



Forskning og samarbejde med  
Kirurgisk forskningsenhed  
Holbæk Sygehus

REGION  
SJÆLLAND  
*- vi er til for dig*



# Vi forsker i:

Forebyggelse af komplikationer og død efter kirurgi ved at:

- Teste og optimere den behandling, der gives ved siden af operationer (intravenøs væskebehandling, smertebehandling, antibiotika, mv.).
- Teste operationsmetoder, diagnostiske metoder mv.
- Identificere ny faktorer som påvirker komplikationsudviklingen.

Desuden forsker vi i:

- Procedurespecifikke målinger af patientrelevante effektmål (PROMS).
- Livstilsfaktorers betydning for komplikationsudviklingen (STRONG Hernia).

Vi arbejder sammen med alle, som vil arbejde sammen med os!

# Forskere og aktuelle Ph.d.-studerende ved kirurgisk forskningsenhed



Gunnar Oleison

Birgitte Brandstrup



Anders B. Jørgensen



Anne Albers Aaen



André Heinos Campos

De uundværlige medvejledere og venner:



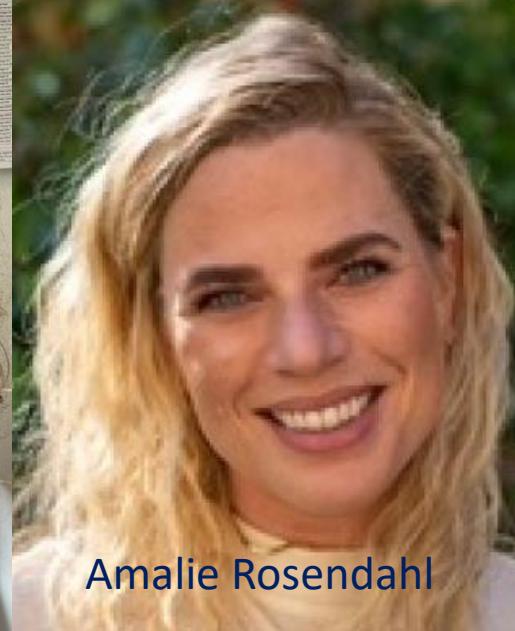
Ann Møller



Lennart Friis-Hansen



Veronica Ott



Amalie Rosendahl

# Medicin studerende og yngre læger ved kirurgisk forskningsenhed



Ida Marie Wiinblad



Niels Brink Mylin

Artikel i fagfællebedømmelse hos Disease colon & rectum:

## Outcome following surgical treatment for chronic pilonidal sinus disease – A systematic review of common surgical techniques

Ida-Marie Myron Wiinblad MS<sup>1,2</sup>, Johan Ulrichsen MS<sup>2</sup>, Birgitte Brandstrup MD, Ph.D.<sup>1,2</sup>

## Patient and examiner factors influence on sedation usage and intubation rates (CIR) during colonoscopy: a multi- center retrospective cohort study

Andreas Storm<sup>1</sup>, Birgitte Brandstrup<sup>1,2</sup>

<sup>1</sup>University of Copenhagen, Copenhagen, Denmark; <sup>2</sup>Department of Surgery, Holbaek Hospital, Holbaek, Denmark.



Andreas Storm

Niels arbejder på sin kandidatopgave (Master Thesis)

**Title:** Gender dependent factors on use of sedation during  
colonoscopy; a scoping review

**Authors:** Niels Brink Mylin, Andreas Storm, Birgitte Brandstrup

## Andre ansatte ved kirurgisk forskningsenhed

Anne Mette er vores uundværlige forskningssekretær. Hun holder styr på vores databaser, taster og validerer data, laver arbejdsplaner for studenterne og meget mere!



Vi søger i øjeblikket efter en forskningssygeplejerske, som kan tage sig af livsstilsinterventionerne ved STRONG Hernia projektet.



## “Hæmorroide gruppen”

Gunnar Olaison er overlæge, Dr. med., kolorektalkirurg og proktolog. Han har tidligere forsket i inflammatorisk tarmsygdom, nu forsker han i proktologiske problemer:

- Udvikler patientrelevante procedurespecifikke effektmål (PROMS) for patienter med hæmorroide sygdom.
- Tester operationerne (der er flere) for Hæmorroider imod hinanden for at finde den operation med størst succes. (Har udviklet ”minimal hæmorroidektomi”).
- Undersøger livskvaliteten hos patienter med hæmorroider: Gør en operation for hæmorroider overhovedet en forskel? (Ja, det gør det!)



Håvard Rørvik



André Heinos Campos

Gunnar samarbejder med det europæiske proktologiske selskab som ønsker forskningsegne ”PROMS”. ”Vores PROMS” er blevet anerkendt, og ønskes nu anvendt internationalt.

Gunnar har taget initiativ til Håvard Rørvik's og André Heinos Campos' Ph.d. arbejder.

### ORIGINAL CONTRIBUTIONS: ANORECTAL

#### Minimal Open Hemorrhoidectomy Versus Transanal Hemorrhoidal Dearterialization: The Effect on Symptoms: An Open-Label Randomized Controlled Trial

Rørvik, Håvard D. M.D.<sup>1,2</sup>; Campos, André H. M.D.<sup>3</sup>; Styr, Karl M.D.<sup>1</sup>; Ilum, Lars M.D.<sup>1</sup>; McKinstry, Grant K. M.D.<sup>1</sup>; Brandstrup, Birgitte M.D., Ph.D.<sup>1,2</sup>; Olaison, Gunnar M.D., Ph.D.<sup>1,2</sup>

### ORIGINAL CONTRIBUTION

#### Hemorrhoidal Disease Symptom Score and Short Health Scale<sub>HD</sub>: New Tools to Evaluate Symptoms and Health-Related Quality of Life in Hemorrhoidal Disease

Håvard D. Rørvik, M.D.<sup>1</sup> • Karl Styr, M.D.<sup>1</sup> • Lars Ilum, M.D.<sup>1</sup>  
Grant L. McKinstry, M.D.<sup>1</sup> • Tove Dragesund, M.Sc., Ph.D.<sup>3</sup> • André H. Campos, M.D.<sup>1</sup>  
Birgitte Brandstrup, M.D., Ph.D.<sup>1,2</sup> • Gunnar Olaison, M.D., Ph.D.<sup>1</sup>

<sup>1</sup> Department of Surgery, Holbæk Hospital, Holbæk, Denmark

<sup>2</sup> Faculty of Health and Medical Sciences, University of Copenhagen, Copenhagen, Denmark

<sup>3</sup> Department of Global Public Health and Primary Care, University of Bergen, Bergen, Norway

## Publikationer fra "Hæmorroide gruppen"

Ph.d. thesis fra Håvard Dragslund Rørvik

# **Haemorrhoidal Disease – Minimal Open Haemorrhoidectomy, Symptoms and Health-related quality of life**

1. Rørvik HD, Davidsen M, Gierloff MC, Brandstrup B, Olaison G. Quality of life in Patients with hemorrhoidal disease. *Surg Open Sci.* 2023; 12: 22-28.
2. Schrader L, Brandstrup B, Olaison G. Slowly cutting, loose seton ligature and staged fistulotomy for healing of idiopathic perianal fistula and influence on anal continence. *Langenbecks Arch Surg.* 2023 Sep 7;408(1):352.
3. Kuiper SZ, Kimman ML, Rørvik HD, Olaison G, Breukink SO. Making Use of Patient-Reported Outcome Measures for Haemorrhoidal Disease in Clinical Practice: A Perspective. *Front Surg.* 2021 Aug 25;8:728532.
4. Hørvik HD, Campos AH, Styr K, Ilum L, McKinstry GK, Brandstrup B, Olaison G. [Minimal Open Hemorrhoidectomy Versus Transanal Hemorrhoidal Dearterialization: The Effect on Symptoms: An Open-Label Randomized Controlled Trial.](#) *Dis Colon Rectum.* 2020 May; 63(5):655-667.
5. Roervik HD, Heiner Campos A, Ilum L, Herlak Styr KF, McKinstry GK, Brandstrup B, Olaison G. Minimal open hemorrhoidectomy. *Tech Coloproctol.* 2019 Jan; 23(1):73-77. Epub 2019 Feb 6.
6. Roervik HD, Styr K, Ilum L, McKinstry GL, Dragesund T, Campos AH, Brandstrup B, Olaison G. [Hemorrhoidal Disease Symptom Score and Short Health ScaleHD: New Tools to Evaluate Symptoms and Health-Related Quality of Life in Hemorrhoidal Disease.](#) *Dis Colon Rectum.* 2019 Mar; 62(3):333-342.

# “Væske gruppen”



Birgitte Brandstrup

Ann Møller

Anders' og Anne's Ph.d. arbejder, om indflydelsen af intravenøs væskebehandling på komplikationer efter kirurgi.



Anders W. Voldby

Anne A. Aaen

Birgitte er overlæge, forskningslektor og Ph.d. Hun forsker især i de behandlinger, som gives ved siden af operationerne: Intravenøs væskebehandling, ernæring, antibiotika mv. Hun har været sponsor, primær investigator eller superviser for 5 kliniske randomiserede forsøg, heraf 3 multicenter studier. De tre multicenter studier har været samarbejdsstudier imellem kirurgiske og anæstesiologiske afdelinger over hele landet. Birgitte's arbejde med væskebehandling har ændret klinisk praksis.

ARTICLE IN PRESS

BJA

British Journal of Anaesthesia, xxx (xxxx): xxx (xxxx)

doi: 10.1016/j.bja.2021.06.031

Advance Access Publication Date: xxx

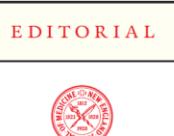
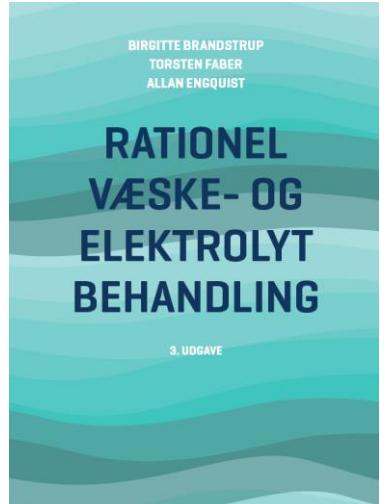
Clinical Investigation

CLINICAL INVESTIGATION

## Goal-directed fluid therapy in emergency abdominal surgery: a randomised multicentre trial

Anne A. Aaen<sup>1,\*</sup>, Anders W. Voldby<sup>2</sup>, Nicolas Storm<sup>3</sup>, Jeppe Kildsgaard<sup>3</sup>, Egon G. Hansen<sup>4</sup>, Erik Zimmermann-Nielsen<sup>5</sup>, Kenneth M. Jensen<sup>6</sup>, Pernille Tibæk<sup>7</sup>, Anette Mortensen<sup>8</sup>, Ann M. Møller<sup>4</sup> and Birgitte Brandstrup<sup>2</sup>

<sup>1</sup>Department of Anaesthesia, Holbæk Hospital, Part of Copenhagen University Hospitals, Holbæk, Denmark, <sup>2</sup>Department of Surgery, Holbæk Hospital, Part of Copenhagen University Hospitals, Holbæk, Denmark, <sup>3</sup>Department of Surgery, Herlev University Hospital, Herlev, Denmark, <sup>4</sup>Department of Anaesthesia, F University Hospital, Herlev, Denmark, <sup>5</sup>Department of Surgery, Odense University Hospital, Odense, Denmark, <sup>6</sup>Department of Anaesthesia, Odense University Hospital, Odense, Denmark, <sup>7</sup>Department of Surgery, S Hospital, Part of Copenhagen University Hospitals, Slagelse, Zealand, Denmark and <sup>8</sup>Department of Anaesthesia, S Hospital, Part of Copenhagen University Hospitals, Slagelse, Zealand, Denmark



Finding the Right Balance

Birgitte Brandstrup, Ph.D.

# Publikationer fra “Væskegruppen”

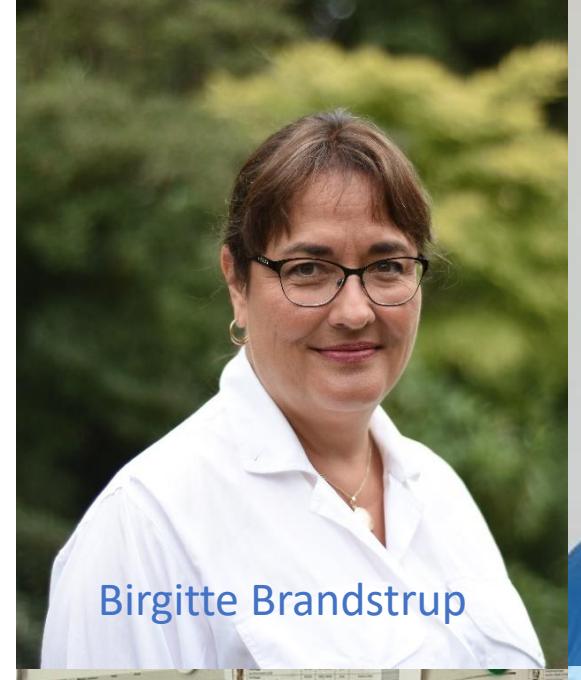
Ph.d.-thesis fra Anders Winther Voldby:

Emergency Gastrointestinal Surgery – Perioperative fluid balance, postoperative complications, and death

1. Voldby AW, Aaen AA, Møller AM, Brandstrup B. The association of the perioperative fluid balance and cardiopulmonary complications in emergency gastrointestinal surgery: exploration of a randomized trial. *Perioper Med (Lond)*. 2024 Apr 26;13(1):32.
2. Voldby AW, Boolsen AW, Aaen AA, Burcharth J, Ekeloef S, Loprete R, Jönck S, Eskandarani HA, Thygesen LC, Møller AM, Brandstrup B. Complications and Their Association with mortality Following Emergency Gastrointestinal Surgery – An Observational Study. *J Gastrointest Surg*. 2022 Sep;26(9):1930-1941.
3. Voldby AW, Aaen AA, Loprete R, Eskandarani HA, Boolsen AW, Jönck S, Ekeloef S, Burcharth J, Thygesen LC, Møller AM, Brandstrup B. Perioperative fluid administration and complications in emergency gastrointestinal surgery-an observational study. *Perioper Med (Lond)*. 2022 Feb 22;11(1):9.
4. Boolsen AW and Brandstrup B. A Danish study on emergency or urgent surgery for small bowel obstruction in adults: Incidence, causes, administration of antibiotics, and infectious complications. *Surg Open Sci*. 2021 Dec 1; 7:30-35.
5. Aaen AA, Voldby AW, Storm N, Kildsig J, Hansen EG, Zimmermann-Nielsen E, Jensen KM, Tibæk P, Mortensen A, Møller AM and Brandstrup B. Goal-directed fluid therapy in emergency abdominal surgery: a randomised multicentre trial. *Br J Anaesth*, 2021; 127(4): 521-31.
6. Published with an additional BJA broadcast October 2021, Professor Phillip Hopkins is speaking with the authors: Aaen AA, Møller AM and Brandstrup B. [https://youtu.be/jnD\\_RyOWq5I](https://youtu.be/jnD_RyOWq5I)
7. Voldby AW and Brandstrup B. Fluid Therapy in the Perioperative Setting – A Clinical Review. *J Int. Care* 2016 Apr 16;4:27.

## Lidt mere fra "Væskegruppen"

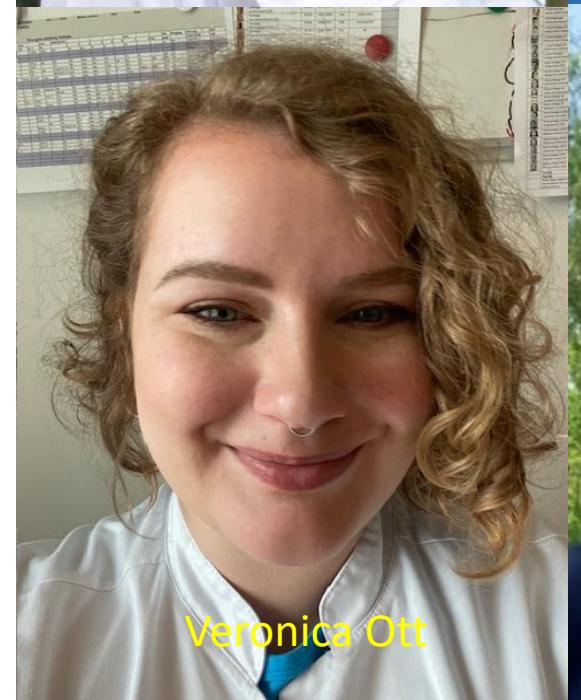
1. Voldby AW, Aaen AA, Møller AM, Brandstrup B. Goal-directed fluid therapy in urgent GAstrointestinal Surgerystudy protocol for A Randomised multicentre Trial: The GAS-ART trial. [BMJ Open](#). 2018 Nov 13;8(11):e022651. doi: 10.1136/bmjopen-2018-022651.
2. Brandstrup B. "Væsketerapi til den kirurgiske patient". In Kirurgisk Kompendium in press. 2022.
3. Brandstrup B. "Intra abdominal surgery", in Hemodynamic Monitoring and Fluid Therapy During Surgery, Edited by Alexandre Joosten; Robert G Hahn; Maxime Cannesson. Cambridge press. In press. Brandstrup B. Perioperative fluid administration and complications in emergency gastrointestinal surgery. Editor: Joel Faintuch, Co-Editor: Salomao Faintuch in Recent strategies in high risk surgery, Springer USA. In press.
4. Brandstrup B, Faber T og Engquist A. Rationel væske og elektrolytbehandling 3. udgave. Munksgaard Danmark forlag, København. Maj 2020. ISBN 978-87-628-1927-6.
5. Brandstrup B and Møller AM. The Challenge of Perioperative Fluid Management in Elderly Patients. Current Anesthesiology Reports (2019) 9:406–413. E-pub Oct. 31st 2019. doi.org/10.1007/s40140-019-00349-6.
6. Brandstrup B, Beier-Holgersen R, Iversen LH, Starup CB, Wentzel LN, Lindorff-Larsen K, Petersen TC, Tønnesen H. [The Influence of Perioperative Fluid Therapy on N-terminal-pro-brain Natriuretic Peptide and the Association With Heart and Lung Complications in Patients Undergoing Colorectal Surgery: Secondary Results of a Clinical Randomized Assessor-blinded Multicenter Trial](#). Ann Surg. 2019 Dec 10.
7. Brandstrup B. Finding the Right Balance. N Engl J Med 2018 Jun 14;378(24):2335-2336. doi: 10.1056/NEJMMe1805615. Epub 2018 May 9. Editorial.



Birgitte Brandstrup



Anders B. Jørgensen



Veronica Ott



Lennart Friis-Hansen

## "Tarmbakterie gruppen"

Anders, er lidt endnu Ph.d.-studerende i forskningsenheden. Han forsker i tarmbakteriers indflydelse på heling af tarm-anastomoser.

Dette sker i samarbejde med Screeningssekretariatet for Tarmkræft i Region Sjælland, Klinisk Biokemisk afdeling på Bispebjerg Hospital og "Danish colorectal cancer group".

Der ER forskel på mikrobiomet hos patienter med og uden anastomoselækage!

Veronica skal fortsætte forskningen.

- Hun skal bekræfte de fund Anders har gjort.
- Desuden skal hun udvikle en risiko-Score, med det formål præoperativt at forudsige, hvilke patienter som sandsynligvis får anastomoselækage.

Tarm mikrobiota vil blive indarbejdet i denne score.

## Publikationer fra "Tarmbakterie gruppen"

1. Jørgensen AB, Jonsson I, Friis-Hansen L, Brandstrup B. Collagenase-producing bacteria are common in anastomotic leakage after colorectal surgery: a systematic review. International Journal of Colorectal Disease (2023) 38:275.
2. Jørgensen AB, Almer L, Castruita JAS, Pedersen MS, Kirkby NS, Jensen EA, Alfaro-Núñez A, Friis-Hansen L, Brandstrup B. The baseline fecal microbiome differs in patients with and without anastomotic leakage after colorectal cancer surgery. Submitted for publication.
3. Jørgensen AB, Almer L, Brandstrup B, Friis-Hansen L. The fecal microbiome from screening sampling tubes is stable under various sampling and storage conditions. In Manuscript.
4. Jørgensen AB, Almer L, Jensen EA, Alfaro-Núñez A, Friis-Hansen L, Brandstrup B. The mucosal microbiome of the colon is different from the microbiomes of fecal samples and rectal swabs. In Manuscript.

## “Smerte gruppen”

Amalie forsøker I kroniske smerter efter akutte kirurgiske procedure

Der vil blive indsamlet data her I Holbæk, så snart protokollen for forsøget er færdig og godkendt.



Ann Møller



Birgitte Brandstrup



Amalie Rosendahl

Publikationer fra “Smerte gruppen”

1. Stryhn J, Rosendahl A, Juhl CB, Thomsen T, Brandstrup B, Møller AM. Prognostic factors of chronic postsurgical pain following gastrointestinal surgery: A systematic review protocol. *Acta Anaesthesiol Scand.* 2024 Mar 24.
2. Rosendahl A, Thomsen T, Brandstrup B, Møller AM. Chronic Postsurgical Pain Following Gastrointestinal Surgery. Protocol for a Scoping Review. *Acta Anaesthesiol Scand.* 2023;1–4.

<https://doi.org/10.1111/aas.14364>

Vi samarbejder også med:

## **STRONG FOR SURGERY - STRONG FOR LIFE (STRONG-Hernia)**

**STRONG prehabilitation for risk reduction prior to ventral hernia repair: Postoperative complications, health, and costs on short & longer term**

**Collaboration among:**

**4 Surgical Departments at:**

**HERLEV Hospital (Jacob Rosenberg)**

**HORSENS Regional Hospital (Hans Friis-Andersen)**

**Zealand University Hospital KØGE (Frederik Helgstrand)**

**Holbæk Hospital (Birgitte Brandstrup)**

**and**

**The Danish Centre for Health Economics at University of Southern Denmark (Kim Rose Olsen)**

**and**

**The STRONG Team at WHO-CC, Parker Institute at Bispebjerg-FREDERIKSBERG Hospital (Hanne Tønnesen)**

**STRONG for Surgery & Strong for Life — against all odds: intensive prehabilitation including smoking, nutrition, alcohol and physical activity for risk reduction in cancer surgery — a protocol for an RCT with nested interview study (STRONG-Cancer)**

Hanne Tønnesen<sup>1\*</sup> , Line Noes Lydom<sup>1</sup>, Ulla Nordström Joensen<sup>2</sup>, Ingrid Egerod<sup>3</sup>, Helle Pappot<sup>4</sup> and Susanne Vahr Lauridsen<sup>1,2</sup>

Tønnesen et al. *Trials* (2022) 23:333  
<https://doi.org/10.1186/s13063-022-06272-2>

# Vi hjælper også andre med deres studier og indsamling af data:

Vi samarbejder med Ph.d.-studerende Ahmed Abdirahman Mohamud, fra Center of Surgical Science med vejleder Professor Ismail Gögenur, Køge Universitets Hospital.

En yngre læge, Ulrike Ries Feddersen, fra kirurgisk afdeling i Holbæk er lokal investigator.

De tester i et cluster-randomiseret design, om man kan ”nøjes med” at give tabletter antibiotika i stedet for intravenøs antibiotika til patienter med perforeret blindtarmsbetændelse.

**Per oral versus Intravenous Postoperative Antibiotics after surgery  
for complicated appendicitis (PIPA):  
A Cluster Randomized Cluster  
Crossover Non-Inferiority Study**



CENTER FOR  
SURGICAL  
SCIENCE

REGION ZEALAND  
ZEALAND UNIVERSITY HOSPITAL



Vi samarbejder også med Ph.d.-studerende Pooya Rajabaleyan, og vejleder Professor Niels Qvist og lektor Mark Bremholm Ellebæk fra kirurgisk afdeling, Odense Universitets Hospital.

En yngre læge, Aske Mathias Bohm, fra kirurgisk afdeling i Holbæk er lokal investigator.

De tester i et randomiseret design, om vakuumbehandling af svært inficeret abdomen er bedre eller dårligere end primær lukning af bugvæggen.

# VACOR



OUH  
Odense Universitetshospital  
Svendborg Sygehus

