Forskningsymposium
2016
(EMNE)??
Abstracts
Forord

Berit S. Andersen
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Oktober 2016

Regions hospitalet Randers, Skovlyvej 1, 8930 Randers NØ
**Program**

15:00  
**Velkommen og reflektioner over status på forskningen på Regionshospitalet Randers**  
v/Berit S. Andersen, konst. forskningschef, Regionshospitalet Randers

15:15  
**Forelæsning: Fedt, flid og...**  
v/professor Jens Meldgaard Bruun, forskningsansvarlig overlæge, Medicinsk afd.,  
Regionshospitalet Randers

15:45  
**Pause med forfriskninger**

16:00  
**Poster Walk**  
Moderator: Berit S. Andersen, konst. forskningschef, Regionshospitalet Randers

17:00  
**Videnskabelige foredrag**  
Moderator: **Lone el. Kristjar**

1. **Caesarean delivery without routine urinary catheterization, a randomized controlled clinical trial, H. F. Bungum, reservelæge**
2. **Safety Rounds improve patient safety culture in Acute Admission Units, A.-S. Sølvtofte, udviklingssyggeplejerske**
3. **Significance of N-Terminal Pro-B-type Natriuretic Peptide (NT-proBNP) in Primary Care – a Pragmatic, Cluster-randomized Study, A.G. Najbjerg, forskningsårsstuderende**
4. **Certified Basic Life Support Instructors Assess, C. Hansen, forskningsårsstuderende**
5. **Histological Profiling of the Tumor Microenvironment in Molecular Subclasses of Colorectal Cancer, M. S. Melnikova, forskningsassistent**
6. **The association between exposure of the newborn of the newborn to hypoglycemia, and adverse neurological outcome, H. G. Olesen, udviklingssyggeplejerske**
7. **Audit of FIGO-stage, age and cervical cancer screening history in women diagnosed with cervical cancer, S. F. Knudsen, uddannelseslæge**
8. **Leakage rate after laparoscopic colonic resection with intracorporal anastomosis, J. Nors, forskningsårssstuderende**

18:30  
**Afrunding**  
v/Berit S. Andersen, konst. forskningschef, Regionshospitalet Randers

18:45  
**Middag i hospitalets kantine**

**Festtale v/Kristjar Skajaa, Leder af Institut for Klinisk Medicin, Aarhus Universitet**  
Prisoverrækkelse til vindere af priser for bedste poster, bedste mundtlige foredrag og bedste publikation.
Abstracts – Oral Presentations

1. Caesarean delivery without routine urinary catheterization, a randomized controlled clinical trial

**Bungum, HF, Department of Obstetrics and Gynecology, Randers Regional Hospital**

**Ledertoug, S, Department of Obstetrics and Gynecology, Randers Regional Hospital**

**Glavind, J, Department of Obstetrics and Gynecology, Randers Regional Hospital**

**Glavind, J, Department of Obstetrics and Gynecology, Aarhus University Hospital**

**Bor, P, Department of Obstetrics and Gynecology, Randers Regional Hospital**

**Background**

In 2015, approximately 20% of all pregnant women delivered by caesarean section.

Preoperative preparations for caesarean delivery include placement of an indwelling urinary catheter. The rationale behind the procedure is decreased risk of injury to a distended bladder and to avoid postoperative urinary retention. However, the placement of an indwelling urinary catheter poses a considerable risk of urinary tract infection, besides cost of delayed ambulation, longer hospital stay and catheter associated discomfort to the woman.

The aim of this study is to determine the incidence of urinary tract infection, pre- and postoperative complications in women giving birth by caesarean section without urinary catheterization.

**Methods**

A total of 200 pregnant women delivering by planned caesarean section at the Department of Gynaecology and Obstetrics at the Regional Hospital of Randers will be randomized to either routinely preoperatively placement of an indwelling catheter or no catheterization.

Both groups are instructed in pre-operatively voiding (within ½ hour) before surgery and collected urine samples are tested for bacteria using urinary dipstick and cultivation.

Postoperative observations include incidence of urinary retention and urinary tract infections, postpartum haemorrhage, ambulation time, length of hospital stay and assessment of catheter-associated pain/discomfort.
**Results**

What is the true incidence of catheter associated urinary tract infection after caesarean delivery?

Are women giving birth by caesarean section, without urinary catheterization, at higher risk of urinary retention?

Are there any cases of injuries to the bladder without routine catheterization?

Could we obtain lower costs, shorter ambulation time and hospital stay by using this new set-up without routine urinary catheterization?

**Conclusion**

With this study we hope to evaluate the possible benefits of caesarean delivery without routine placement of an indwelling catheter.
2. Safety Rounds improve patient safety culture in Acute Admission Units

Sølvtofte, AS, Emergency Department, Randers Regional Hospital, Denmark

Laustsen, S, Department of Cardiothoracic and Vascular surgery, Aarhus University Hospital

Centre of Research in Rehabilitation (CORIR), Department of Clinical Medicine, Aarhus University, Denmark

Background

Patient Safety Rounds (PSRs) are widely used in healthcare organizations to improve patient safety. There is limited evidence to support the effectiveness of PSRs to improve patient safety culture (PSC). The relationship between hospital staff assessments of PSC and PSRs needs further investigation. The aim of this study was to evaluate the effect of an intervention with PSRs on PSC in an Acute Admission Unit at Randers Regional Hospital Denmark.

Methods

This was a follow-up study to evaluate the effect of an intervention with PSRs on hospital staff reporting the PSC at the unit level. PSC was measured with the questionnaire Hospital Survey Of Patient Safety Culture (HSOPSC) before and after an intervention with PSRs. A weak and immature PSC was found at baseline in November 2014. To improve PSC the Department Management and the Quality Consultant conducted PSRs once a week for two months during the period of February to April 2015 with random participation of clinicians and administrative personal. Post PSC was measured in April 2015.

Results

We found that PSR showed significant improvement in the dimensions ‘Supervisor/manager Expectations & Actions Promoting Patient Safety’ with 19.8% (95% Confidence Interval (CI):9.8;29.8) and ‘Feedback and Communication About Error’ with 13.7% , (95% CI: 0.4;27.0). The dimension ‘Nonpunitive Response to Errors’ increased non-significantly with 9.5%, (95% CI -1.7;20.6).

Conclusion

PSRs are a promising tool that can improve PSC in hospitals and thereby patients safety. Further examination is needed to determine the efficiency of PSRs on PSC over time; considering a longer intervention period and a control group for a stronger design.
3. Significance of N-Terminal Pro-B-type Natriuretic Peptide (NT-proBNP) in Primary Care - a Pragmatic, Cluster-randomized Study

Najbjerg, AG, Clinical Biochemical Department, Randers Regional Hospital
Bruhn, LV, Clinical Biochemical Department, Randers Regional Hospital
Sandbæk, A, Institute of Public Health, Aarhus University
Hornung, N, Clinical Biochemical Department, Randers Regional Hospital

Background
Chronic heart failure (CHF) is difficult to recognize in primary care. N-terminal pro B-type natriuretic peptide (NT-proBNP) can be used as a rule-out test in CHF due to its high negative predictive value. Earlier studies evaluating the effect of NT-proBNP are limited by controlled environments. Therefore we wished to investigate 1) the outcome of offering NT-proBNP for requisition in primary care and 2) to which extent the GPs adopt the analysis in a real-life setting.

Methods
We conducted a pragmatic, cluster-randomized trial. 69 provider numbers (PN) in Randers (Central Denmark) with a total patient base of 118,052 were randomized. 34 PN were allocated to the intervention group and offered NT-proBNP for requisition. The primary outcome was patients referred for echocardiography diagnosed with CHF.

Results
Fraction of patients diagnosed with CHF in the two groups were the same (12.2 vs. 13.2 %, p=0.85). A total of 700 NT-proBNP analyses were requested from 31 PN of which 611 were unique. NT-proBNP was measured in 36.6 % of referred patients. Waiting time for echocardiography did not differ significantly between groups.

Conclusion
Increased diagnostic accuracy shown in controlled environments could not be reproduced in this real-life setting. Sufficient implementation is a challenge.
4. Certified Basic Life Support Instructors Assess

**Hansen, C, Clinical Research Unit, Randers Regional Hospital**

Rasmussen, SE, Research Center for Emergency Medicine, Aarhus University Hospital

Nebsbjerg, MA, Research Center for Emergency Medicine, Aarhus University Hospital

Stærk, M, Research Center for Emergency Medicine, Aarhus University Hospital

Løfgren, B, Research Center for Emergency Medicine, Aarhus University Hospital, Department of Internal Medicine, Randers Regional Hospital, Department of Clinical Medicine, Aarhus University

**Background**

High-quality cardiopulmonary resuscitation (CPR) improves survival from cardiac arrest. During basic life support (BLS) training, instructors assess CPR skills to enhance learning outcome. The aim of this study was to investigate certified BLS instructors’ assessment of chest compressions and rescue breathing.

**Methods**

Data were collected at BLS courses for medical students at Aarhus University, Denmark. In pairs, BLS instructors, certified by the European Resuscitation Council, evaluated each learner in an end-of-course test. Instructors’ assessments were compared with CPR quality data from the resuscitation manikin.

Correct chest compressions were defined as ≥2 out of 3 CPR cycles with 30±2 chest compressions at a depth of 50-60mm and rate of 100-120 min⁻¹. Correct rescue breathing was defined as ≥50% efficient breaths in 3 CPR cycles with visible, but not excessive, manikin’s chest raise (for instructors) or a volume of 500-600 mL (manikin data).

**Results**

We included data from 90 end-of-course assessments undertaken by 16 instructor pairs. Instructors identified correct chest compressions with a sensitivity of 0.96 (95% confidence interval (CI95%) 0.79-1) and a specificity of 0.05 (CI95% 0.01-0.14), and correct rescue breaths with a sensitivity of 1 (CI95% 0.40-1) and a specificity of 0.07 (CI95% 0.03-0.15). Instructors mistakenly failed one learner due to inadequate compression depth, while passing 53 (59%) learners with inadequate compression depth based on manikin data. Instructors correctly failed 6 (7%) learners due to inadequate rescue breaths. However, 80 (89%) inadequate rescue breath performances were not identified.
Conclusions

Certified BLS instructors assess performance of chest compression depth and rescue breathing poorly. This emphasizes the need for educating instructors in CPR assessment. The use of feedback devices to support instructors’ assessment of CPR skills may favour high-quality learning outcome.
5. Histological Profiling of the Tumor Microenvironment in Molecular Subclasses of Colorectal Cancer

Melnikova, MS, Institute of Pathology, Randers Regional Hospital
Bramsen, JBB, Department of Molecular Medicine (MOMA), Aarhus University
Dutoit, SJHD, Institute of Pathology, Aarhus University Hospital
Andersen, CLA, Department of Molecular Medicine (MOMA), Aarhus University
Holm, IEH, Institute of Pathology, Randers Regional Hospital and Department of Molecular Medicine, and Department of Molecular Medicine, Aarhus University

Background

Colorectal cancer (CRC) is the third most common cancer globally. Selection of CRC treatment is based on pathological classification, grading, and TNM (tumor/node/metastasis) staging. However, tumors within the same pathological group can differ in treatment response and prognosis due to the molecular heterogeneity of CRC.

Studies of tumor biology have stratified CRC into molecular subtypes and identified importance of the tumor microenvironment in disease progression. Based on the molecular classification we found subtype-specific prognostic biomarkers at the RNA level. Application of these biomarkers as a diagnostic tool is challenging due to several limitations (e.g. high running costs, technically demanding). Routine use of biomarkers in clinical practice requires low-cost, clinically available methods such as immunohistochemistry (IHC).

The aim of the project is to facilitate the clinical translation of this knowledge by combining gene expression profiles with histology of tumor microenvironment. Using IHC, I will identify potential prognostic and treatment-predictive biomarkers within the tumor microenvironment. The identification of the subtype-specific biomarkers is highly important for personalized cancer treatment and survival of patients.

Methods

On basis of the above we plan following studies in the PhD project:

- Selection of IHC biomarkers will include our own biomarkers (identified in molecular subtypes), stromal and immune cells markers described in the literature.
- IHC staining of the selected biomarkers of CRC subtypes in a discovery cohort (300 TNM stage II and III CRC patients)
• Validation of the biomarkers in a large clinical cohort (900 TNM stage II and III CRC patients)
• Quantification of intra-tumor stroma within the primary tumor by estimation of stroma percentage on the whole tumor area.

The PhD project has been planned, approved by the Faculty of Health, AU, and we are currently seeking funding.
6. The association between exposure of the newborn to hypoglycemia, and adverse neurological outcome

Olesen, HG, Department of Obstetrics, Gynecology and Pediatrics, Randers Regional Hospital
Aagaard, H; Afdeling for Børn og Unge (udestår), Aarhus University Hospital

Background

The objective of this study is to perform a systematic review on the association between neonatal hypoglycemia and adverse neurological outcome.

Impaired glucose homeostasis in newborns during the metabolic transition from fetal to extra uterine life is one of the most frequent problems in the neonatal period.

Controversy exists whether hypoglycemia in the newborn is associated to cerebral palsy, developmental delays, autistic disorders, and impaired school performance. It is concerning that research has suggested an adverse effect of interventions against neonatal hypoglycemia on the bonding between the mother and the infant and a reduction of the rate of breastfeeding. Pain during blood samples may also have a negative effect on later pain response.

A previous review lacking important clinical studies concluded “clinical practice can not be based on valid scientific evidence in this field.”

Thus, it is challenging which newborns to screen and treat prophylactically for hypoglycemia.

Methods

This study will apply the systematic method developed by the Joanna Briggs Institute. The systematic method includes instructions on forming the review question and objective, inclusion criteria, search strategy, assessment of methodological quality, data extraction, and data synthesis.

This review will synthesize associations between neonatal hypoglycemia and adverse neurological outcome. Furthermore it will be investigated if a meta-analysis can be generated and the identified literature will be used to systemize the evidence in connection with the type and quality of research that have generated the results.

Conclusion

The systematic search on title and abstract has identified 88 studies eligible for further assessment. This high number of studies underpins the need in a systematic manor to collect and synthesis all results on the subject. The relevant clinical studies will be included in a systematic review.
7. Audit of FIGO-stage, age and cervical cancer screening history in women diagnosed with cervical cancer

Knudsen SF, Department of Public Health Programmes, Randers Regional Hospital

Andersen, BS, Department of Public Health Programmes, Randers Regional Hospital

Background
An audit of age, FIGO-staging and cervical cancer screening participation for women diagnosed with cervical cancer is carried out every year to ensure the quality of the cervical cancer screening programme.

Methods
Women diagnosed with cervical cancer in 2015 and residing in the Central Region Denmark at the time of diagnosis were audited. Informations on cervical cytologies and cervical biopsies were obtained from the National Pathology Data Bank (Patobank). Informations on FIGO-staging were obtained from the womens electronical medical records.

Results
Forty-eight women in the age group targeted for cervical cancer screening were diagnosed with cervical cancer. The age varied from 27 to 70 years and mean age was 50 years. Fifty-six percent of cases occurred in women younger than 50 years. Fifty percent of cases were staged FIGO I and half of these were among women aged 23-49. Women of older age were more likely to be staged with advanced cancer than younger women. Fifty-six percent of cervical cancer cases were not tested within the last three or five years as recommended by the Danish Health Authority (screening interval differs according to age). One case had a false negative cervical cytology less than three and a half years before diagnosis. Thirty-eight percent had a normal Pap test less than three and a half or five and a half years before diagnosis but all were staged with FIGO I or II i.e. they had less disseminated disease compared to the entire cohort.

Conclusion
The results underline the importance of womens participation in the national cervical cancer screening programme to prevent the development of cervical cancer. Considering the low coverage in the cervical cancer screening programme (75,1%) and the present impaired HPV-vaccine coverage in Denmark, this calls for initiatives to increase womens participation in the screening programme.
8. Leakage rate after laparoscopic colonic resection with intracorporal anastomosis

Nors J, Department of Surgery, Randers Regional Hospital

Sommer T, Department of Surgery, Randers Regional Hospital

Wara, P, Department of Surgery, Section of Colorectal Surgery, Aarhus University Hospital

Background

The possibility of performing intracorporal anastomosis (IA) during laparoscopic right hemicolectomy is still debated. IA has been found not to influence long-term outcomes after laparoscopic right hemicolectomy when compared to extracorporal anastomosis. The purpose of this study was to describe our experience with IA during laparoscopic right hemicolectomy.

Methods

In the period 2011-2016 two surgeons in two centers performed 88 consecutive laparoscopic right-sided hemicolectomies (cancer: 82, Mb. Crohn: 6). All patients were followed prospectively. Intracorporal anastomosis was constructed using an Endo-GIA™ stapler 60 mm, and the defect was closed by Vicryl 3-0® or V-loc™ 3-0 suture.

ASA-score, BMI, information about smoking, alcohol and comorbidity was obtained from the preoperative anesthesia examination. Information regarding the surgical procedure and the postoperative course was registered prospectively.

Complications was defined as postoperative until the 30th day after surgery. Readmission was defined as any readmission related to the surgical procedure within 90 days after surgery.

Results

Anastomotic leakage rate was 4.5% (95%CI, 1.2-11.2) in total (three cancer patients and one Mb. Crohn). Median follow-up was 701 (13-1682) days. There was no significant difference in the risk of anastomotic leakage according to gender, age, ASA-score, BMI, preoperative hemoglobin concentration, diabetes, atherosclerosis, steroid treatment or length of surgery. Patients with leakage was admitted for 28 days median compared to 3 days median for patients without leakage.

Conclusion

Intracorporal anastomosis was found to be a safe technique in laparoscopic right hemicolectomies with an anastomotic leakage rate of 4.5%.
Abstracts – Poster Sessions

9. The effect of realistic hospital resuscitation training: a randomized controlled simulation study

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Aagaard, R, MD, PhD student, Research Center for Emergency Medicine, Aarhus University Hospital, Department of Research, Regional Hospital of Randers, Institute of Clinical Medicine, Aarhus University

Krogh, K MD, PhD, Department of Anaesthesiology and Intensive Care, Aarhus University Hospital

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Gallacher, T, nurse, ALS instructor, Department of Anaesthesiology and Intensive Care, Randers Regional Hospital

Brændgaard, J, intensive nurse, ALS instructor Department of Anaesthesiology and Intensive Care, Randers Regional Hospital

Løfgren, B, Associate professor, MD, PhD Research Center for Emergency Medicine, Aarhus University Hospital, Institute of Clinical Medicine, Aarhus University, Department of Internal Medicine, Randers Regional Hospital

Background

Patients who suffer in-hospital cardiac arrest most often lie in a hospital bed. Despite this, cardiopulmonary resuscitation (CPR) training is often performed on a manikin lying on the floor. Up to 50% of total chest compression depth is absorbed by the mattress in a bed. Aim: The aim of this study was to test the hypothesis that CPR skills are superior after training on a manikin placed in a hospital bed compared to training with a manikin on the floor when training health care professionals.
Methods

We conducted a randomized controlled superiority study. Health care professionals were randomized on an individual level to train CPR either on a manikin placed in a hospital bed or on the floor.

Results

A total of 108 people (101 (94%) women), median age 40 (29-52), nurses 73 (68%)) were eligible for analysis. Median clinical experience was 9 (IQR: 2-18) years. The chest compression depth was 39 mm (10) for the bed group compared to 37.5 mm (9) for the floor group P = 0.49. The fraction of chest compressions with a full recoil for during the first minute was 1.0 (0.96-1.0) for the bed group and 0.99 (0.89-1.0) for the floor group, P = 0.041. The frequency of chest compressions per minute was 103.9 (14.7) and 103.4 (12.6), P = 0.864 for the bed- and floor group respectively. When looking at all participants combined, the group who optimized their working position (jumping up into the bed or lowering the bed) had a mean compression depth of 39 mm (9) compared to 28.8 mm (23-41) for the group who did not optimize their working position, P 0.04.

Conclusion

There is no difference in chest compression depth between the group who trained with the manikin placed in a hospital bed and the group who trained with the manikin on the floor. The overall quality of the performed CPR was poor. We did find a difference in compression depth between the group who changed their working position and the group who did not.
10. Why Do Physicians Not Attend Hospital Resuscitation Training? A Survey Investigating Barriers for Participation

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Højbjerg, R, Fælles AKUT Afdeling (udestår), Aarhus Universitetshospital
Løfgren, B, Department of Internal Medicine, Randers Regional Hospital

Background

Cardiopulmonary Resuscitation (CPR) training is important to provide high-quality CPR. CPR training is therefore mandatory in many hospitals. Despite this, some hospital staff does not attend CPR training on a regular basis. This study aimed to investigate CPR course attendance, barriers for participating in CPR training and possible initiatives to increase CPR course attendance among hospital physicians.

Methods

This study included physicians from two Danish hospitals. Questionnaires were handed out to physicians at morning staff meeting at departments of internal medicine and surgery. Physicians were grouped as junior physicians (residents) and senior physicians (fellows, attending and chief physicians).

Results

In total, 138 physicians responded (response rate: 86%, male: 49%). Median postgraduate clinical experience was 11.5 (IQR: 7-22) years. Overall, 36% of physicians had not attended CPR training at the hospital. Junior physicians had more recent training than senior physicians ((5 (2-12) months versus 25 (14-60) months p<0.0001)). Barriers for attending courses included: not knowing when courses are conducted (67%), not knowing where to sign-up for training (41%), and too much clinical work (19%). Interestingly, (61%) of physicians responded that they prioritize course participation to be professionally updated. In contrast, 15% stated that they had sufficient CPR skills and CPR training was unnecessary. Physicians stated the following factors would improve CPR training participation: an annual day protected (no clinical work) for course attendance (75%), use of short booster sessions (53%), shorter courses combined with e-learning (51%) and shorter courses held over 2 days (46%).

Conclusion

A significant part of physicians have not attended hospital CPR training. Several barriers for course participation exist of which course registration seems to be a crucial factor. Alternative CPR training methods may help improve training participation.
11. Validation of the CALEX cap device for calprotectin extraction

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Lyhne, S, Gastroenterological Department, Randers Regional Hospital

Hornung, N, Department of Clinical Biochemistry, Randers Regional Hospital

Background
Calprotectin extracted from patient fecal matter is commonly used as an indicator for inflammation of the intestines. The extraction is currently time consuming. The objective of this study is to validate the CALEX cap device and compare its use by staff with that of patients.

Methods
A total of 71 adult patients, who visited the gastroenterological clinic in Randers, provided a stool sample used for three tests; one extracted the regular way, one extracted the regular way but diluted to the same concentration as the Cap device, one extracted with the CALEX Cap device. Home-kits of the Cap device were also distributed, a total of 23 patient collected samples by home-kits were received.

Results
Using Passing-Bablok regression and Spearman’s rank correlation coefficient methods to compare: The standard Bühlmann method compared with the modified Bühlmann, Slope 2.56 (2.19-3.00) with intercept at -26.02 (-56.00-3.50) and Spearman’s coefficient of 0.866. The Modified Bühlmann compared with The CALEX Cap device, Slope 1.11 (0.94-1.27) with intercept at -1.06 (-34.30-29.59) and Spearman’s coefficient of 0.937. CALEX done by patients compared to done by staff, Slope 0.82 (0.71-1.27) with an intercept at 11.94 (-91.49-59.15) and Spearman’s coefficient of 0.896.

Conclusion
The CALEX Cap device is a reliable, fast and easy alternative to the current standard of weighing. It can even be used by patients at home with satisfying results.

Arbejdet er udført på regionshospitalet i Randers, på Klinisk Biokemisk Afdeling, i samarbejde med Gastroenterologisk Klinik.
12. Introducing of new method for identifying women at risk of preterm birth, quantitative elastography of the human cervix

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Bor, P, Department of Obstetrics and Gynecology, Randers Regional Hospital
Uldbjerg, N, Department of Obstetrics and Gynecology, Aarhus University Hospital
Sandager, P, Department of Obstetrics and Gynecology, Aarhus University Hospital

Background

In Denmark 6% of women give birth prior to gestational week of 36 (preterm birth). The Bishop score and transvaginal ultrasound have been the two most common used non invasive method for assessing the uterine cervix in women who are at risk of preterm birth.

The Bishop score is a subjective digital examination of the fetus head, dilation of the internal orificium, cervical length, consistency and position of the cervix. Transvaginal ultrasound measures the length of the cervix and how the cervix is positioned and changed over time. These methods only offer moderate performance and low predictive value in low risk women, therefore a new non invasive high performance method are needed.

Elastography is based on ultrasound and measures ultrasound echos during manual compression of the tissue by the ultrasound transducer. Elastography evaluates tissue consistency by compressibility and has shown promising results when evaluation of the uterine cervix. A limitation of elastography has been the force applied by the transducer is unknown, which does not allow quantitative analysis.

We have developed the first prototype of a force measuring device for the vaginal probe. The aim of this study is to investigate the biomechanical properties of the cervix using the new force measuring device.

Methods

A small case controlled study including 60 women in gestational week 12, 20 and 38 attending the Department of Gynecology and Obstetrics, Randers Regional Hospital from 01.10.2016 to 28.02.2017. The biomechanical properties of uterine cervix in 60 pregnant women will be evaluated by the new force measuring devise developed in collaboration with Massachusetts Institute of Technology, USA.
Results

Are we now able to introduce a new method to evaluate women who are at the risk of preterm labour?

Conclusion

A new non invasive method for evaluation of the risk of preterm delivery in low risk women with a high performance status and high predictive value.
13. Phenformin, som et kardio- og neuroprotectivt lægemiddel - Et dyreeksperimentelt studie

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Dezfulian, C, Safar Center for Resuscitation Research, Pittsburgh University
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Baggrund

Hvert år forekommer ca. 3.500 hjertestop uden for hospital i Danmark. Selvom cirka 40 % bliver genoplivet udskrives kun 10 % i live. Under hjertestop udsættes kroppens organer for iltmangel, og efter succesfuld genoplivning en skadelig tilførsel af ilt.


Hypoteze

Phenformin givet umiddelbart inden hjerte-lunge-redning, kan aktivere AMPK og reducere graden af hjerne- og hjerteskade efter hjertestop.

Metoder

Hjertestop inducieres i en rotte hjertestop-model ved at slukke for respiratoreren med en samlet varighed på 9 minutter. Umiddelbart før hjertemassage og ventilation påbegyndes gives enten placebo eller phenformin. Ved lodtrækning inddeles dyrene i 4 grupper: 1) hjertestop + placebo, 5 timers observation. 2) hjertestop + phenformin, 5 timers observation. 3) hjertestop + placebo, 30 min observation. 4) hjertestop + phenformin, 30 min observation. I gruppe 1 og 2 undersøges den beskyttende effekt af phenformin over tid ved hjælp af ekkokardiografi, hæmodynamiske parametre (blodtryk mm), samt inflammationsmarkører. Gruppe 3 og 4 undersøges graden af AMPK-aktivering ved Western blotting,
Perspektiver

Dette studie vil bidrage med vigtig viden om phenformins egenskaber som hjerte og hjernebeskyttende lægemiddel i forbindelse med hjertestop.
14. Rapid use of high-sensitive cardiac troponin I for ruling-in and ruling-out of acute myocardial infarction - the RACING-MI study

**Bang, C, Clinical Research Unit, Randers Regional Hospital**

Hansen, C, Clinical Research Unit, Randers Regional Hospital, Research Center for Emergency Medicine, Aarhus University Hospital

Lauridsen, KG, Clinical Research Unit, Randers Regional Hospital, Research Center for Emergency Medicine, Aarhus University Hospital

Frederiksen, CA, Department of Cardiology, Aarhus University Hospital

Jensen, T, Department of Internal Medicine, Randers Regional Hospital

Hornung, N, Department of Clinical Biochemistry, Randers Regional Hospital

Løfgren, B, Department of Internal Medicine, Randers Regional Hospital, Research Center for Emergency Medicine, Aarhus University Hospital, Department of Clinical Medicine, Aarhus University

**Background**

Early rule-in or rule-out of myocardial infarction (MI) is essential for patients presenting to the Emergency Department (ED) with chest pain. Recently, the European Society of Cardiology has suggested an accelerated 0h/1h algorithm to rule-in or rule-out MI as a valid alternative to the standard 0h/3h approach. So far, no 0h/1h algorithm has been derived or validated using the Siemens Advia Centaur high sensitive cardiac troponin I (hs-cTnI) Assay. Moreover, it is unknown if MI can be ruled-out by measuring hs-cTn already at 30 minutes (0h/30m) after presentation to the ED. This study aims to investigate, if the Siemens Advia Centaur hs-cTnI Assay can rule-in or rule-out MI, when using a 0h/30m and a 0h/1h algorithm.

**Methods**

This is a prospective, observational study of 1600 patients presenting to the ED with chest pain. Patients will be stratified into low- or intermediate/high pre-test risk of MI using HEART risk score. Hs-cTnl (Siemens Advia Centaur) will be measured at presentation (0 hour) and after 30m, 1h and 3h. Patients’ final treatment will depend on the measurement of hs-cTnI after 0h and 3h, equivalent to current clinical practice. Measurements of hs-cTnI at 0h, 30m and 1h will be used to derive the algorithms for the Siemens Advia Centaur hs-cTnI Assay for the first 800 patients. For the next 800 patients, the 0h/1h algorithm and 0h/30m algorithm will be validated. A 30-day follow-up of major adverse cardiac events will be retrieved from the national patient registry.
Results

Results are pending.

Conclusion

If our findings demonstrate that the 0h/1h-algorithm can be used to rule-in or rule-out MI, this study can contribute to the global acceptance and implementation of the 0h/1h algorithm. Furthermore, hs-cTn testing after 30m may allow for even faster rule-in or rule-out of MI. Faster rule-in and rule-out of MI can possibly contribute to improved outcome for MI patients and increase bed availability in Emergency Departments.

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Background

Atrial fibrillation is the most common heart rhythm disorder, affecting more than 100,000 people in Denmark. For patients suffering atrial fibrillation direct current cardioversion is performed to reduce patients symptoms and prevent disease progression. The optimal energy selection for biphasic cardioversion is unknown. We aim to investigate the efficiency and safety of a high energy shock protocol (360 J) versus a standard escalating shock protocol (125-150-200 J) in cardioversion of atrial fibrillation.

Methods

This prospective, randomized study is enrolling patients admitted for elective direct current cardioversion for atrial fibrillation. After informed consent has been obtained we randomize patients to receive cardioversion by either: 1) High shock energy protocol (360 J) or 2) standard escalating shocks (125-150-200 J). The efficacy and safety following the procedure will be evaluated by electrocardiographic and echocardiographic recordings, and through measurement of high-sensitive troponin I. Approval from The Danish Research Ethics Committee and Danish Data Protection Agency has been obtained and the study will be performed in accordance with the Danish Health Act.

Results

Patients are currently being enrolled.
Conclusion

We hypothesise that a high energy shock protocol is more efficient when compared to a standard escalating shock protocol in cardioverting atrial fibrillation.
16. Helpline calling patterns in a colorectal cancer screening program. A cross-sectional study

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Background

In population-based cancer screening programs, individuals need to be able to contact the relevant health authorities with questions or concerns. Calling patterns for telephone helplines that support these services may reveal obstacles to the success of the screening program. The purpose of this study was to analyze the calling patterns of a helpline supporting the Danish colorectal cancer-screening program.

Methods

This was a cross-sectional study. Questionnaire data were collected for 43 consecutive workdays. The background population was defined as all citizens invited for screening in the study period and included age and sex. Differences between the helpline population and the background population were identified using Pearson’s chi-squared test. Multiple logistic regression analyses were used to identify associations between sex, age, and motives for calling.

Results

The background population comprised 22692 citizens. A total 1666 telephone calls to the helpline were registered, of which 1630 were included in the analyses. Significantly fewer men than women used the service (43.3%; 95% CI: 40.9-45.8), compared to the background population (50.0%; 95% CI: 49.43-50.8). The majority of calls concerned unsubscribing from the screening program (25.3%), the screening kit (22.7%), and counseling (22.2%). Significantly fewer calls about unsubscribing came from men compared to women (37.1%, 95% CI: 0.5-0.8, OR=0.7). There were no statistically significant differences between calls from men and women regarding the screening kit (47.8%, 95% CI: 1.0-1.6, OR=1.3), or counseling (41.3%, 95% CI: 0.9, 0.7-1.2).

Conclusion

The main motives for calling a helpline in a colorectal cancer screening program were unsubscribing from the program, information about the screening kit, and a need for counseling. The results may help to improve the screening invitation and guide future initiatives to establish other helpline services about population-based screening programs.
Perceived risk of colorectal cancer. A qualitative study about screening participants’ reactions to a positive screening result for blood in the stool in a colorectal cancer screening program

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Background

Population-based screening for colorectal cancer (CRC) has been implemented in Denmark since 2014 to citizens between 50 and 74 years of age. It offers home-based immunochemical faecal occult blood tests (iFOBT). In case of a positive iFOBT test result, the screening participants will receive an invitation to a clinical colonoscopy. The aim of this study was to explore how screening participants interpret a positive iFOBT screening test result, with particular focus on risk perception of CRC and self-reported need for access to healthcare providers before the colonoscopy.

Methods

The study was designed as an explorative, qualitative study based on data from semi-structured, in-depth interviews with 16 screening participants after they had received a positive iFOBT test result. The interviews followed a dynamic semi-structured interview guide based on themes about attitudes to cancer screening, symptom experiences, perceptions about cancer risk and management of uncertainty. The interviews were transcribed verbatim and analysed from an ethnographic approach.

Results

Two types of reaction were identified. All study participants reported bowel symptoms prior to the iFOBT test, and some participants reinterpreted them after the iFOBT positive result as a genuine sign of CRC. Other study participants – the majority - reasoned that haemorrhoids or constipation were more plausible explanations for the positive test result than a manifest CRC. None of the study participants reported any need for immediate access to a healthcare provider before the clinical colonoscopy. However, the opportunity was much appreciated and seen as a prerequisite for meeting the ethical requirements in a healthcare-provided offer that may falsely identify healthy people as being sick.

Conclusion

The results suggest that a positive iFOBT result may not increase screening participants’ perceived risk of CRC to a level that requires immediate access to healthcare providers for support.
18. Fecal calprotectin assays: A comparison of two immunological tests

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Background

A hallmark of intestinal inflammation is leukocyte-, especially neutrophils, migration through the bowel wall leading to increased calprotectin levels, and release of this protein into the lumen thereby in the stool. As a noninvasive marker for neutrophilic intestinal inflammation has F-calprotectin shown its utility and useful entry for discriminating between patients with IBD and irritable bowel syndrome. F-calprotectin is helpful in screening for IBD and carcinoma and monitoring IBD disease activity. Different immunological methods are available, but a standardization consensus does not exit. We evaluated two immunological tests.

Methods

Stool samples (n = 646) were extracted by the weight volumen method with the respective buffers for the two platforms used for analysing for F-Calprotectin concentrations. The Bühlmann Calprotectin ELISA was performed on the BEP 2000 instrument and for the ELIA Calprotectin assay the ImmunoCap 250 apparatus was used. For 145 samples we investigated the clinical background, including endoscopic and histological findings. The cut off for both methods is 50 mg/kg.

Results

Method comparison showed a mean systematic difference of 53.4 (+/- 375.2 mg/kg) and a constant proportional difference with slope 1.23 and intercept -21.86. The ELIA kit reveals higher results than Bühlmann ELISA.

Combining F-calprotectin with clinical data shows that IBD patients are having the highest levels with both methods. Further gastrointestinal symptoms correlate very well with high calprotectin values.

Conclusion

Both kits detect calprotectin in faeces and show a moderate to good correlation. We conclude that both kits are suitable for faeces calprotectin measurement with the weight to volumen extraction.
19. The prevalence of prescription type medicine, over-the-counter medicine and psychoactive substances in Danish pregnant women

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Background

The potential teratogenity of pharmacological compounds has been well-known since the thalidomide tragedy. Prenatal exposure to medicine – especially in early pregnancy – can have harmful effects on the fetal growth and development. The intake of in particular psycho pharmaceutical compounds has increased in recent years, and international reports find that up to 80% of all pregnant women declare using some form of medication during their pregnancy.

Methods

Cross-sectional study of pregnant women from the region around Randers. A total of 436 frozen serum samples taken in gestational week 8-13 for prenatal diagnostic purposes were screened for the presence of prescription type medicine, over-the-counter medicine and psychoactive drugs using an ultra-performance liquid chromatography with high-resolution time-of-flight mass spectrometry (UPLC-HR TOF-MS) method. This method identifies approximately 500 substances, comprising toxic compounds, illegal and legal drugs and metabolites.

Results

The analysis shows the presence of legal drugs e.g. prescription type medicine and over-the-counter drugs in 18.3% of the samples, Acetaminophen (8.9%) was the most frequently used drug, followed by metformin (1.8%), cetirizine (1.4%) and ibuprofen (1.4%). Antidepressants were found in 3.0% of the women with citalopram (0.9%) as the most frequent. Illegal drugs were found in 0.9% of the samples and
nicotine/cotinine (indicator of smoking) in 9.9% of the samples. Caffeine was identified in 76.4% of the samples.

Conclusion

Our findings show that the use of caffeine-containing foods, other psychoactive substances and acetaminophen are quite common among Danish pregnant women, highlighting the need for further studies into the combined effects of such substances on early fetal development and long-term postnatal health. An increased focus on both legal and illegal drug use in early pregnancy can prevent a potential harmful effect on the fetal growth and development.
20. Maternal lifestyle, pregnancy outcome and children's health

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Background

In utero life is a critical period during which environmental factors influence the development of the fetus and disease risk in later life. In addition to overtly teratogenic effects, subtle changes can occur as the intrauterine environment “programs” the fetus and the placenta through epigenetic changes affecting gene regulation. In this way, nutritional status, maternal stress or exposure to pharmaceutical compounds may affect the fetus directly or interfere with vital placental functions.

The aim of this study is to characterize lifestyle patterns among Danish pregnant women in order to identify potential harmful exposures. Furthermore, our purpose is to elucidate associations between these exposures, the presence of xenobiotics and micronutrients in maternal and cord blood and alterations in placental function, finally the fetal epigenome and pregnancy outcome.

Methods

A cohort study including pregnant women (n=225) seeking prenatal care in gestational week 10-14 at the Department of Obstetrics and Gynecology, Randers Regional Hospital. Study material includes baseline maternal blood samples and questionnaires, information from medical records, placenta samples and umbilical cord blood samples taken postpartum.

Methods will include morphological placenta examination, epigenetic analyses of placental tissue and umbilical cord blood and screening of maternal blood for xenobiotic substances and determination of zinc and vitamin D status.
Results

On-going study. Currently 134 women are included.

Conclusion

This study is expected to identify harmful exposures common among Danish pregnant women and characterize the resulting molecular alterations in placenta tissue and umbilical cord blood. Furthermore, we will investigate possible associations between the maternal exposures and pregnancy outcome in terms of low birth weight, preeclampsia and risk of preterm birth. Results are expected to improve the risk assessment and counseling of pregnant women.
21. The association between quality of life and constipation: a systematic review

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Background

Constipation affects up to seventy percent of patients. It increases the risk of postoperative complications and increases financial costs and nursing care time. Constipation has an impact on subject’s quality of life. It is not clear to which degree quality of life is affected in constipated subjects compared to non constipated subjects. The purpose of this review was to identify and appraise the best available evidence on the association between constipation and quality of life in adults.

Methods

Inclusion criteria: All adult subjects who in accordance with a validated definition reported to be constipated, regardless of gender, ethnicity or co morbidity. The setting of the studies included hospitals, long-term care facilities and community. Quality of life measured with a validated instrument such as for example SF36 and others. Cross sectional studies, cohort studies and case-control studies were eligible for inclusion.

Search strategy: Multiple databases (PubMed, CINAHL, Embase, Scopus, Swemed+, Turning Research into Practice) were searched from their inception to December 2015. Studies published in English, German, Danish, Swedish and Norwegian were considered for inclusion in this review.

Data synthesis: Data from the included studies were presented in tables and as a narrative summary.

Results/Conclusions

Health related quality of life/health status is reduced in constipated subjects compared to non constipated subjects. Several definitions on constipation are used and several tools to measure health related quality of life/health status are used. Results are presented in very different ways with a lack of exact values and standard errors.
22. Validation of the Danish version of Constipation Risk Assessment Scale

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Background

Constipation is a common complication to surgery. The prevalence in surgical patients is 50-72%. In order to identify patients at risk of getting constipated the “Constipation Risk Assessment Scale” (CRAS) is developed and it is recommended in national clinical guideline for use in Danish hospitals. CRAS is a tool containing of 33 items including mobility, intake of fibres and fluid, pathophysiological factors and use of different medications. CRAS has been validated in cancer patients and in mixed medical and surgical patients. So the aim was to examine the accuracy of CRAS in a group of both acute and elective orthopaedic patients 30 days after surgery.

Methods

Prospective cohort design. 206 patients with hip fracture and 200 patients with total knee or hip replacement were assessed with CRAS at admission or in the outpatient clinic and they all received a phone call after 30 days in order to detect whether they had been constipated. Constipation was measured with Bristol Stool Scale, Rasmussen’s scale for difficult defecation and how often they were defecating.

Results

The prevalence of constipation: .34-.49
Sensitivity: .57-.67
Specificity: .52-.54
Positive predictive value: .59-.63
Negative predictive value: .38-.7

Conclusion

Used in an orthopaedic ward the prognostic accuracy for CRAS is too poor and the risk of over and under diagnosing patients is too high. Therefore CRAS cannot be recommended as a screening tool.
Cervical Dysplasia - How can we improve the diagnostics?

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Background

In Denmark, approximately four hundred new cases of cervical cancer are seen every year. Cervical dysplasia is a pre-malignant condition. Proper diagnosis of cervical dysplasia is therefore essential to ensure efficient and correct management and treatment.

Cervical dysplasia is examined through colposcopy. Sensitivity for colposcopy has been found as low as 50%. This is improved when using a new imaging technology in combination with regular colposcopy. The Dynamic Spectral Imaging (DSI) technology is a digital instrument, which aids the examiner in choosing areas of the cervix for biopsy.

The aim of this project is to improve the diagnostic process of cervical dysplasia for each individual woman by using DSI technology.

Methods

In a randomized clinical trial running from 01.11.2016 to 01.11.2018, 3500 women referred with dysplasia will randomly be assigned examination with or without this new technology at the Department of Gynecology and Obstetrics, Regional Hospital of Randers and Horsens, respectively. All women will have 4 biopsies taken from the cervix, as per the national guideline. Trained nurses, residents and consultants perform these examinations. Women with high grade dysplasia are referred for cervical conisation. The histologic diagnosis of the conisation is regarded as the true dysplasia grade. The results from the conisation will be held up against the grade from the previous biopsies taken from the cervix.

Results

How much do we gain in sensitivity by using the new DSI colposcopy?

Are there any differences in the quality of the biopsies taken by the nurses, residents or consultants?

Do the biopsies correlate to the diagnosis in the conisation material?
Is it necessary to take 4 biopsies from each woman?

**Conclusion**

With improved diagnostics of cervical dysplasia we aim to avoid under and over treatment and the side effects thereby - in the worst case the development of undiagnosed cervical cancer.
24. Accuracy of hrHPV testing in self-collected cervicovaginal and urine samples

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**Background**

This study will compare the diagnostic accuracy of high-risk human papillomavirus (hrHPV) analyses performed on home-based self-collected samples (cervicovaginal and urine samples) and conventional samples obtained by a general practitioner (GP). Further, the women’s acceptability of the different procedures will be measured.

**Methods**

Three hundred consecutive women aged 30-59 years with abnormal GP-collected samples (ASC-US) will obtain a self-collected cervicovaginal and urine sample at home and answer a questionnaire about the acceptability on the use of the self-sampling methods. All paired samples will be tested for hrHPV using the PCR-based Cobas 4800 and Clart assays. Thus, six hrHPV test results for every woman will be available. When two of the six yielded positive results the woman will be considered to hrHPV infected, and thus, the hrHPV prevalence can be measured and the sensitivity and specificity of hrHPV detection in each of the obtained samples using each of the diagnostic assays can be calculated. Further, the concordance between the hrHPV results in the self-collected samples and the GP-collected samples will be compared using the Kappa statistic. Finally acceptability among the women participating for each of the procedures will be reported.

**Conclusions**

For the first time in a Danish setting, this study will demonstrate the diagnostic accuracy and acceptability of home-based, self-collected cervicovaginal and urine samples compared to GP-collected samples. Thus, this study can guide for future use of diagnostic assays in the laboratory. Further, depending on the results
of the study, a perspective can be to use urinary hrHPV testing in subgroups of women reluctant to have a self-collected cervicovaginal sample or GP-collected samples taken.
25. Focused Cardiac Ultrasonography During Resuscitation: A Paradox of Right Ventricular Dilation in Cardiac Arrest Caused by Hypovolemia

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Background
The interpretation of cardiac ultrasonographic findings from patients with spontaneous circulation is often extrapolated to those in cardiac arrest. In patients with spontaneous circulation, severe hypovolaemia causes a reduction in right ventricular (RV) diameter, which may persist during cardiac arrest. In contrast, hyperkaliemia may cause RV dilation by arresting the heart in diastole and animal studies have demonstrated RV dilation in untreated ventricular fibrillation (VF).

The aim of the current study was to compare the RV diameter during resuscitation from cardiac arrest caused by either hypovolaemia, hyperkalemia, or VF.

Methods
Twenty-four pigs were randomized to 7 minutes of cardiac arrest induced by hypovolaemia, hyperkalemia, or VF. Animals were then resuscitated in accordance with the ERC 2010 Advanced Life Support guidelines. Cardiac ultrasound images were obtained at fixed intervals. The primary endpoint was RV diameter at the 3rd rhythm analysis.

Results
During induction of cardiac arrest, the RV diameter decreased in the hypovolemia group and increased in the hyperkalemia group. At the 3rd rhythm analysis (primary endpoint), the RV diameter was 32mm (95%CI 29-35) in the hypovolemia group, 29mm (95%CI:26-32) in the hyperkalemia group, and 25mm (95%CI 22-28) in the VF group. For all groups, this was larger than at baseline (P<0.05) and the RV diameter was larger in the hypovolemia group than in the VF group (P<0.001).
Conclusions

The RV was dilated during resuscitation from cardiac arrest caused by hypovolemia, hyperkalemia, and VF. These findings indicate that RV dilation may be inherent to cardiac arrest, rather than being associated with certain causes of arrest. From a clinical point of view, RV dilation in hypovolemic cardiac arrest is especially interesting, as this finding contradicts a widespread clinical assumption that in hypovolemic cardiac arrest ventricles are collapsed, rather than dilated.
26. Inflammatory bowel disease and venous thromboembolism during pregnancy and after delivery

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Background
As the incidence of inflammatory bowel disease (IBD) increases, the condition affects more pregnant women. IBD is a risk factor for venous thromboembolism (VTE) in non-pregnant persons. Data are limited on whether pregnant IBD patients have an excess risk of VTE, beyond that associated with normal pregnancy.

Methods
A nationwide population-based cohort study of all deliveries during 1980-2013 in Denmark, using data from two nationwide health registries: the Danish National Patient Registry and the Medical Birth Registry. We computed incidence rates per 1,000 person-years (IRs) for VTE during pregnancy and the first 12 postpartum weeks in women with and without IBD (comparison cohort). We also estimated crude and adjusted relative risks (RRs) with 95% confidence intervals (CIs) by Poisson regression to compare women with IBD and the comparison cohort.

Results
We included 1,046,754 women with a total of 1,978,701 deliveries. We identified 3,465 VTE events during pregnancy and 1,302 VTE events after delivery. The IR for VTE during pregnancy was 4.20 (95% CI 2.83–5.58) in IBD compared with 2.41 (95% CI 2.33–2.50) in the comparison cohort. The crude RR for VTE during pregnancy was 1.72 (95% CI 1.22–2.43). Pregnanacies from 1991–2013 had an adjusted RR 1.67 (95% CI 1.15–2.41). IBD flare during pregnancy was associated with a RR 2.64 (95% CI 1.69–4.14) for VTE during pregnancy. The IR for VTE after delivery was 7.03 (95% CI 3.87–10.20) in IBD and 2.88 (95% CI 2.72–3.04) in the comparison cohort, corresponding to an adjusted RR of 2.10 (95% CI 1.33–3.30).
Conclusion

IBD is a risk factor for VTE during pregnancy and the first 12 postpartum weeks.
27. Tinzaparin versus no tinzaparin for the treatment of fetal growth restriction: a multicenter randomized controlled trial

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Background
Fetal growth restriction (FGR) is a leading cause of fetal and neonatal death. FGR has a multifactorial etiology, but placental insufficiency with reduced nutrient supply for the fetus due to placental thrombosis is a key finding. Yet, no treatment has proven efficient for FGR. The anticoagulant low-molecular weight heparins have been assumed sufficient for FGR treatment. In the absence of proper randomized trials, there has been an extensive off-label use of low-molecular weight heparins for FGR, potentially putting women at risk of bleeding and with no benefit for the fetus. As the first, we conducted a multicenter randomized trial testing the treatment effect of a low-molecular weight heparin (Tinzaparin) on FGR.

Methods
This randomized controlled trial was undertaken in Departments of Obstetrics/Gynecology at Randers Regional Hospital and Herning Regional Hospital, and Aarhus University Hospital during 2011 to 2016. Women with FGR (at least -22%) verified by ultrasound before 32 weeks of gestation were screened for eligibility. Women were eligible if they had no contraindication for tinzaparin, chronic disease, drug or alcohol abuse, and were carrying a fetus with no verified organ malformations or chromosome anomalies. Participants were randomly allocated in a 1:1 ratio to either Tinzaparin (Innohep®; 4500 international units daily until completed 37 weeks of gestation) or no Tinzaparin. The primary study outcome was difference in birth weight evaluated by intention to treat analysis.
Results /conclusion

Data collection just completed. Awaiting data-analysis.
28. Biomarker Correlated Focused Ultrasound Evaluation and Perioperative Risk Optimization

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Background
The primary aim of this PhD protocol is to clarify whether pre-operative Point-of-care (POC) echocardiography changes clinical outcomes in high risk patients undergoing acute non-cardiac surgery.

The secondary aim is to clarify whether diagnostic biomarkers will improve the information given by POC echocardiography, and concomitantly reduce the risk of perioperative cardio-pulmonary complications, in high risk patients undergoing acute non-cardiac surgery.

Methods
Study I is a single-center observational clinical study aimed to reveal how advanced POC echocardiography in combination with a panel of inflammatory biomarkers can be used to diagnose – and risk stratify - heart failure with preserved ejection fraction (HFpEF) patients prior to non-cardiac surgical related anesthesia.
Study II is a single-center randomised, controlled study performed at Randers Regional Hospital (RRA), Denmark. This study aims to clarify whether pre-operative POC echocardiography changes clinical outcomes in high-risk patients undergoing acute, non-cardiac surgery.

Study III will be focused on whether routinely taken organspecific biomarkers, in combination with a panel of acute inflammatory biomarkers reflects the clinical outcomes defined in Study II. The patients included in Study III will therefore be the same as included in Study II.

Results

No collection of data has started.

Conclusion

We expect the study to conclude, that patients who is in need of acute non-cardiac surgery, will see a 20% reduction in mortality and severe perioperative complications, if they are pre-operatively risk stratified by the method suggested. We also expect to find clinical relevant correlations between biomarkers and POC, especially in patients with HfPEF. This will help understand the complex pathophysiology behind HfPEF and thus help develop treatments for this group of patients as well as reducing their risk of severe complications and death during acute illness.
29. A dedicated education unit in intensive care, the experiences of nurses assigned as clinical instructors

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Background
Clinical placements in nursing education have seen growing challenges to set up a learning environment for an increasing number of prequalifying nurse students, whilst the amount of nursing staff as well as clinical placements are falling and effectiveness at hospitals are increasing. Clinical learning environments are integral to students’ learning in clinical practice. However, challenges arise when staff nurses have to balance patient care and student mentorship. In acknowledgement of this a dedicated education unit (DEU) was designed to integrate proven learning strategies in clinical practice for nurse students in an intensive care unit (ICU). Seven ICU-nurses and clinical instructors (CI) were assigned as primary mentors for students. The core elements in the learning strategies were peer learning, guidance before, during and after patient care, and group based daily reflection sessions. The aim of this study was to explore CIs’ lived experiences of mentoring nurse students in an ICU-DEU.

Methods
A phenomenological approach guided the study. One focus group was conducted with six clinical instructors from ICU-DEU at a Danish acute care hospital.

Results
The essence of mentorship in ICU-DEU was understood as knowing the student with three interrelated variations: feeling responsible for students in clinical placement; balancing in the complex role as clinical instructor, staff nurse and colleague and finally, concerning about students’ progression and reflection.

Conclusion
The study highlighted the importance of CIs’ involvement and preparedness for mentorship. CIs were creating and sustaining a team of CIs with high ambitions towards students, patient care and their own professional development balancing patient care with mentoring students. Because CIs do not think of ICU-DEU as more time consuming the initiative may possibly mean an increase of the capacity of the CI workforce, which should be investigated in a future study.
30. Satisfaction, Discomfort, Obligations, and Concerns in Population-Based Breast Cancer Screening: Cross-Sectional Study in a Danish Population

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Background
Breast cancer screening reduces breast cancer mortality by 15-20%. Denmark has the highest breast cancer mortality rate in Northern Europe, in spite of the biennial offer of breast cancer screening. Continued participation is crucial to obtain the largest effect on public health. Potential barriers to breast cancer screening adherence include patient satisfaction, which might be compromised by factors such as pain, feeling obliged to participate, and being concerned. The present study aimed to analyze the associations between overall satisfaction and the remaining outcomes.

Methods
Questionnaires were mailed to 3,000 women in the Central Denmark Region who received screening examination results in the fall of 2013. The questionnaire assessed satisfaction, discomfort, concerns, and feelings of obligation to participate. Background information was retrieved from Statistics Denmark.

Prevalence ratios (PR) with 95% CI were assessed using Poisson regression with robust variance, to estimate associations between satisfaction and the remaining outcomes.

Results
Among the participants, 70.3% and 29.4%, respectively, reported really good and good impressions of the screening program. Lower satisfaction was statistically significantly associated with feeling pain (prevalence ratio (PR), 0.82), feeling that modesty boundaries were transgressed (PR, 0.79), experiencing screening-induced concerns (PR, 0.84), and feeling obliged to participate (PR, 0.96).
Conclusion

Overall satisfaction with breast cancer screening was very high, but discomfort, concerns, and feelings of obligation were associated with lower satisfaction levels. A continuing focus on high service in breast cancer screening is important for achieving the highest benefit from the program. This includes initiatives to employ the least painful techniques, to respect the patients’ modesty as much as possible, and to deliver fast screening results and thus minimize concerns among women awaiting results.

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Background
To assess the strength of association between quality indicators related to the individual colonoscopist and subsequent interval cancers in patients participating in bowel cancer screening programs.

This systematic review of association will search all relevant literature on the subject to answer these review questions:

Review question 1: Are the commonly used quality indicators cecal intubation rate (CIR), adenoma detection rate (ADR), polyp recovery (PR), withdrawal time (WT), and incomplete adenoma resection (IAR)/incomplete polyp resection (IPR) associated with the outcome interval cancer?

Review question 2: Is it possible to find cut-off values, which are significantly associated with each of the quality indicators mentioned above and the outcome interval cancer?

Methods
This study will be conducted as a systematic review of association. The method is to synthesize the existent evidence on the association between quality indicators, screening colonoscopists and the outcome interval cancer. A meta-analysis will be conducted to combine the findings from primary studies into a single overall summary estimate concerning each of the quality indicators related to the screening colonoscopists and the outcome interval cancer. Effect sizes will be expressed as relative risk for epidemiological study designs, prospective and retrospective cohort studies (for categorical data) and weighted mean differences (for continuous data) and their 95% confidence intervals will be calculated for analysis. A Random effects model will be used and heterogeneity will be assessed statistically using the standard Chi-square.
Results/conclusion

The meta-analysis will give information about which quality indicators are the most relevant to use in a CRC screening program. In this way it will be possible to monitor the quality of the screening colonoscopies and to set standards, which should be met in order to justify the level of quality in a CRC screening program.
32. Childbirth Experience Questionnaire - validating its use in Danish women

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Background
The lack of a robust validated tool for evaluating patient reported birth experience in Danish women needs attention.

The Childbirth Experience Questionnaire (CEQ) was developed in Sweden in 2010 and validated in 920 Swedish women. It has not been validated in Denmark and currently no Danish tool exists.

The purpose of the study is to elucidate if the Childbirth Experience Questionnaire is a valid and reliable measure of childbirth experience in Danish women.

Methods
Two independent professional translators have translated the CEQ from Swedish to Danish. The Swedish group compiled the two translations into one. The CEQ were tested for face validity among 5 mothers, 4 weeks postnatal.

CEQ are send electronically to women 4 and 6 weeks postpartum.

Demographic data and delivery data will be used to establish construct validity of the CEQ using the method of known-groups validation. The total CEQ score from the two questionnaires will be used to measure test-retest reliability of the CEQ by calculating the quadratic weighted index of agreement between the two scores.

Results/conclusion
Face validity of the CEQ in the Danish population demonstrates all respondents stating it is easy to understand and complete.

Currently 49 of 73 women have responded to the CEQ send 4 weeks postpartum and 36 has responded to the CEQ send 6 weeks postpartum.
Results are expected during 2016.
33. Cochrane review: Discontinuation of intravenous oxytocin in the active phase of induced labour

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Background

Despite the widespread use of oxytocin, there is still no consensus on its mode of administration. The aim of this review is to assess whether discontinuation of intravenous oxytocin infusion used for induction of labour, once active labour is established, will improve birth outcomes.

Methods

The review protocol was accepted and published by Cochrane, July 2016.

We searched the Cochrane Pregnancy and Childbirth Group’s Trials Register (10th of August 2016), Scopus, ClinicalTrials.gov and the WHO International Clinical Trials Registry Platform (ICTRP) (26th of August 2016) for randomised control trials (RCTs) comparing continuous intravenous oxytocin infusion with discontinued administration of oxytocin for induction of labour.

Trials will be evaluated for methodological quality and appropriateness for inclusion. We will carry out statistical metaanalysis using the Review Manager software (RevMan 2014). We will use the fixed-effect meta-analysis for combining data where it is reasonable to assume that studies are estimating the same underlying treatment effect. For dichotomous data, relative risks and 95% confidence intervals are calculated. Continuous data were compared using weighted mean difference and 95% confidence interval. We plan to carry out subgroup analyses for parity (nulliparous women versus multiparous women), gestational age (term (> 37 weeks) versus preterm (< 37 weeks)), and previous caesarean delivery (women who have not previously had a caesarean section versus women who have had a previous caesarean section).
Primary outcome: Caesarean Delivery

Secondary outcome: Duration of labour, maternal and neonatal outcome

Results/conclusion

We have screened 1376 studies, and retrieved 10 studies. Data extraction forms are to be filled out and an assessment of risk of bias and quality assessment is to be performed.

Results are expected in 2016
34. Positive predictive value of cardiovascular diagnoses in the Danish National Patient Registry: a validation study

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Background
The majority of cardiovascular diagnoses in the Danish National Patient Registry (DNPR) remains to be validated despite extensive use in epidemiological research.

Methods
We therefore examined the positive predictive value (PPV) of cardiovascular diagnoses in the DNPR. We sampled from one university hospital and two regional hospitals in the Central Denmark Region, 2010–2012. We sampled up to 100 patients for each cardiovascular diagnosis. Using medical record review as reference standard, we examined the PPV for cardiovascular diagnoses in the DNPR, coded according to the International Classification of Diseases, Tenth revision.

Results
A total of 2153 medical records (97% of the total sample) were available for review. The PPVs ranged from 64% to 100%, with a mean PPV of 88%. The PPVs were ≥90% for first-time myocardial infarction, stent thrombosis, stable angina pectoris, hypertrophic cardiomyopathy, arrhythmogenic right ventricular cardiomyopathy, takotsubo cardiomyopathy, arterial hypertension, atrial fibrillation or flutter, cardiac arrest, mitral valve regurgitation or stenosis, aortic valve regurgitation or stenosis, pericarditis, hypercholesterolemia, aortic dissection, aortic aneurysm/dilatation, and arterial claudication. The PPVs were between 80%–90% for recurrent myocardial infarction, first-time unstable angina pectoris, pulmonary hypertension, bradycardia, ventricular tachycardia/fibrillation, endocarditis, cardiac tumors, first-time venous thromboembolism, and between 70%–80% for first-time and recurrent admission due to heart failure, first-time dilated cardiomyopathy, restrictive cardiomyopathy, and recurrent venous thromboembolism. The PPV for first-time myocarditis was 64%. The PPVs were consistent within age, sex, calendar year, and hospital categories.
Conclusion

With few exceptions, the validity of cardiovascular diagnoses in the DNPR is high and sufficient for use in research since 2010.
35. "Self-administration of patient’s own drugs during hospital stay – patient involvement, medication errors and health economics"

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Background
The purpose of the PhD study is to investigate whether patient involvement in administering own drugs during hospital stay affects the number of medication errors, medication adherence and patient satisfaction and whether it is economically advantageously

Methods
Study design
The study design is "complex intervention" and a stepwise process is used. In study 1 the intervention is developed, investigated for feasibility and pilot-tested in small scale. In study 2 and 3 the intervention is evaluated within a randomized controlled trial (RCT).

Setting
The study is performed at the Department of Cardiology, Randers Regional Hospital.

Description of the intervention
At admission a nurse will assess whether the patient is able to self-administer own drugs during hospitalization. The patient will be asked if he has brought (or can get someone to bring) his usual drugs to hospital. During hospitalization the patient will be responsible for taking his own drugs. If a new drug is prescribed, the patient will be involved and instructed and the smallest package will be delivered so the
patient can begin self-administration the new drug during hospitalization. At discharge, the patient brings the package home to ensure continuity in the medical treatment.

Outcomes

The main outcome is medication errors evaluated using the direct observational technique. Secondary outcomes as medication adherence and patient satisfaction are evaluated through interviews. The cost-effectiveness is assessed by comparing costs and related effect measures such as the number of medication errors avoided.

Results

No results yet. The intervention is being developed Sept 2016-Jan 2017 and pilot-tested afterwards until July 2017. The RCT is performed Aug 2017-July 2018.

Conclusion

We have no results to conclude on. We hypothesize, that the number of medication errors decrease and the patients will be better to manage their own medication, when patients administers own drugs during hospital stay.
36. Enhanced endothelial function in arteries from human colon cancer

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Background
The blood supply to cancer tissue is typically insufficient to maintain normal nutrient and O₂ levels in the tissue and eliminate waste products from cell metabolism. Multiple studies have investigated the mechanisms involved in tumor vascularization and the therapeutic potential of anti-angiogenic drugs for cancer treatment. In contrast, our understanding of the functional differences between cancer arteries and normal arteries is limited.

Methods
Human biopsies of primary colon carcinomas and normal colon tissue were obtained from surgical operations at Regional Hospital Randers. Upon excision, the biopsies were immediately transferred to ice-cold physiological saline solution and brought to the laboratory. Small arteries were dissected from the fresh biopsies of colon cancer and matched normal colon and mounted in wire myographs for studies of vasoconstriction and relaxation. We measured the thickness of the tunica media of the arteries by transmission light microscopy.

Results
Vasocontractile responses to noradrenaline, arginine vasopressin, and depolarization with elevated extracellular [K⁺] were similar in arteries from colon cancer and normal colon. In contrast, the vasocontractile responses to endothelin-1 and thromboxane analog U46619 were reduced and endothelium-dependent vasorelaxation to acetylcholine enhanced in colon cancer compared to control arteries. The vasorelaxant and -contractile differences between arteries from colon cancer and normal colon were attenuated after inhibition of endothelial NO synthesis with L-NAME. We found no difference in the relaxant response to the NO donors S-Nitroso-N-acetylpenicillamine, Sodium Nitroprussid and spermine NONOate or in the thickness of the arterial media.

Conclusion
We demonstrate that colon cancer arteries differ functionally from equivalent normal arteries. Endothelium-dependent vasorelaxation and attenuation of vasoconstriction are increased in colon cancer arteries due to enhanced NO-dependent signaling. Pharmacological differences between normal and cancer arteries open the possibility for therapeutic interventions that can specifically modify tumor perfusion.