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1994-2014 WISER 20 Years of Simulation Improving Healthcare

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Wiser's Approach to Course Creation and Development

At WISER, we have developed a three phase process for course creation and development. We designate the person who initiates the course creation process, a course director. The course director is considered to be the subject matter expert. In Phase I, the course director will contact WISER's Production Manager of Curriculum Development and after a brief discussion about the course topic, the course director will receive our course creation form. This short form is designed to gather enough information for WISER's leadership team to review for approval. Several factors are taken into consideration in the course approval process, including whether the course is consistent with WISER's mission, financial considerations and research opportunities.



Pending course approval, the course director will enter into Phase II of the process which involves an orientation to WISER's facility and available technologies. The course director will also meet WISER staff to introduce them to WISER's learning management system and the services that WISER can provide. After orientation, the course director will enter into Phase III of our process, the development phase. During this time, the course director will work closely with the curriculum developers to develop course content and assessments. They will also work with the operations team to identify room set-up and equipment needs and programming of scenarios. A critical step in our process involves a test run of the course, with the course instructors as the participants. Once the course is actively running, there are several quality assurance measures that are undertaken including review of course and instructor surveys, as well as a review of course material. Keeping up-to-date with course maintenance will provide the participants with a worthwhile educational experience.

ASK OPS

AV settings can be a struggle in a simulation center, especially a center that has many users that like to "adjust their own settings". It is helpful to create a diagram of optimal settings, laminate it and store it under each piece of AV equipment that can be adjusted. This will allow for quick and easy fixes.

DID YOU KNOW

that WISER's original manikin cost \$250,000 in 1994?

DID YOU KNOW

WISER adds approximately two new courses each month?



WISER's Children's Satellite Facility Wins Multiple Awards for Faculty Abstract

An abstract submitted by Children's Hospital WISER Satellite facility recently won several awards. "Embedding Patient Simulation in a Pediatric Cardiology Rotation: A Unique Opportunity for Improving Resident Education" won third place in the simulation section at the Pediatric Academic Societies meeting in Vancouver. It also won best resident/fellow abstract and best poster abstract at the UPMC Medical Education Annual Graduate Medical Education Leadership Conference on February 21, 2014. WISER would like to congratulate the individuals involved for their hard work and efforts.

Title

"Embedding Patient Simulation in a Pediatric Cardiology Rotation: A Unique Opportunity for Improving Resident Education" Shaun Mohan, MD, MPH₁; Christopher W. Follansbee, MD₂; Ugonna Nwankwo, MD₂; Dena Hofkosh, MD, MEd₂; Frederick S. Sherman, MD, MBA₂; Melinda F. Hamilton, MD, MSc_{2,3}. 1 The Children's Hospital of Philadelphia, 2 The Children's Hospital of Pittsburgh of UPMC, 3 Peter M. Winter Institute for Simulation, Education, and Research (WISER).

Abstract

Objective: High fidelity patient simulation (HFPS) has been used in medical education to bridge gaps in medical knowledge and clinical skills. Few studies have analyzed the impact of HFPS in subspecialty rotations for pediatric residents. We hypothesized that pediatric residents exposed to HFPS with a structured content curriculum would perform better on a case quiz than residents without exposure to HFPS.

Design: Prospective randomized controlled

Setting: Tertiary-care free standing children's hospital

Interventions: During a cardiology rotation, senior pediatric residents completed an online pediatric cardiology curriculum and a cardiology quiz. After randomization into two groups, the study group participated in a fully debriefed HFPS session. The control group had no HFPS.

Outcome Measures: Both groups completed a case quiz. Confidence surveys pre- and post-simulation were completed.

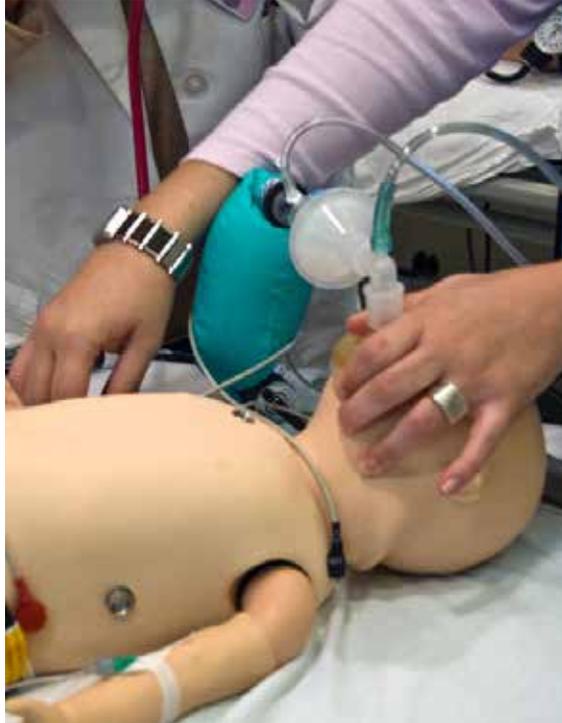
Results: From October 2010 through March 2013, fifty-five residents who rotated through the pediatric cardiology rotation were used in the final analysis (30 in the control, 25 in the study group). There was no significant difference between groups on the initial cardiology quiz. The study group scored higher on the case quiz compared to the control group ($p=0.024$). Based on pre and post simulation questionnaires, residents'

(cont.)

WISER's Children's Satellite Facility Wins Multiple Awards for Faculty Abstract (cont.)

confidence in approaching a pediatric cardiology patient improved from an average Likert score of 5.1 to 7.5 (on scale of 0-10) ($p < 0.001$).

Conclusion: Incorporation of HFPS into a pre-existing pediatric cardiology rotation was feasible and well received. Our study suggests that simulation promotes increased confidence and may modestly improve clinical reasoning compared to traditional educational techniques. Targeted simulation sessions may readily be incorporated into pediatric subspecialty rotations.



AWARDS

Best Resident/Fellow Abstract

Best Poster Abstract

The conference title: UPMC Medical Education Annual Graduate Medical Education Leadership Conference held in Pittsburgh on April 21, 2014

Pediatric Academic Societies

Top abstracts in simulation-based medical education, third place winner

May 6, 2014

Vancouver, Canada

UPCOMING CONTINUING EDUCATION EVENTS

○ | HOW TO RUN A SUCCESSFUL SIMULATION CENTER

9/9-10/2014

12/2-3/2014

○ | TECHSIM

Coming in the 3rd quarter

For more course offerings
visit www.wiser.pitt.edu

DID YOU KNOW

that WISER started as a one
room simulation center
twenty years ago?



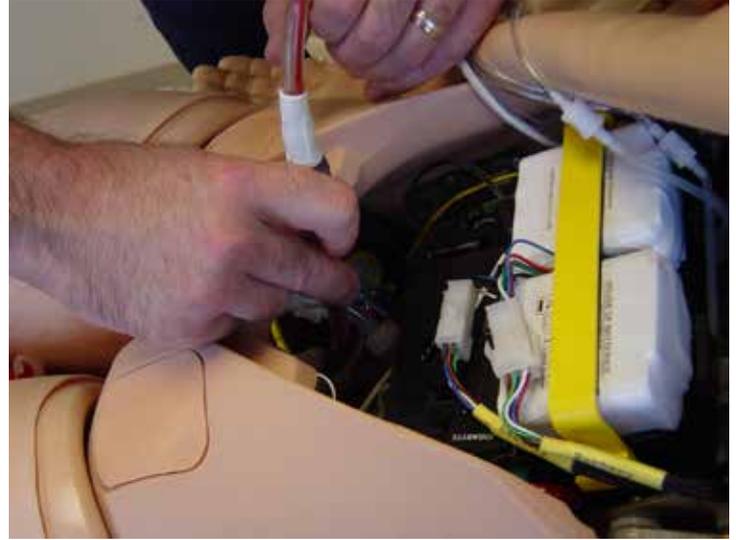
WISER to Host SSH SimOps Regional Symposium

SimOps Pittsburgh: Celebrate Simulation Technology is presented by the Society for Simulation in Healthcare, this is THE Sim Ops Conference for techs, by techs that will be hosted by WISER on July 11 and 12, 2014.

The first SSH Sim Ops Symposium boasted over 280 attendees – the largest gathering of healthcare simulations operations and technical professionals ever! As a professional in the emerging field of simulations operations, you cannot afford to miss SSH Sim Ops Pittsburgh 2014.

Dedicate two days to Sim Ops for an educational experience like no other. At the symposium you will experience:

- Hands-on experiences led by experts.
- Network with sim techs from around the nation.
- Intermediate to advanced level interactive workshops.



Some of the Highlights for the event are:

Opening Keynote

SSH Immediate Past President - Dr. Paul Phrampus

Dr. Phrampus will draw on his experience both in healthcare simulation and as a former Navy Electronics Technician to discuss the importance of workforce development associated with the technical support of simulation programs.

Plenary Presentation

Critical Components for Team Success

Join this unique Physician/Sim Tech faculty team for a lively collaboration exercise to help participants incorporate task delegation, role assignment, mutual support and leadership into their daily work.

Sim Tech Challenge

Compete with your colleagues in the Sim Tech Challenge. Utilize Sim tools and equipment to solve every day problems.

For further information regarding the Symposium, please visit:

<http://www.ssih.org/Events/Sim-Ops-Pittsburgh>

WISER Welcomes Medical School Alumni Reunion Tour

As part of its 20th anniversary celebration, WISER participated in the annual Medical School Alumni Reunion Weekend which took place May 15th-19th 2014. WISER was invited to be a part of this event and toured a group of alumni through the center on Saturday, May 17th. WISER welcomed back the alumni to see what is currently happening at the center, and where the simulation and education community is heading in the future. The program opened with a presentation by WISER's director, Dr. Paul E. Phrampus, where he led a discussion on the history of WISER's establishment and outlined some of our future goals and plans. Hands-on tours throughout the center were led by 3rd year medical students and WISER staff. The alumni toured through ten Medical Education Theater (MET) rooms which were uniquely set up with cutting edge equipment and technologies that are commonly used at WISER. Guests were able to see firsthand the important role that WISER plays in patient safety and health care education, and how it constantly works towards its mission of creating a safer patient environment in our hospitals.



Mars Community Outreach

Recently, WISER was invited to the Mars Area High School where 10th, 11th and 12th grade Anatomy and Physiology and AP Biology students experienced simulation first hand. Approximately 130 students participated in seven sessions geared to expose the students to healthcare simulation while reinforcing classroom activities from the Cardiology and Respiratory sections, and CPR training the students received during Health class.

Specifically, the students reviewed cardiac electrical and mechanical activity, and airway anatomy. They also had an opportunity for "hands-on" experiences with an AED (trainer) and bag valve mask ventilation. Application of the subject matter to the hands-on learning activities proved especially valuable when the teachers revealed that the covered material will be on their final written examinations.



The students were very impressed with the simulator capabilities and were excited to use the same technology that "real doctors and nurses" learn on. Many students commented that the school should have one of these simulators for use in the classroom setting. The sessions were so well received by the students and teachers that planning is already underway to come back for the 2014-2015 school year.

SimOps Journal Club

SimOps Journal Club is sponsored by the WISER Simulation Center and the SUMMA Health System Virtual Care Simulation Lab. SimOps Journal Club is a quarterly webinar that is dedicated to advancing the education and industry of Simulation Operations and Administrative personnel. Webinars will consist of 20 minute presentations followed by moderated question and answer sessions. Related publications may be reviewed and discussed. There is no fee to join. Simply log in and participate. www.wiser.pitt.edu/simopsjc



Safar 2014

The second day of the 12th Annual Safar Symposium was held at WISER on Thursday, May 22nd, 2014. The focus of this year's simulation portion of the Safar Symposium was Simulation for Graduate Medical Education and Assessment. Physicians and educators alike discussed how simulation education plays a key role in the immersive learning environment for graduate students. Speakers talked about how what individuals learn in the simulation environment can carry over to what they do within the hospital setting on a day to day basis.

The morning started off with WISER Director, Dr. Paul Phrampus, giving a brief introduction on the morning's topic. Presenters for this morning session included:

- Christine Park, MD, Director, Simulation Technology and Immersive Learning, Associate Professor of Anesthesiology, Northwestern University – Feinberg School of Medicine – **"Training-Induced Bias: Beauty and the Beast"**
- Charles N. Pozner, MD, Medical Director, Neil and Elise Wallace STRATUS Center for Medical Simulation, Brigham and Women's Hospital Associate Professor of Emergency Medicine, Harvard Medical School – **"Simulation as a Research Tool: The Surgical Crisis Checklist"**
- James Gordon Cain, MD, MBA, FAAP, Director, Perioperative Medical Services, Children's Hospital of Pittsburgh of UPMC, Director, Trauma Anesthesiology, Children's Hospital of Pittsburgh of UPMC, Visiting Associate Professor, University of Pittsburgh, – **"Incorporating Simulation into the ACGME's Milestones Evaluation Process"**
- Joseph S. Goode, Jr., MSN, CRNA, Nurse Anesthesia Program Faculty, University of Pittsburgh School of Nursing – **"You're Sure to get Somewhere if You Only Walk Long Enough: The Changing Role of Debriefing in Simulation Education"**



WISER would like to thank the presenters for their knowledge and insight into the evolving world of medical education and simulation.

New Course: Introduction to Point of Care Ultrasound (POCUS), EMED 5465

Introduction to Point of Care Ultrasound (POCUS), EMED 5465, is a new course created by Christopher Schott, MD, MS and designed to teach the fundamentals of focused ultrasonography to fourth year medical students at the University of Pittsburgh. POCUS is one of the most rapidly growing skills in contemporary medicine. It has spread from specific use by Cardiology, OBGYN and Radiology to broader applications for virtually any organ system or procedural guidance. It has already been adopted by Emergency Medicine with expansion to Critical Care, Trauma, Surgery, Anesthesia, Pediatrics and many more specialties. POCUS can serve as a specialized extension of the physical exam of the treating physician to aid in rapidly narrowing their differential diagnosis, providing direct visualization of physiology as well as tracking changes to medical interventions, improving accuracy and safety in procedural skills and obtaining direct visualization of pathology without the use of ionizing radiation. As the use of this technology expands, it is crucial for medical trainees to have exposure to this growing skill. This is a skill that requires active, hands-on learning in addition to the traditional passive learning via didactic lectures or on-line modules. POCUS is also a skill that should not be learned in isolation of clinical practice. It requires experience in clinical settings to address the affective domain of integrating it into a physician's practice. Therefore, it is critical to offer structured training in point of care ultrasonography to address each of these learning domains to medical trainees.



The goals and objectives of this elective involve teaching both a fundamental knowledge base (for interpretation of images) as well as hands-on training to develop the technical skills for image acquisition. The course topics are broad to engage students entering any medical specialty and include the following exam skills: basics of ultrasound physics and device knobology as well as the specific organ exams for basic cardiac, advanced cardiac, pulmonary, gallbladder, aorta, renal, pelvic/OBGYN, FAST/trauma, vascular access, and deep venous (DVT) ultrasonography. Additionally, students must develop the intrinsic motivation through the affective domain of learning to integrate this skill into patient care. Therefore, it was critical to develop a curriculum that teaches how to acquire images appropriately, how to interpret them and how to use this information to guide clinical decisions.

In order to accomplish these needs, we developed a course that uses a "flipped classroom" design whereby the students review the core content through focused on-line lectures and readings prior to coming into WISER for scheduled workshops. At these sessions, the faculty then briefly reviews the material from the on-line modules, but primarily focuses on hands-on practice scanning of a standardized patient (SP) in order to provide direct observation and formative feedback to improve image acquisition. In the second half of the workshop, the students are then presented simulated cases where they scan the SP as they would a patient, but are shown stock clips of normal or pathologic findings to integrate their ability to interpret images and use that information to make clinical decisions. The remainder of the course has the students performing practice scans to improve their skills in the clinical settings of the Emergency Department, Intensive Care Units, and other acute care venues under the supervision of trained faculty.

To date, this course had 2 pilot offerings in the spring 2014 academic year. Spots rapidly filled and we were able to teach 6 medical students. All of whom successfully passed the class with honors and demonstrated high scores on the written and practical portions of the final exam. Moreover, their ability to successfully obtain quality ultrasound images was noted by faculty during observed clinical scanning shifts and focused image review. Additionally, students rated this course highly on their post-course evaluations.

Looking toward the upcoming academic year, we are excited to expand the elective to 5 sessions, each already having full student enrollment. It has been a sensational experience to develop this course from an initial idea to having students eager to learn this skill set for their future medical careers.

Director's Corner

Greetings Friends of WISER,

Here in North America it is summer again. The beautiful weather is upon us and it makes me reflect on the busy season. July is the time when new interns embark on their journey toward becoming practicing physicians and we realize the potential impact WISER can have on patient safety through the implementation of simulation programs. The WISER scheduling system has been abuzz for the last six months to ensure there is space and resources available for the patient safety courses that we conduct for the first year residents. Central line training to standardize the approach to line placement, difficult airway management, and engaging CA-1 anesthesia residents in high stakes exams allowing them to demonstrate competency in inducing anesthesia in patients about to undergo surgery, are amongst some of the many programs that are extremely active at this time of year.



Our team here at WISER is also busy planning for our official celebration of "20 Years of WISER" which will occur at the Heinz History Center this October. Our theme "Aiming Beyond Excellence in Healthcare" is guiding us to create an event rich with information for local community and healthcare leaders to engage in the discussion of the importance of innovative education and simulation in patient safety and improving our training programs. All and all, it is a great time to pause and reflect on the importance of the work that we do and the direct implications we have to the patients we serve.

Lastly, we are all excited as this week we will be hosting The Society for Simulation in Healthcare Sim Ops Symposium in Pittsburgh. This first ever regional meeting conducted by the Simulation Society will be addressing the educational needs of technical operators and those who support simulation from behind the scenes. We are looking forward to seeing you at this upcoming event.

That's it for this time!

Happy Simulating,



Paul

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