NETWORK OF ACCREDITED CLINICAL SKILLS CENTRES IN EUROPE

Norwegian National Advisory Unit on Advanced Laparoscopic Surgery

Dr Ronald Mårvik
Accreditation: 2016 – Single speciality format

Ministry of Health and Care Services

Clinic of Surgery, St. Olavs Hospital,Trondheim University Hospital

Norwegian National Advisory Unit on Advanced Laparoscopic Surgery (NSALK)

ST. OLAVS HOSPITAL
TRONDHEIM UNIVERSITY HOSPITAL

Steering group

Reference group

Partners: NTNU (university), Faculty of Medicine, SINTEF, Operation Room for the Future, Norwegian Medical Association, Regional Trauma Centre and Equipment suppliers.
Governance & Administration

- **Contact details**
  - **Head of department:**
    Dr Ronald Mårvik – [ronald.marvik@ntnu.no](mailto:ronald.marvik@ntnu.no) – Cell +47 900 55 166
  - **Administration:**
    Course Director Hilde Merete Klungerbo – [hilde.merete.klungerbo@stolav.no](mailto:hilde.merete.klungerbo@stolav.no) – Cell +47 909 36 952

**Website:** [www.nsalk.org](http://www.nsalk.org)
Teachers

- Total number – FTE:
  - 50-99%: 2
  - 10-49%: 2
  - During courses we have at least 4 trainers present full time

- Background:
  - Gastroenterology, gastrointestinal surgery, thoracic surgery, anaesthesiology, acute care and emergency, gynaecology, urology, internal medicine
  - Nurses
  - Technicians and simulation experts

- Qualifications/certifications
  - All our speakers and trainers are specialists according to Norwegian National Standards.
  - Several of our trainers are certified to perform surgery on animals.
  - Train the trainer
Learners

- Number of participants
  - Approx 450 persons has participated in training during 2017:
    - Undergraduates: 50
    - Postgraduate: 250
    - Specialised training: 150

- Areas for training
  - Surgical specialities
  - Acute care and emergency
  - Obstetrics & gynaecology
  - Internal medicine
Learners

- Home based simulators – eoSim SurgTrac
  - New study started in 2017
- Follow up of candidates
  - When candidates fail to pass practical tests, representatives from the advisory unit offers separate training
- E-learning:
  - Sutures
# Courses/Workshops/Seminars 2017

<table>
<thead>
<tr>
<th>Course/Workshop/Seminar</th>
<th>#</th>
<th>Partner</th>
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<tbody>
<tr>
<td>Course in basic laparoscopic surgery</td>
<td>4</td>
<td>The Norwegian Medical Association</td>
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<tr>
<td>Laparoscopy in acute abdomen</td>
<td>1</td>
<td>The Norwegian Medical Association</td>
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<tr>
<td>Trauma surgery</td>
<td>3</td>
<td>Trauma unit, St. Olavs Hospital</td>
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<tr>
<td>Basic course hernia</td>
<td>1</td>
<td>The Norwegian Medical Association</td>
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<tr>
<td>Thoraco-/laparoscopic surgery</td>
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<tr>
<td>Therapeutic endoscopy</td>
<td>1</td>
<td>The Norwegian Medical Association</td>
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<tr>
<td>Laparoscopic skills and procedural standardisation</td>
<td>1</td>
<td>MedTronic</td>
</tr>
<tr>
<td>Suture technique</td>
<td>1</td>
<td>St. Olavs Hospital</td>
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<tr>
<td>Gastroscopy/Colonoscopy</td>
<td>2</td>
<td></td>
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<tr>
<td>Navigation and ultrasound – training event for researchers</td>
<td>1</td>
<td>Norwegian National Advisory Unit for Ultrasound and Image Guided Therapy</td>
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</tbody>
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Courses/Workshops/Seminars 2017 (cont’)

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<tr>
<th>Course/Workshop/Seminar</th>
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<th>Partner</th>
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<tbody>
<tr>
<td>Laparoscopic skills – gynaecology</td>
<td>2</td>
<td>St. Olavs Hospital</td>
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<tr>
<td>Training events – follow up after study</td>
<td>4</td>
<td>St. Olavs Hospital/Ullevål Hospital/SINTEF</td>
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<tr>
<td>Drop in simulator training</td>
<td>Cont’</td>
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<td>In addition: seminars for students, politicians, technicians….</td>
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R&D overview

- Research:
  - Publications:
    - 7 publications in 2017 (next slides)
  - 4 PhD-students in 2017:
    - **Cecilie Våpenstad**: Tools and methods for skills training in minimal invasive surgery – using simulators, ultrasound and navigation
    - **Anna Rethy**: Multimodal training phantom - Liver
    - **Eivind Grong**: The effect of bariatric surgery and gastrointestinal hormone secretion on glycemic control and beta-cell mass - lessons learned from the diabetic Goto-Kakizaki rats.
    - **Arild de Vries**: Reducing postoperative adhesion formation associated with abdominal surgery
Publications 2017 (I)

1. **The effect of hypergastrinemia following sleeve gastrectomy and pantoprazole on type 2 diabetes mellitus and beta-cell mass in Goto-Kakizaki rats.**
   Grong E, Nord C, Arbo IB, Eriksson M, Kulseng BE, Ahlgren U, Mårvik R.
   PMID: 29168078

2. **Navigated retrograde endoscopic myotomy (REM) for the treatment of therapy-resistant achalasia.**
   Pham KD, Havre RF, Langø T, Hofstad EF, Tangen GA, Mårvik R, Pham T, Gilja OH, Hatlebakk JG, Viste A.
   PMID: 29144018

3. **Biochemical profiling of diabetes disease progression by multivariate vibrational microspectroscopy of the pancreas.**
   PMID: 28751653

4. **Psychomotor skills assessment by motion analysis in minimally invasive surgery on an animal organ.**
   Hofstad EF, Våpenstad C, Bø LE, Langø T, Kuhry E, Mårvik R.
   PMID: 28635403
5. Lack of transfer of skills after virtual reality simulator training with haptic feedback.
Våpenstad C, Hofstad EF, Bø LE, Kuhry E, Johnsen G, Mårvik R, Langø T, Hernes TN.
PMID: 28486087

6. MIIP: a web-based platform for medical image interpretation training and evaluation focusing on ultrasound
Frank Lindseth, Norwegian Univ. of Science and Technology (Norway) SINTEF (Norway); Marte Nordrik Hallan, Martin Schiller Tønnessen, Norwegian Univ. of Science and Technology (Norway); Erik Smistad, Cecilie Våpenstad, Norwegian Univ. of Science and Technology (Norway) SINTEF (Norway)
Published in Proceedings Volume 10138: Medical Imaging 2017: Imaging Informatics for Healthcare, Research, and Applications June 2017

Key challenges

- Changes in postgraduate education for doctors:
  - The Norwegian Medical Association will no longer arrange courses. This is, after 2018, left to each health region to take care of. Our role in this has not yet been clarified.

- Capacity and resources

- Funding for research
Key achievements 2017

- Doubled capacity in basic courses in laparoscopic surgery
- Established workshops in how to use new equipment
- Able to offer high quality courses with focus on how to reduce complications
- More learners than ever before...
Research on simulators

Lack of transfer of skills after virtual reality simulator training with haptic feedback

Cecilie Våpenstad\textsuperscript{a,b,c,d,e}, Erlend Fagertun Hofstad\textsuperscript{b,d,e}, Lars Eirik Bø\textsuperscript{a,b,c,d,e}, Esther Kuhry\textsuperscript{a,f}, Gjermund Johnsen\textsuperscript{d,f}, Ronald Mårvik\textsuperscript{a,b,d,e,f}, Thomas Langø\textsuperscript{b,e} and Toril Nagelhus Hernes\textsuperscript{a,e}

Psychomotor skills assessment by motion analysis in minimally invasive surgery on an animal organ

Erlend Fagertun Hofstad\textsuperscript{a,b}, Cecilie Våpenstad\textsuperscript{a,c}, Lars Eirik Bø\textsuperscript{a,b,c}, Thomas Langø\textsuperscript{a,b}, Esther Kuhry\textsuperscript{d,e} and Ronald Mårvik\textsuperscript{b,d,e,f}
New study: Low cost simulators

A competence based surgical skills training program with assessment of skills at entry and after two months of using a low-cost simulator (eoSim SurgTrac) (the experimental simulator group) – compared with a control group.

The novelty of this set-up is:
• the availability of a personal low-cost simulator during the training period

Due to technical difficulties with the low-cost simulator the study was ended after the two months, and no conclusions were drawn.
The Advisory Unit was presented over 4 pages in one of Norway's largest newspapers.