

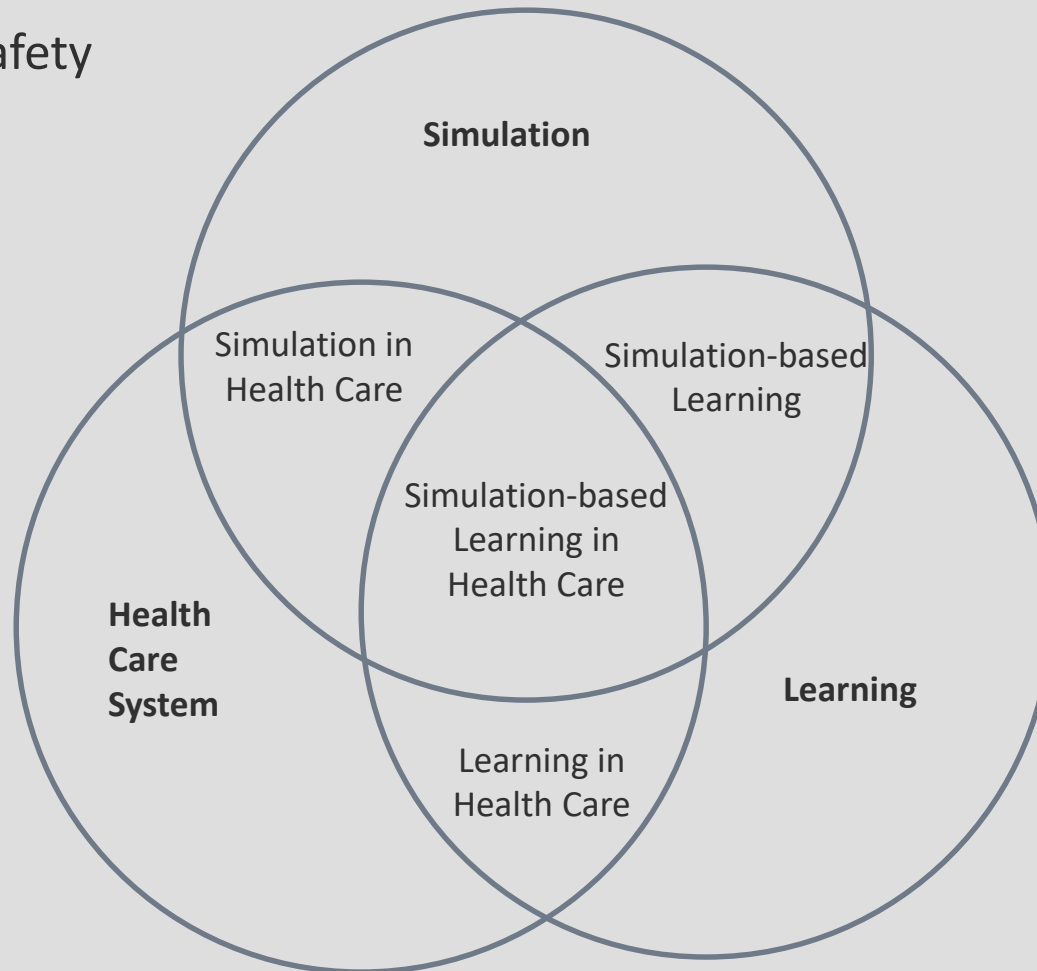


Simulating for safer human performance

Doris Østergaard and CAMES team

**Human factors seminar in honour of
Professor Henning Boje Andersen**

Patient Safety



Theoretical background for the law

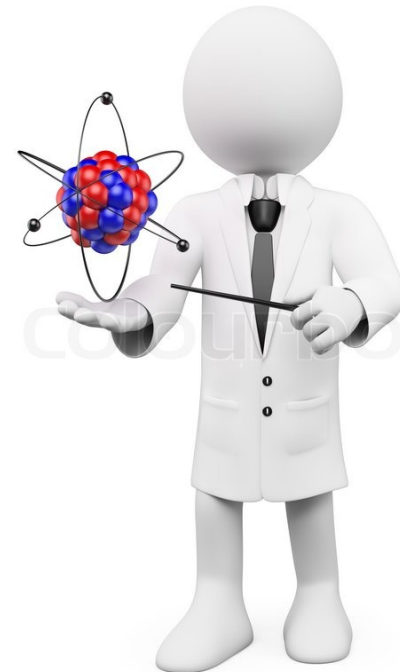
- Research project on how doctors and nurses would want a reporting system to be like, interviews, questionnaire, review of existing reporting systems in all domains and recommendations.
 - Partners
 - **Forskningscenter Risø**
 - **Dansk Institut for Medicinsk Simulation**
 - **Enheden for Brugerundersøgelser i Københavns Amt**
 - **DSI – Institute for Danish Hospitals**
 - Founded by the Ministry of Health
- The questionnaire was used to survey what kind of reporting scheme/system should be put into place, and parallel to this the existing safety culture
- The questionnaire survey has now been used in 11 countries

Improving Patient Safety:

**Safety Culture
&
Patient Safety Ethics**

Marlene Dyrlov Madsen

PhD Dissertation May 2006
Roskilde University & Risø National Laboratory









SESAM was founded at Herlev Hospital in August 1994





Simulation-based training





Why simulation based training?



- Increase patient safety
- Train medical expertise (knowledge and skills)
- Train non-technical skills
- Prioritize education in critical situations
- Strengthen the ability to reflect on own competence
- Compensate for lack of training possibilities in the clinical setting

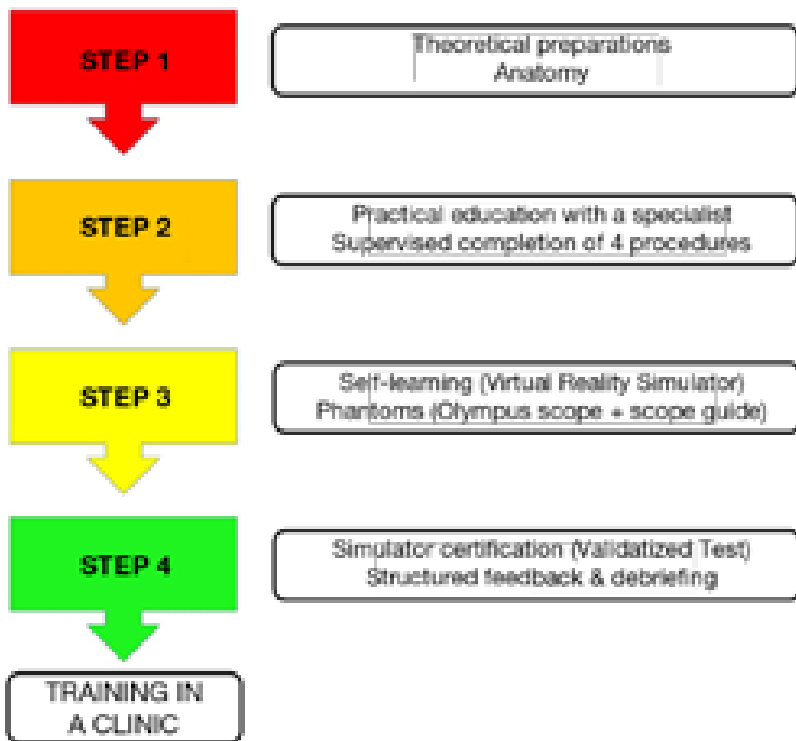
"Moving from knowing to doing"



CAMES

Copenhagen Academy for
Medical Education and Sim

Certification – "The Drivers Licence Concept"



Skills are trained in the simulation lab. until proficiency criteria have been met – which then is validated and certified.



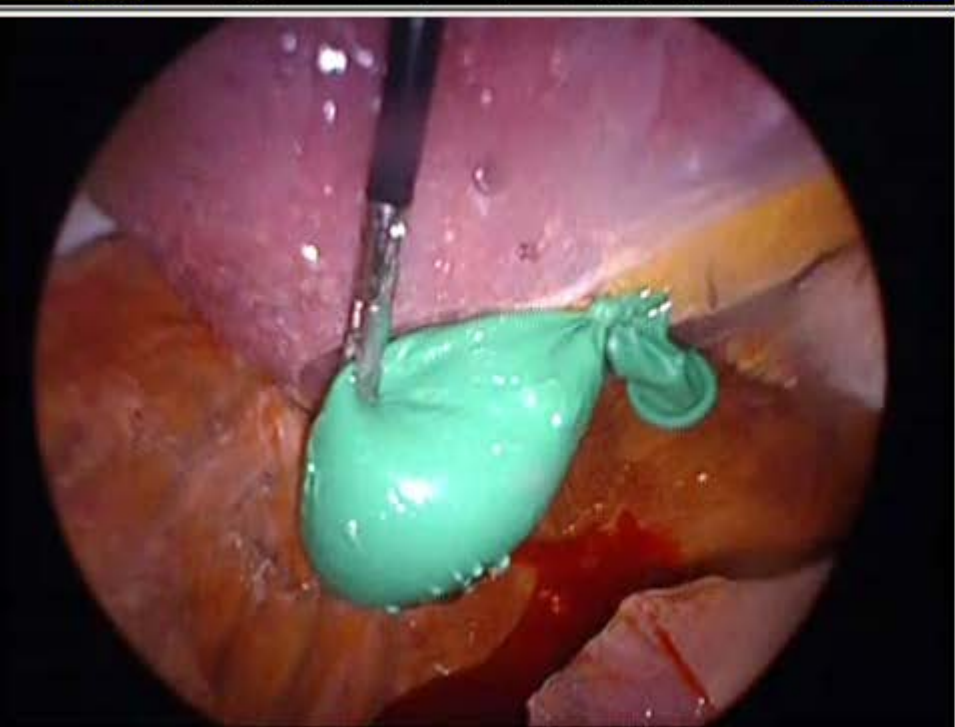
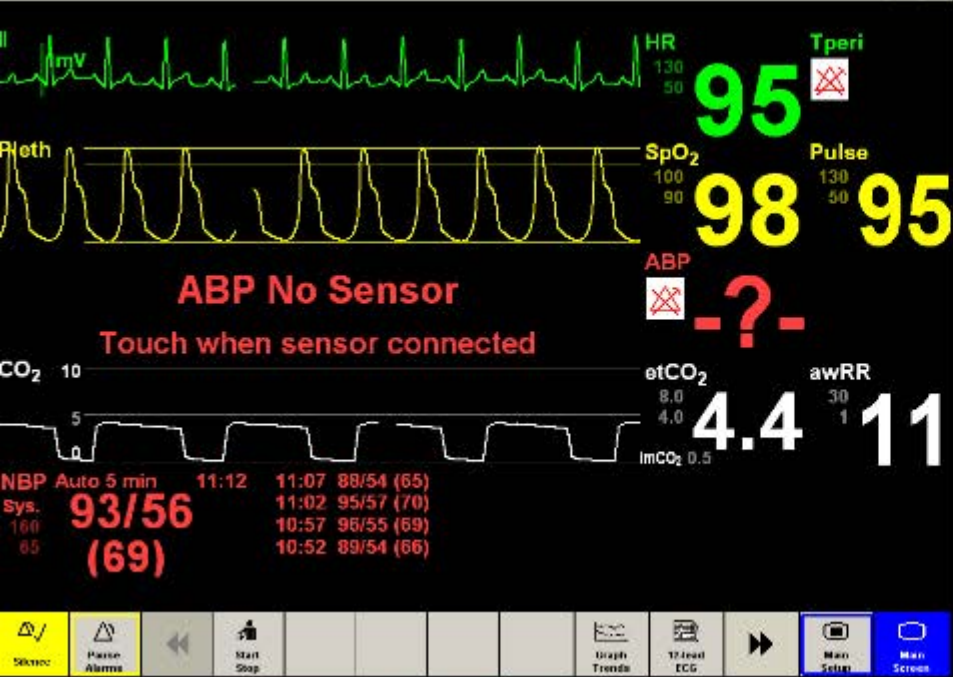




Team training in the OR



- Team training improves communication and collaboration in the operation theatre team (*Mazzocco K. Am J Surg 2009*)
- A systematic review indicate that communication and coordination, contribute to effectiveness of clinical performance (*Schmutz BJA 2013*) (*Systematic review*)
- Concepts for developing expert surgical teams using simulation (*Gardner AK, 2016*)
- Team training combined with the introduction of a pre-operative checklist reduces mortality with 18% compared to a 7% reduction in the control group (*Neily JAMA. 2010*)





Virtual Simulation – CAE Sim Scape



Patient Outcomes in Simulation-Based Medical Education: A Systematic Review

J Gen Intern Med 28(8):1078–89

Benjamin Zendejas, MD, MSc¹, Ryan Brydges, PhD², Amy T. Wang, MD³, and David A. Cook, MD, MHPE^{3,4}

- Simulation-based education: small-moderate patient benefits vs. no intervention and vs. non-simulation instruction (latter approached but did not reach statistical significance).
 - Airway management (14 studies)
 - Gastrointestinal endoscopy (12 studies)
 - Central venous catheter insertion (8 studies)
- [Small but real benefits](#): major complications, mortality, length of stay) vs. no intervention
- Virtual patients and technology enhanced simulation: statistically significant benefits in [patient care behaviors](#)

Helping Babies Breathe



“Houston, we have a problem”

Patientovergange

Et eksplorativt studie af faktorer der påvirker sikkerheden af patientovergange



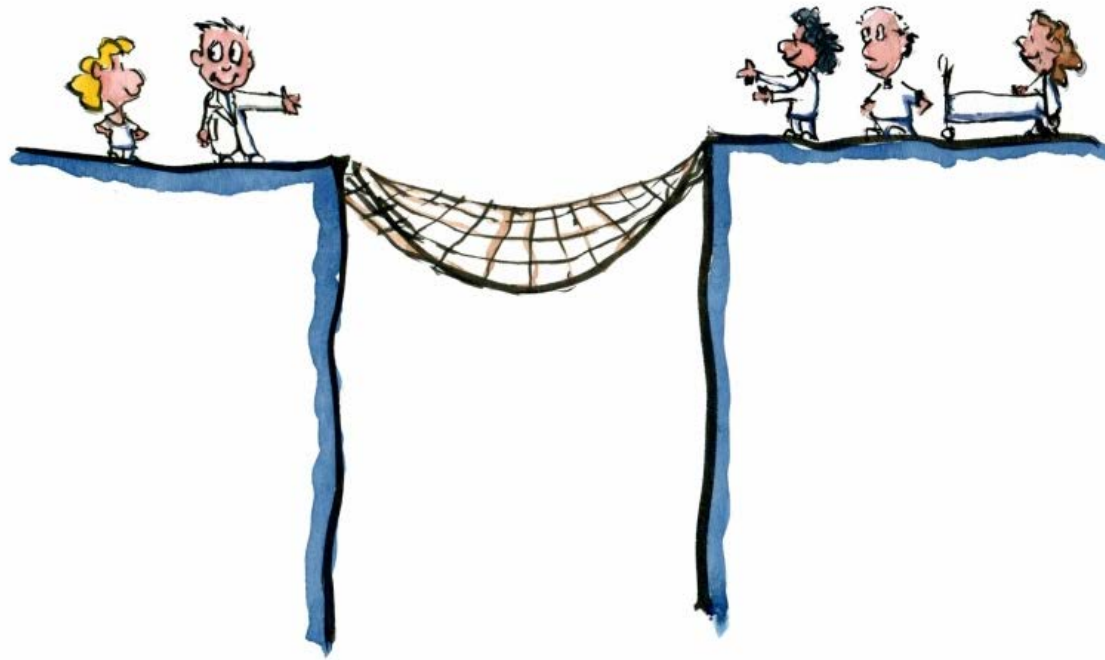
**Ph.d.-afhandling
1.2011**

DTU Management

Inger Margrete Dyrholm Siemsen
Marts 2011



Safe handover situations



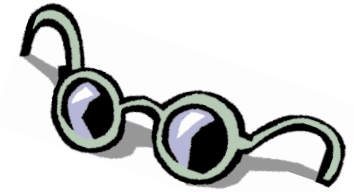
Madsen ML, Petersen LF, Siemsen IMD, Østergaard D.

Involve staff in the needs analysis



The Capital Region of Denmark
Innovation case studies

HEALTHCARE INNOVATION LAB – USER-DRIVEN HEALTHCARE INNOVATION



The Emergency Unit

- buildings
- organization of work
- competencies

Congratulations

- “We can make it happen – if we do it together”

The dream team

