LMU KLINIKUM
Institut für Notfallmedizin und Medizinmanagement - INM

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IMPROVED HEALTHCARE THROUGH SIMULATION

SOCIETY FOR SIMULATION IN EUROPE

Medical simulation training in Czech Republic in the broader European context

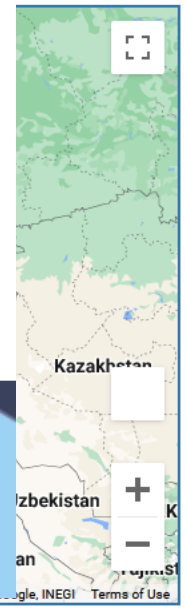
12.09.2022

1st Simulation Symposium, Dr. Marc Lazarovici

Disclosure and thanks

- Locally and globally working on raising professionalis
  education
- Current Immediate Past President of SESAM
- Providing courses and consulting on international leve
- Leading simulation centre of LMU University Hospital,

Europe on two different maps



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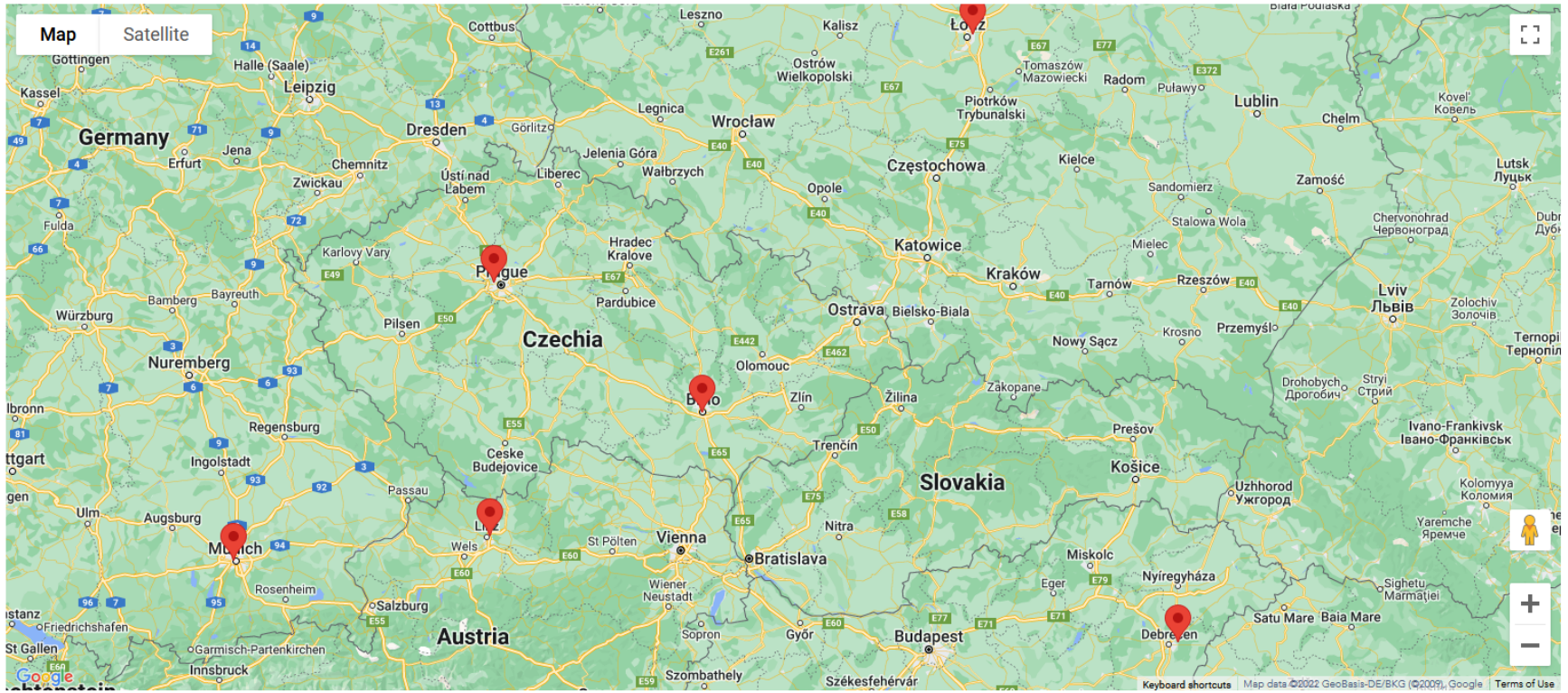
Czech Republic on two different maps



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European context

- Patchwork Europe
- Working on implementing a
- Cooperation of societies
- Europe-wide meetings, Cze

EJA

Eur J Anaesthesiol 2022; **39**:558–568

CORRESPONDENCE AND SHORT SCIENTIFIC REPORTS

Simulation-based education and training in anaesthesia during residency in Europe: where are we now?

pragmatic approach was used to identify the 'most knowledgeable person' to complete the survey for each country, either within the ESAIC Simulation Committee or through

European Society of Anaesthesiology and Intensive Care

Professional Growth | Education | Patient Safety | Research | Events | Industry | MyESAIC | Become a member

Newsletter July 2022: ESAIC/SESAM Collaboration

05 July 2022

BEEN READ
198

Marc Lazarovici – SESAM President marc.lazarovici@med.uni-muenchen.de
Doris Ostergaard – ESAIC Simulation Committee Chair Doris.OEstergaard@regionh.dk

The ESAIC Simulation Committee

The ESAIC Simulation Committee has the ambition to promote simulation as an educational methodology for improving clinical practice. This includes developing non-technical skills and the social and cognitive standards for trainees and board-certified anaesthesiologists at the European level. Its vision is: "Simulation as a standard training methodology for anaesthesiologists across Europe".

It will promote the effectiveness of simulation training and show how it can be integrated into a national anaesthesiology curriculum. To achieve this, it will focus on an approach that includes:

- **Research and Publication**
- **Education**
- **Networking and Collaboration**

Current Activity

The committee is comprised of some of the most experienced simulation experts in Europe. It includes members who are directors at several key simulation centres, and some are past presidents of SESAM. It is led by the Chair, Doris Østergaard.

Doris is a Professor in Medical Education and Simulation at the University of Copenhagen and the Copenhagen Academy for Medical Education and

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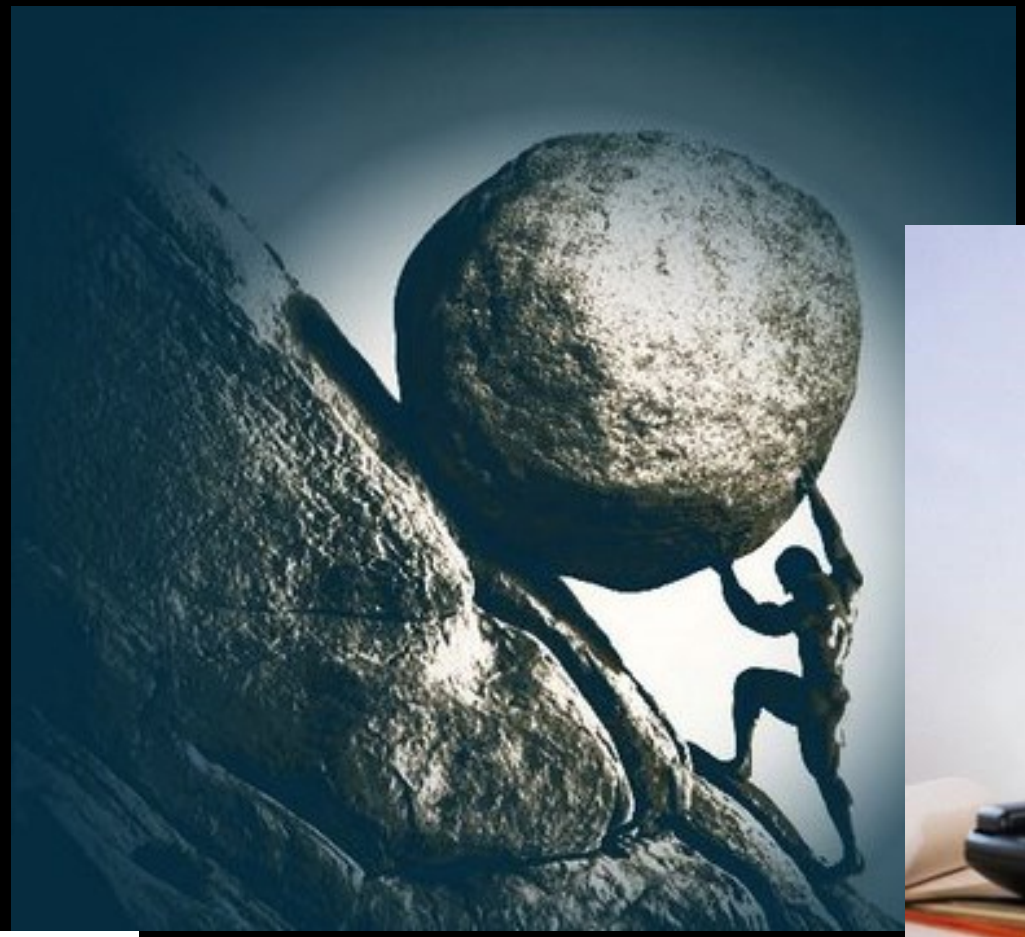
Savoldelli, Georges
where are we now
European Journal
doi: 10.1097/EJA.

Why so hard?



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Why a simulation and training centre?

Traditional theory input

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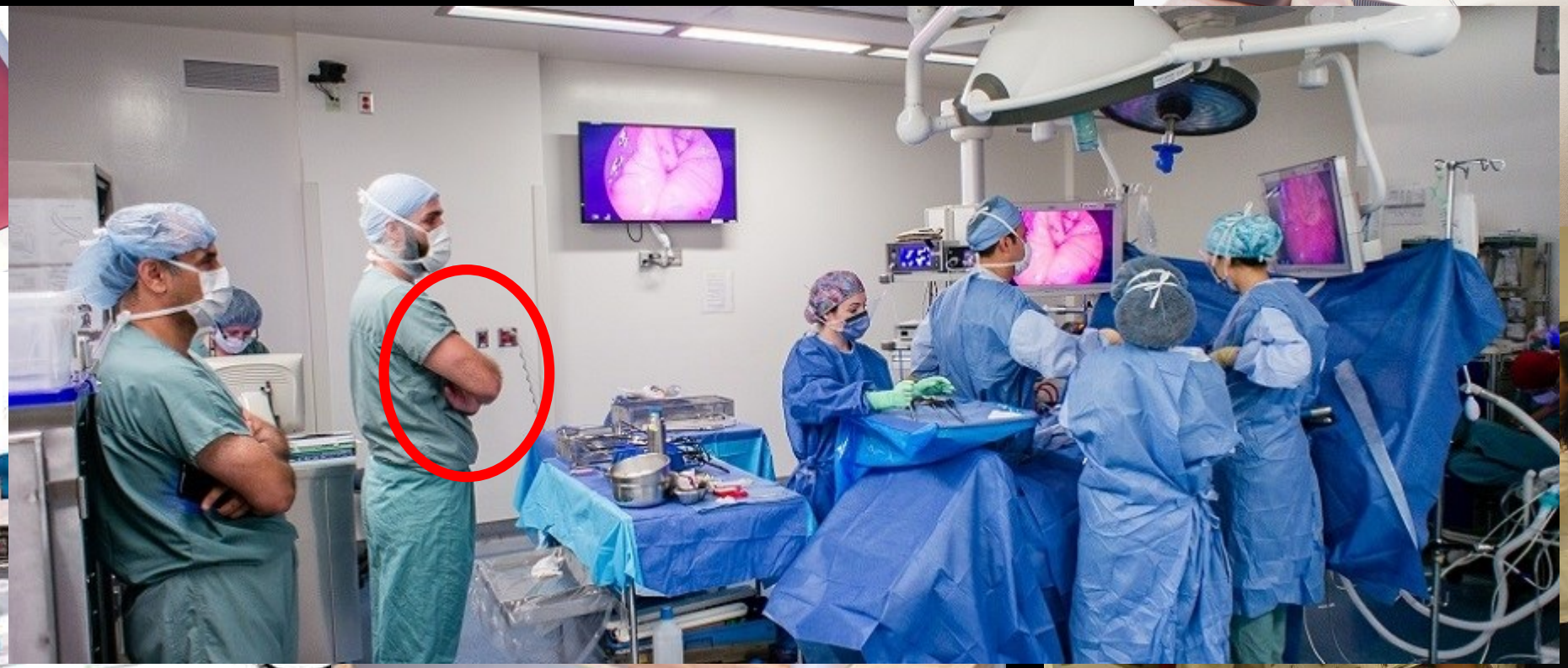
Why a simulation and training centre?

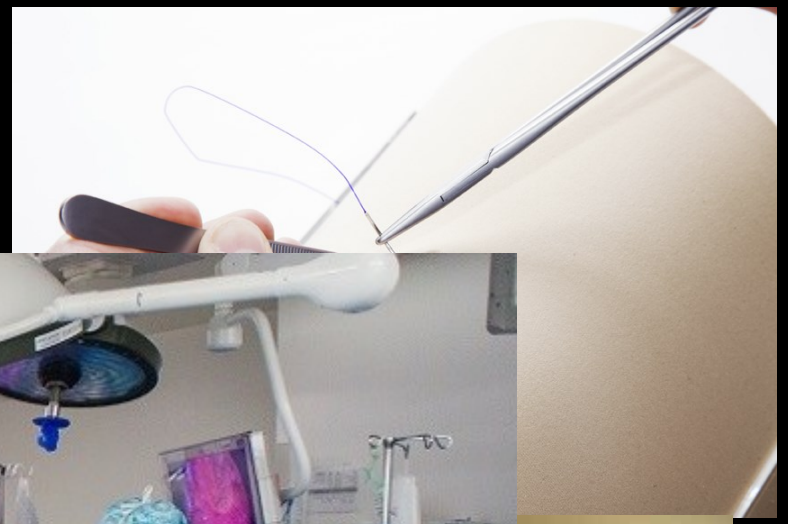
Traditional bedside teaching

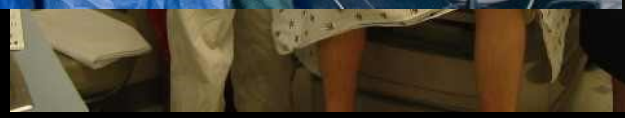
w.krankenhaus-idar-oberstein.de/index.php?id=4931
tklinik.uniklinikum-leipzig.de/dermatologie.site,postext,station-haut-2,a_id,570.html

Why a simulation and training centre?

Traditional skill training







Why a simulation and training centre?

Find the difference

Pacients are NOT guineapigs

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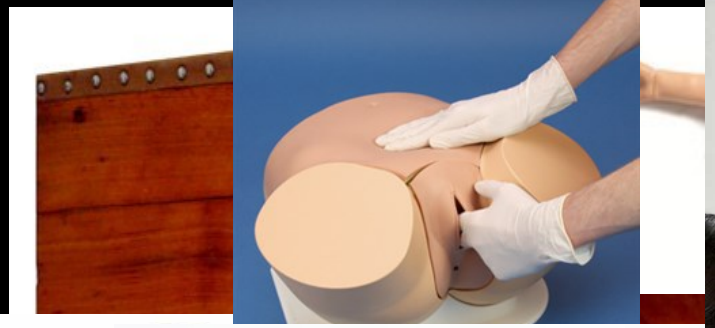
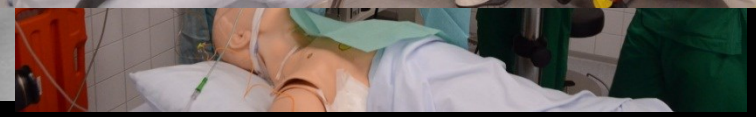
Field of possibilities for simulation

Individual aptitudes

Skills





SESA

IMPROVED HEA
THROUGH SIM

Target groups

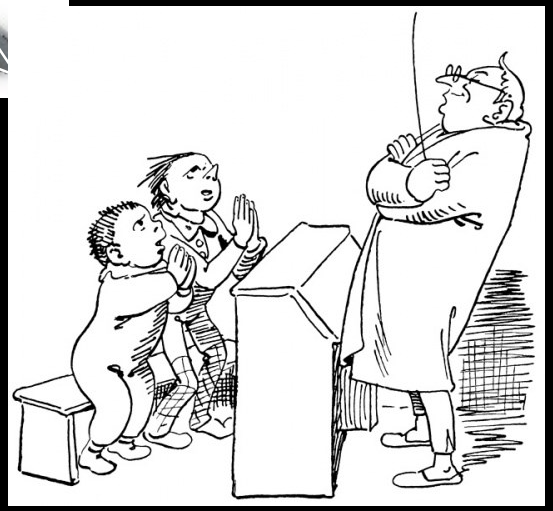
- Students
- Healthcare workers in training (nursing, paramedics)
- Physicians
- Interprofessional team training

Limitations

We train using this

Life...

Pitfall – simulation and reality



Psychological safety

What you need for a training

- Simulators
- Spaces/buildings
- Audio-video technology
- Other technology
- Team of instructors and technicians

Science also helps...

REVIEW

Current status of wet lab and cadaveric simulation in urological training: A systematic review

Ahmed Al-Jabir, MSc, MBBS[1]; Abdullatif Aydin, BSc (Hons), MBBS[2]; Hussain Al-Jabir, MSc, MBBS[3]; M. Shamim Khan, FRCS (Urol), FEBU[2,4]; Prokar Dasgupta, MSc, MD, FRCS (Urol), FEBU[2,4]; Kamran Ahmed, PhD, FRCS (Urol)[2,5]

[1]GKT School of Medical Education, King's College London, London, United Kingdom; [2]MRC Centre for Transplantation, Guy's Hospital, King's College London, London, United Kingdom; [3]William Harvey Research Institute, Barts and The London School of Medicine School of Medicine and Dentistry, London, United Kingdom; [4]Department of Urology, Guy's and St. Thomas' NHS Foundation Trust, London, United Kingdom; [5]Department of Urology, King's College Hospital NHS Foundation Trust, London, United Kingdom

Cite as: Al-Jabir A, Aydin A, Al-Jabir H, et al. Current status of wet lab and cadaveric simulation in urological training: A systematic review. *Can Urol Assoc J* 2020;14(11):E594-600. http://dx.doi.org/10.5489/cuaj.6520

Published online June 5, 2020

Appendix available at *cuaj.ca*

Abstract

Introduction: We undertook a systematic review of the use of wet lab (animal and cadaveric) simulation models in urological training, with an aim to establishing a level of evidence (LoE) for studies and level of recommendation (LoR) for models, as well as evaluating types of validation.

Methods: Medline, EMBASE, and Cochrane databases were searched for English-language studies using search terms including a combination of "surgery," "surgical training," and "medical education." These results were combined with "wet lab," "animal model," "cadaveric," and "in-vivo." Studies were then assigned a LoE and LoR if appropriate as per the education-modified Oxford Centre for Evidence-Based Medicine classification.

Results: A total of 43 articles met the inclusion criteria. There was a mean of 23.1 (±19.2) participants per study with a median of 20. Overall, the studies were largely of low quality, with 90.7% of studies being lower than LoE 2a (n=26 for LoE 2b and n=13 for LoE 3). The majority (72.1%, n=31) of studies were in animal models and 27.9% (n=12) were in cadaveric models.

Conclusions: Simulation in urological education is becoming more prevalent in the literature, however, there is a focus on animal rather than cadaveric simulation, possibly due to cost and ethical considerations. Studies are also predominately of a low LoE; higher LoEs, especially randomized controlled studies, are needed.

Introduction

The Halsteadian model of "see one, do one, teach one" has long permeated and monopolized surgical education,[1] with surgeons learning techniques in an apprenticeship style under an experienced colleague in the operating room (OR). However, in modern medical practice, service delivery pressures have reduced training hours and so new ways must be found to enhance and be an adjunct to patient and operation exposure hours.

The solution of the aviation industry has long been to use simulation models to enhance learning[2,3] and this style of learning is also becoming more widely adopted and validated as a way to enhance performance in the OR.[4-7]

Despite the widespread use of bench-top dry lab models, the gold standard of simulation-based surgical training is still using wet lab models, consisting of animal models (both live animals and animal tissues) and cadaveric simulation models. The advantages and disadvantages of these are summarized in Table 1.

Previous systematic reviews have been published on the use of surgical simulators in specific specialities[8-12] but to date, none have comprehensively focused on the use of wet lab simulation models in urology. The aim of this study is to systematically review the literature for the use of wet lab simulator models in urological surgery, to establish a level of evidence (LoE) for studies, a level of recommendation (LoR) for models, as well as evaluating types of validation used in studies.

Methods

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were used to optimize the transparency and detail of the review.[13]

Eligibility criteria

Included in the review are original research articles and systematic reviews, as well as posters and oral presentations from conferences that described the use of wet lab models for surgical simulation. We included validation studies or articles studying the educational value of a model.

Surg Endosc (2016) 30:4174–4183
DOI 10.1007/s00464-016-4800-6

REVIEW

Systematic review on the effectiveness o
applications in medical training

Effectiveness of Procedural Simulation in Urology: A Systematic Review

Kamran Ahmed,* Muhammed Jawad, May Abboudi, Andrea Gavazzi, Ara Darzi, Thanos Athanasiou, Justin Vale, Mohammad Shamim Khan and Prokar Dasgupta

From the Medical Research Council Centre for Transplantation, King's College London, King's Health Partners, Guy's Hospital, London (KA, MJ, MA, AG, MSK, PD), and the Department of Surgery and Cancer, Imperial College London (KA, AD, TA, JV), London, United Kingdom

Abbreviations and Acronyms
CUS = cystourethroscopy
LN = laparoscopic nephrectomy
TURBT = transurethral bladder tumor resection
TURP = transurethral prostate resection
URS = ureteroscopy
VR = virtual reality

Submitted for publication August 3, 2010.
Supported by the Department of Health via the National Institute for Health Research Comprehensive Biomedical Research Centre Award to Guy's and St. Thomas' National Health Service Foundation Trust in partnership with King's College London and King's College Hospital National Health Service Foundation Trust, Medical Research Council Centre for Transplantation, project grant from Guy's and St. Thomas' Charity, and funding from the London Deanery and Olympus (PD).
Supplementary material for this article can be obtained at http://www1.imperial.ac.uk/resources/1F613F07-F571-4C28-B46C-0198DE7293CA/urologysimulationarticle_tables.doc.
* Correspondence: the Urology Centre, 1st Floor, Southwark Wing, Guy's Hospital, London SE1 9RT, United Kingdom (telephone: +44 (0)20 3312 7639; FAX: +44 (0)20 3312 6309; e-mail: k.ahmed@imperial.ac.uk).

Purpose: We analyzed studies validating the effectiveness and deficiencies of simulation for training and assessment in urology. We documented simulation types (synthetic, virtual reality and animal models), participant experience level and tasks performed. The feasibility, validity, cost-effectiveness, reliability and educational impact of the simulators were also evaluated.
Materials and Methods: The MEDLINE®, EMBASE™ and PsycINFO® databases were systematically searched until September 2010. References from retrieved articles were reviewed to broaden the search.
Results: The study included case reports, case series and empirical studies of training and assessment in urology using procedural simulation. The model name, training tasks, participant level, training duration and evaluation scoring were extracted from each study. We also extracted data on face, content and construct validity. Most studies suitably addressed content, construct and face validation as well as the feasibility, educational impact and cost-effectiveness of simulation models. Synthetic, animal and virtual reality models were demonstrated to be effective training and assessment tools for junior trainees. Few investigators looked at the transferability of skills from simulation to real patients.
Conclusions: Current simulation models are valid and reliable for the initial phase of training and assessment. For advanced and specialist level skill acquisition animal models can be used but availability is limited due to supply shortages and ethical restrictions. More research is needed to validate simulated environments for senior trainees and specialists.

Key Words: urologic surgical procedures; clinical competence; models, animal; computer simulation; cadaver

Clinical competence entails an amalgamation of technical, decision making, leadership and communication skills.[1] Training for these skills has traditionally relied on the Halstedian model of see one, do one, teach one. Although this model has produced competent surgeons over the years, it is volume and opportunity based and, thus, lacks structure.[2] Traditionally the acquisition of skills in surgery is based on learning on patients. The early phase of the learning curve results in longer operative time and increased complications.[2]

Recently the duration of surgical training has been shortened, limiting the opportunity for hands-on surgical

0022-5347/11/1861-0026/0
THE JOURNAL OF UROLOGY®
Vol. 186, 26-34, July 2011
Printed in U.S.A.
DOI:10.1016/j.juro.2011.02.2684

Excellence

"Excellence lies in the capacity to adapt successfully to the dynamic variation of the situation."

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Dieckmann *et al. Advances in Simulation* (2017) 2:21
DOI 10.1186/s41077-017-0054-1

Advances in Simulation

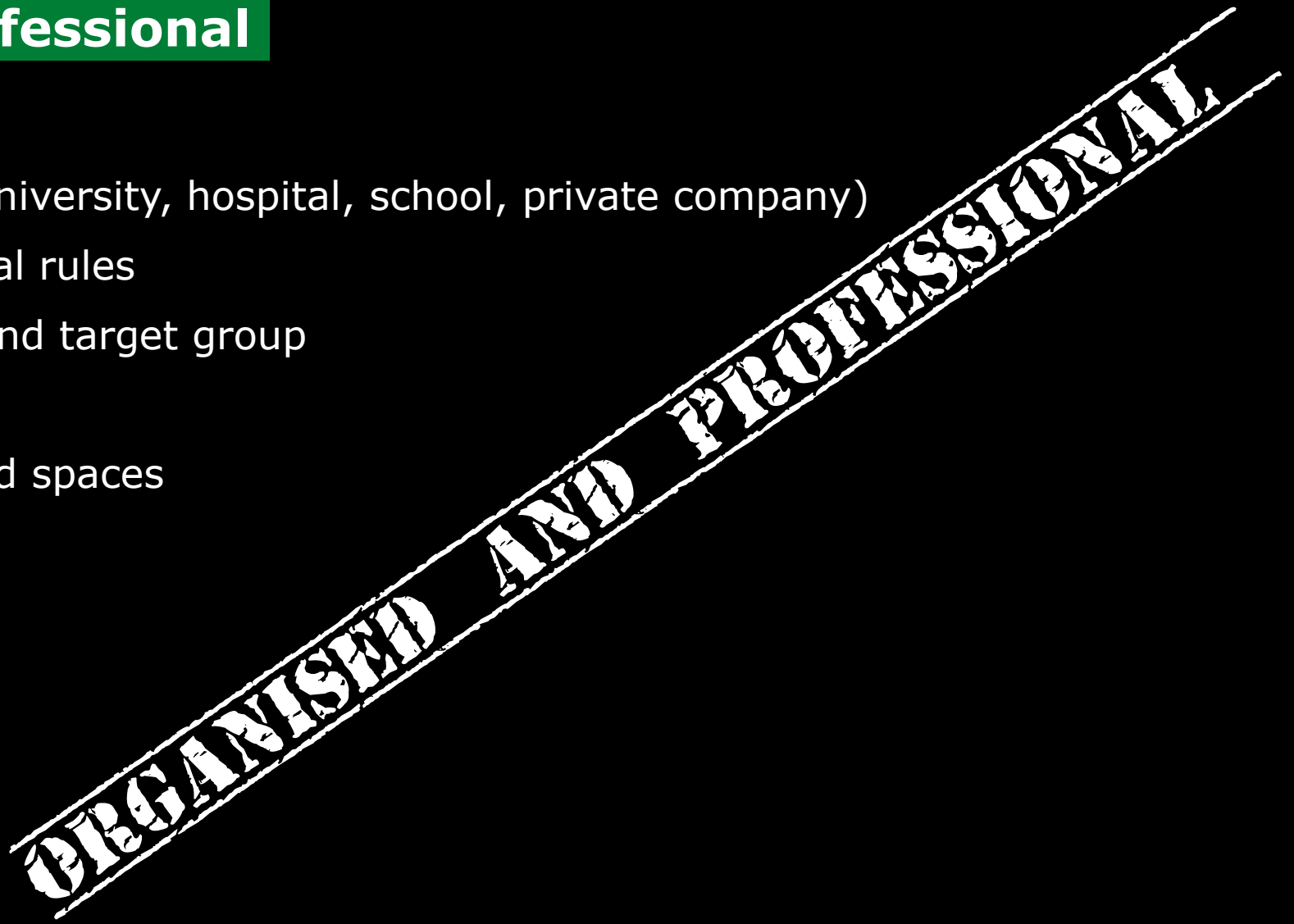
COMMENTARY Open Access

Variation and adaptation: learning from success in patient safety-oriented simulation training

Peter Dieckmann[1*], Mary Patterson[2], Saadi Lahlou[3], Jessica Mesman[4], Patrik Nyström[5] and Ralf Krage[6]

Organised -> Professional

- Organisational frame (university, hospital, school, private company)
- External rules -> internal rules
- Clear and defined aim and target group
- Appropriate personell
- Appropriate material and spaces
- Internal flexibility




DREAMS
DON'T WORK
UNLESS YOU DO

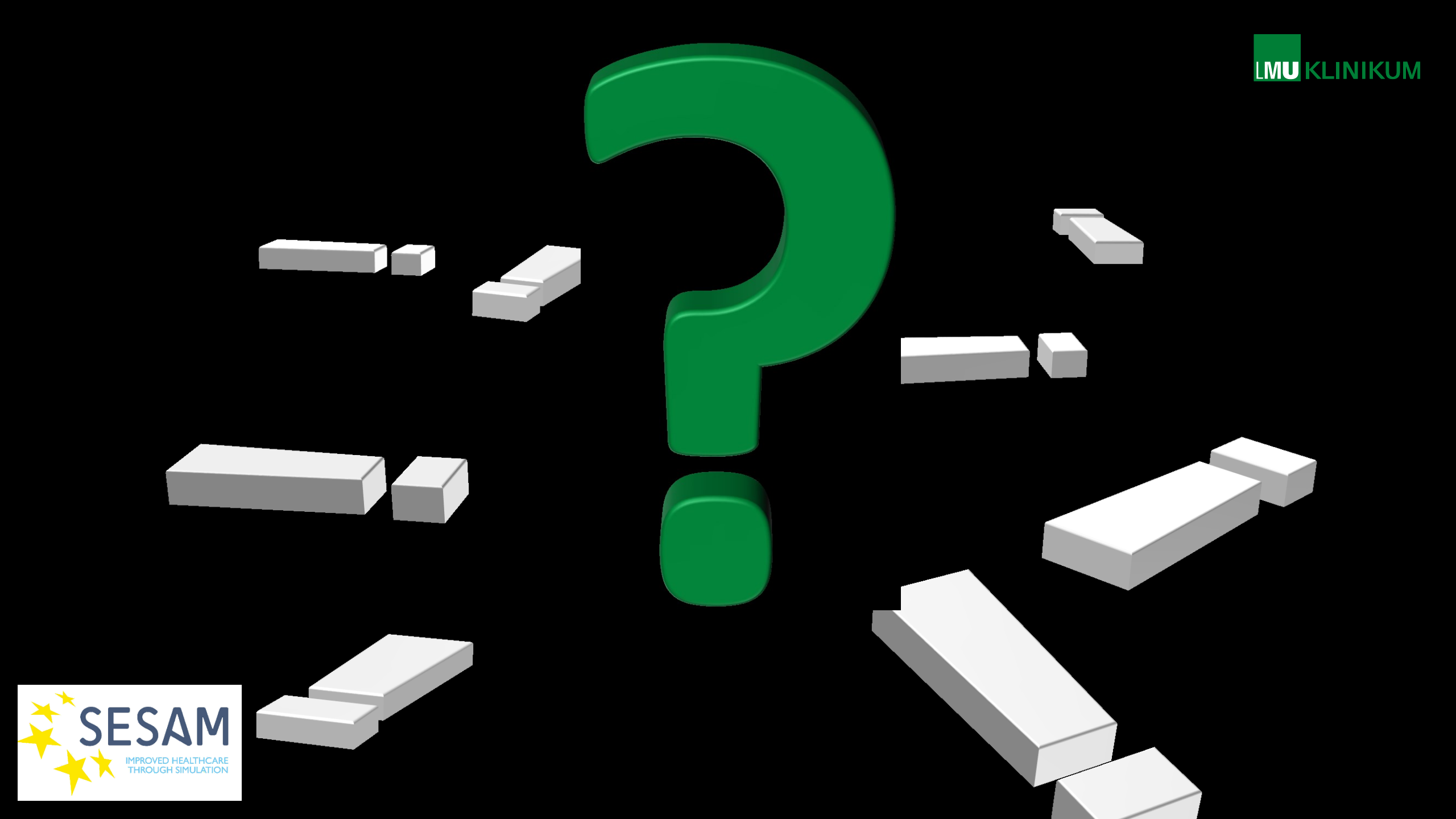
SAVE THE DATE!

SESAM

Lisbon 2023

SHAPING THE FUTURE OF SIMULATION TOGETHER

14-16 JUNE 2023 ★ 28TH ANNUAL MEETING OF
SOCIETY FOR SIMULATION IN EUROPE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