United European Gastroenterol J | -- |
| Value Health | 2.891 |
| Vascular | 1.000 |
| World J Gastroenterol | 2.433 |
| World J Gastrointest Surg | -- |

# Auteursindex

Het Catharina Ziekenhuis maakt deel uit van Santeon

Het Catharina Ziekenhuis is lid van de vereniging
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