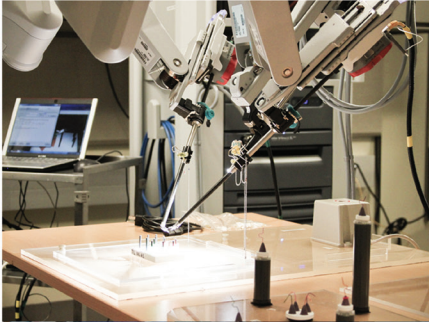


# 2009-2010 Annual Report



INSTITUTE FOR SIMULATION AND INTERPROFESSIONAL STUDIES  
AT THE UNIVERSITY OF WASHINGTON

<http://isis.washington.edu>



AMERICAN COLLEGE OF SURGEONS • DIVISION OF EDUCATION  
**ACCREDITED EDUCATION INSTITUTES**  
ENHANCING PATIENT SAFETY THROUGH SIMULATION

## Highlights from Fifth Year: July 1, 2009 – June 30, 2010

### 2009

- July** ISIS Hosts Global Health I-Tech Tour
- August** ISIS Hosts Andy DeMott, Legislative Aide to Congressman Norm Dicks
- September** ISIS Hosts 2nd Annual American College of Surgeons (ACS-AEI) Post Graduate Course  
ISIS Hosts Visit of Dr. Duane Nellis, President, University of Idaho  
ISIS Participates in UW Dawg Daze  
ISIS Becomes National TeamSTEPPS Master Training Center
- October** American College of Surgeons Accredited Education Institute's Re-Accreditation Site Visit
- November** ISIS initiates creation of the Pacific Northwest Healthcare Simulation Collaborative (PNWHSC)  
ISIS Annual Board and Corporate Council Meeting
- December** HMC Community Internship Program

### 2010

- January** ISIS Opens Harborview Medical Center Ninth and Jefferson Building facility  
HMC Community Internship Program
- February** ISIS holds first National TeamSTEPPS Master Training Course
- March** ISIS presents at Center for Clinical Excellence Symposium - *Team STEPPS and On the Road Simulation*
- April** HMC Community Internship Program  
National TeamSTEPPS Master Training Course
- June** ISIS Holds UW's Largest Interprofessional Healthcare Training Session as part of Macy Project Pilot Study

The Institute for Simulation and Interprofessional Studies  
University of Washington

## Annual Report 2009 - 2010



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# Letter from the Chairman of the Board



**Carlos A. Pellegrini, M.D.**  
ISIS, Chairman of the Board

The Henry N. Harkins  
Professor and Chairman  
of Surgery

The University of Washington School of Medicine has a well established reputation for excellence, ranking first among primary care medical schools in the country for the past 17 years (U.S. News and World Report, 2010). The Institute for Simulation and Interprofessional Studies (ISIS) connects over 30 departments and programs throughout UW Medicine, including the Schools of Medicine, Nursing, and Pharmacy, Physician's Assistant Training Program (MEDEX), and the Biorobotics Laboratory. ISIS offers educational opportunities across numerous specialties, providing the University of Washington with a truly interprofessional simulation training program.

In response to a need for a second training facility, ISIS opened an affiliated site at Harborview Medical Center's Ninth and Jefferson Building. The second ISIS site provides an expanded focus on Cardiothoracic Surgery, Emergency Medicine, Neurosurgery, Orthopaedics, Otolaryngology, Trauma, and Vascular Surgery, as well as Paramedic and team communication training. This state-of-the-art facility offers UW Medicine additional resources for wet-lab tissue and cadaveric courses, further expanding the reach of ISIS into medical education.

In the years prior to the formal establishment of ISIS, UW leadership saw simulation efforts being piloted in multiple departments across the School of Medicine. Their vision was to bring state-of-the-art technology and expertise, then scattered across departments and programs, under one roof. A single administrative body would bring about economies of scale, improve the quality of education, and standardize training across UW Medicine, in an effort to improve patient safety and in turn, decrease healthcare costs.

ISIS was established in response to the need for a centralized interdisciplinary center of simulation expertise at the University of Washington. The Dean of the School of Medicine, Dr. Paul Ramsey, approved the business plan defining ISIS in March 2005, and through his support, established the operational infrastructure of ISIS. ISIS was officially recognized as an Institute by the University of Washington School of Medicine in February 2006. Since that time, ISIS has gained the support of both hospital and School of Medicine leadership and has opened sites at both University of Washington and Harborview Medical Centers.

In late 2009, ISIS received much anticipated Congressional Grant Funding in the amount of \$3.8M. The project based funding partners the University of Washington with Madigan Army Medical Center in the development of new and creative ventures for distributed skills training, individual healthcare provider training programs, and team training with continuity of care.

ISIS at the University of Washington remains at the head of procedural and team training education, and reflects well on a school of medicine that already excels in patient care, teaching, and research.

## Letter from the Executive Director



**Brian Ross, Ph.D., M.D.**  
ISIS, Executive Director

Professor, Anesthesiology  
Adjunct Professor,  
Medical Education and  
Bioinformatics

As the old saying goes, if there is one constant in life, it's change. Over the past year, ISIS has made remarkable changes within its program to better serve the needs of its community. The growth of ISIS is evident not only in its expanded course offerings and focus on interprofessional education, but in hospital presence and facility improvements as well. Expansion to the new ISIS HMC site in January has provided ISIS with much needed space and new course capabilities including a state-of-the-art cadaveric space for hands-on training.

Entering its sixth year, the Institute for Simulation and Interprofessional Studies continues to assert itself as a standard of simulation education.

From its inception, leaders in the School of Medicine, as well as those directing ISIS, recognized the growing role of simulation in healthcare education. This role is no more apparent than in the area of interprofessional teamwork and communication. With the reports of both the Institute of Medicine as well as the Joint Commission which pointed out that over 70% of hospital associated deaths and sentinel events were associated with communication errors, ISIS has increased its curriculum development efforts in the area of interprofessional and team training.

In 2008, ISIS received grants from the Josiah Macy Jr. and Hearst Foundations (totaling over \$1 million over 3 years) to develop an interprofessional curriculum for students based on the Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS) models of effective communication. Since this time, ISIS and the Schools of

Medicine, Nursing, Pharmacy and MEDEX (PA) program have worked to develop interprofessional training curriculum for students within these disciplines, piloting the first of such immersive experiences this past summer.

In addition to the team training curriculum for students, ISIS in conjunction with University of Washington Medical Center and Harborview Medical Center leadership, have provided training and implementation support for TeamSTEPPS across UW Medicine entities. The program, developed by the Department of Defense and the AHRQ (Agency for Healthcare Research & Quality), a branch of the U.S Department of Health & Human Services, targets patient outcomes by improving communication and teamwork skills among healthcare professionals. In 2009, ISIS and the University of Washington were named by the American Institute of Research (AIR) through the Agency for Healthcare Research Quality (AHRQ) as a National TeamSTEPPS Training Center. Serving as one of only five national centers, and the only center on the West Coast, ISIS will train more than 350 TeamSTEPPS Master Trainers from national hospitals, clinics and healthcare programs over the next year.

ISIS continues to advance in the development of new curricula, the expansion of staff and the development of highly collaborative alliances with other educational and healthcare delivery systems at the local, national and international levels. Of particular interest, is the role that ISIS has played in establishing, and maturing, a regional simulation collaborative with simulation centers in our region. ISIS serves as the administrative and leadership support for the Pacific Northwest Healthcare Simulation Collaborative – a group of over 25 simulation centers and over 70 members that meets bi-monthly for educational and informational seminars.

The Pacific Northwest Healthcare Simulation Collaborative shares individual expertise, techniques, tools and resources in simulation training. We are educators, practitioners, researchers and stakeholders from schools of nursing and medicine, hospitals, and industry. We strive to integrate and expand simulation training and technology into healthcare education to the competencies and confidence of healthcare providers. Our purpose is to improve patient safety and save lives in our communities.

As a unique partnership, ISIS and the University of Washington continue to establish themselves within the region, nationally and internationally as leaders in medical simulation education.

# Executive Summary

## Mission Statement

The primary goal of the Institute for Simulation and Interprofessional Studies is to provide leadership in the use of simulation technologies to improve the quality of health care education and improve patient safety and outcomes. ISIS will seek highly collaborative alliances in selected projects with other educational and healthcare delivery systems with similar interests in simulation. The primary impact of ISIS will be upon the citizens of the State of Washington and the greater WWAMI region. Through its research and education efforts and publication of results, ISIS will also have a strong influence and potential impact upon providers and patients in a global fashion.

## Training

ISIS seeks a reputation for excellence in curriculum delivery and research and development. ISIS serves dual roles: as a training center for a wide spectrum of skills including procedural and management skills and as a simulation resource center for the School of Medicine

UWMC			
Type of Activity	# of Activities	Total Learners	Learner Hours
<b>Total Courses</b>	<b>713</b>	<b>2,368</b>	<b>6,124</b>
CVC Testing	382	382	319
HMC (Opened in January of 2010)			
Type of Activity	# of Activities	Total Learners	Learner Hours
<b>Total Courses</b>	<b>247</b>	<b>1,145</b>	<b>7,288</b>
CVC Testing	141	141	71
Clinical Education	20	337	1,885
Community Training Center	24	419	2,930
Cadaver	2	70	210
All ISIS Facility Activities			
Type of Activity	# of Activities	Total Learners	Learner Hours
<b>Total Courses</b>	<b>960</b>	<b>3,513</b>	<b>13,412</b>
CVC Testing	523	523	390
Clinical Education	20	337	1,885
Community Training Center	24	419	2,930
Cadaver	2	70	210
EVATS	215	215	394
<b>Curriculum Development</b>	<b>18</b>	<b>18</b>	<b>82</b>
<b>Demos/Outreach/Tours</b>	<b>38</b>	<b>374</b>	<b>503</b>
<b>Research</b>	<b>56</b>	<b>141</b>	<b>180</b>
<b>TOTAL ACTIVITIES</b>	<b>1,856</b>	<b>5,610</b>	<b>19,986</b>

by providing simulation expertise and managing simulation assets. In FY10, ISIS completed over 1,856 training activities, reaching nearly 5,610 participants logging a total of 19,986 learner hours (totaling 28,436 learner hours since 2006).

## Resident and Physician Training

There are regularly scheduled skills-based classes for residents from Anesthesiology, Family Medicine, Medicine, Obstetrics and Gynecology, Orthopaedics and Sports Medicine, and Surgery. In addition, UW Medicine faculty and other practicing physicians who wish to refine skills or learn new ones can access ISIS resources 24/7.

In 2010, ISIS became a certified center for Maintenance of Certification for Anesthesiology (MOC-A). Physicians requiring recertification by the American Board of Anesthesiologists may attend one of ISIS' nationally publicized courses to meet the needs of their ABA requirements.

## Medical Student Training

ISIS provides training to medical students during their rotations and in their "Transition to Clerkship" and "Transition to Residency" capstone classes (skill stations include: Basic Airway Management, Intubation, EKG, etc.). Rotation classes vary by department but have included Introduction to Anesthesiology, OB/GYN Dry Lab, and Internal Medicine Basic Airway courses.

## Healthcare Professional Training

ISIS hosts training for nurses, respiratory therapists, pharmacy students, physician assistant students, midwives, paramedics, EMTs and other healthcare professionals from the University of Washington Medical Center, Harborview Medical Center, surrounding hospitals, and from throughout the region.

## Community Outreach

ISIS supports a robust outreach program to middle and high school students with an interest in the health sciences.

## Accreditation

In its first five years, ISIS has been accredited by both the American College of Surgeons (ACS) as a Level I Comprehensive Education Institute, and the American Society of Anesthesiologists (ASA). In 2009, ISIS completed its first re-accreditation process with the American College of Surgeons and was proud to receive full accreditation until 2012.

## Affiliated Organizations

In addition to collaborating with UW Medicine affiliated institutions (Harborview Medical Center, Seattle Children's, Boise VA Medical Center, and the University of Washington Medical Center), there is a signed Memorandum of Understanding (MOU) with the Centre of Excellence for Surgical Education and Innovation (CESEI) at the University of British Columbia (Vancouver, BC), the Simulation and Clinical Learning Center at Oregon Health & Science University (Portland, OR) and with the Andersen Simulation Center at Madigan Army Medical Center (Tacoma, WA).

In the fall of 2009, Dr. Ross and other members of the ISIS team sponsored the formation of a Pacific Northwest Medical Simulation Collaborative with members of simulation centers from throughout the Puget Sound Area. The Pacific Northwest Healthcare Simulation Collaborative (PNWHSC) has since grown to over 70 members from over 25 hospitals, colleges, and industry partner sites. In the coming year, the collaborative, under the direction of Dr. Ross aims to host its first collaborative symposium with attendees invited from across the country.

## Corporate Council

The Council played an important role in providing information to ISIS on external developments that affect the work and goals of ISIS as it shaped its program over the past 5 years.

Now fully operational ISIS, has grown considerably since its inception. A solid financial model has been developed and considerable success obtaining extramural funding promises to keep ISIS solidly involved in education and research for years to come. With a newly formed governance structure, the ISIS Corporate Council was officially disbanded in the spring of 2010.



## Governance

### Board of Directors

ISIS is governed by a Board of Directors appointed by Paul Ramsey, MD, CEO, UW Medicine, Executive Vice President for Medical Affairs, and Dean of the School of Medicine, University of Washington. The Board is comprised of select members who represent all areas of UW Medicine and are advocates of the mission and goals of ISIS. Members of the Board of Directors are:

**Carlos Pellegrini**, M.D., ISIS Board Chair

**Thomas Benedetti**, M.D., M.H.A., ISIS Chair, Patient Safety and Quality Committee

**William Bremner**, M.D., Chair, Department of Medicine

**John Clark**, M.D., Chair, Department of Biological Structure

**Richard Ellenbogen**, M.D., Chair, Department of Neurological Surgery

**David Fisher**, M.D., ISIS Seattle Children's Executive Representative

**Margaret Gilshannon**, M.H.A, ISIS Administrative Director

**Cindy Hecker**, B.S.N, ISIS HMC Executive Representative

**Sara Kim**, Ph.D., ISIS Chair, Interprofessional Education and Practice Committee

**Tom Norris**, M.D., Vice Dean for Academic Affairs

**Paul Ramsey**, M.D., Dean, UW School of Medicine, CEO, UW Medicine

**Larry Robinson**, M.D., Vice Dean, Clinical Affairs and Graduate Medical Education, UW School

**Brian Ross**, Ph.D., M.D., ISIS Executive Director

**Richard Satava**, M.D., F.A.C.S, ISIS Senior Executive Advisor

**Debra Schwinn**, M.D., Chair, Department of Anesthesiology

**Mika Sinanan**, M.D., Ph.D., ISIS Chair, Research and Development Committee



**Johnese Spisso**, M.P.A., Chair Health Systems Officer, UW Medicine, Vice President for Medical Affairs, UW Medicine Health System

**F. Bruder Stapleton**, M.D., Chair, Department of Pediatrics

**Eileen Whalen**, R.N., ISIS HMC Executive Representative

**Frederick Wolf**, Ph.D., Chair, Department of Medical Education & Biomedical Informatics

**Stephen Zieniewicz**, FACHE, ISIS UWMC Executive Representative

**Brenda Zierler**, B.S.N., Ph.D., Associate Dean of Technology Initiative, Biobehavioral Nursing and Health Systems

## Executive Committee

### **Carlos A. Pellegrini, M.D., Chairman**

Dean Ramsey has appointed Dr. Pellegrini to serve as Chair of this Board. As part of this commitment he also chairs the ISIS Executive Committee. Dr. Pellegrini has been a long-standing advocate and champion of simulation training. Early on, Dr. Pellegrini saw the potential benefits of training via simulation and has been involved with the ISIS concept from its inception. Dr. Pellegrini is a professor of surgery, Chair of the Department of Surgery, and holder of the Henry N. Harkins Endowed Chair in Surgery at the University of Washington. He received his M.D. in 1971 from the University of Rosario Medical School in Argentina. After training in general surgery in Argentina, he completed a second residency at the University of Chicago.

In 1979, he was appointed to the faculty of the University of California, San Francisco, where he developed and directed the Center for GI Motility. As an active gastrointestinal surgeon at UCSF, he was recognized on several occasions by residents and students for his teaching. In 1993, he became chair of the Department of Surgery at the University of Washington in Seattle. A world leader in minimally invasive gastrointestinal surgery, Dr. Pellegrini is a pioneer in the development of video endoscopy for the surgical treatment of gastro esophageal reflux disease and esophageal motility disorders, particularly achalasia.

At the University of Washington he developed two major clinical research programs: the Center for Videoendoscopic Surgery and the Swallowing Center.

Dr. Pellegrini has been a leader in medical education and was a major contributor to the fundamental reform of residency work hours. In 1996, in recognition of his role in the strengthening of all clinical, teaching, and research programs of the Department of Surgery, he became the first holder of the Henry N. Harkins Endowed Chair in Surgery, named for the first chairman of the UW Department of Surgery.

Dr. Pellegrini is currently a regent of the American College of Surgeons and past president of the American Surgical Association. He has also recently completed a six-year term as a director of the American Board of Surgery.

Dr. Pellegrini serves on several editorial boards and publishes regularly in the field of minimally invasive surgery for upper gastrointestinal diseases, esophageal cancer, and related areas. He also publishes extensively in the area of training and new technologies for preparing surgeons in his specialty areas. His bibliography lists more than 300 articles, chapters, editorials, and books, as well as 11 surgical videos and movies.

### **Brian K. Ross, Ph.D., M.D., Executive Director**

Dr. Ross is the energy behind the advancement of medical simulation within UW Medicine. His vision has been instrumental in shaping what ISIS is today, and based on his vision and expertise in medical simulation, Dr. Ross was appointed by the Dean of the School of Medicine to serve as the first executive director of ISIS. In this role, he serves on the ISIS Board and the ISIS Executive Committee.

Dr. Ross is a UW Medicine professor of anesthesiology. He received his Ph.D. in physiology/pharmacology from the University of North Dakota in 1975 and completed his postdoctoral research in respiratory diseases at the University of Washington in 1979. He earned his M.D. from the University of Washington Medical School in 1983. In 1986, Dr. Ross completed a research fellowship in Obstetrical Anesthesia from the University of California at San Francisco, and his residency in anesthesiology at the University of Washington in 1987.

Dr. Ross has been a member of the UW School of Medicine faculty since 1987, and in 2003, he was promoted to full professor. In 2007, Dr. Ross was appointed Adjunct Professor to the Department of Medical Education and Biomedical Informatics.

Dr. Ross has been involved in medical simulation at the UW since 1996 when he developed the initial simulation training curriculum for the Department of Anesthesiology. Since then, he has developed over 20 anesthesia simulation courses for medical students, residents and nurses.

#### **Sara Kim, Ph.D., Chair, Interprofessional Education and Practice Committee**

Dr. Kim serves as the Chair of Interprofessional Education and Practice Committee at the Institute for Simulation and Interprofessional Studies. Dr. Kim also serves on the ISIS Board of Directors, the ISIS Executive Committee, and is an integral member on the Research and Development Committee. She received her Ph.D. in medical education in 1999 from the University of Washington. With her training in educational technology, Dr. Kim has implemented and evaluated numerous web-based distance education tools for training medical students and residents. Her work has been published in major journals in medical education such as *Academic Medicine*, *Medical Education*, and *Teaching and Learning in Medicine*. She is currently Associate Professor in the Department of Medical Education and Biomedical Informatics.

Her primary role in ISIS involves developing and expanding the ISIS educational infrastructure including co-chairing the Faculty Development group, curriculum development, internal and national peer-review of curricular materials, faculty mentoring in manuscript and grant writing, and eLearning content development in patient safety and quality.

#### **Mika N. Sinanan, M.D., Ph.D., Chair, Research and Development Committee**

Dr. Sinanan's primary role within ISIS is Associate Director of Research and Development. In addition, he serves on the ISIS Board of Directors and as a member of the ISIS Executive Committee.

Dr. Sinanan is a professor of Surgery and an adjunct professor of Electrical Engineering at the University of Washington School of Medicine. He received his M.D. from Johns Hopkins

University in 1980 and completed his residency at University of Washington in 1988. Following residency he joined the faculty of the University of Washington Department of Surgery. He received his Ph.D. in gastrointestinal physiology in 1991 from the University of British Columbia.

Widely published and recognized as a leader in minimally invasive gastrointestinal surgery, from 1993-2004 Dr. Sinanan served as co-director of the Center for Videoendoscopic Surgery at the UW School of Medicine. Dr. Sinanan is committed to the advancement of robotic surgery and was the co-investigator of a grant from the Department of Defense, "Studying Mini Robot Design for Military Telesurgery in the Battlefield."

As chair of the Surgery Pavilion Project Management Committee, Dr. Sinanan was instrumental in the design and planning of the Surgery Pavilion, which houses ISIS.

Dr. Sinanan's current positions include Medical Director of the Surgical Specialties Center, and President of University of Washington Physicians. His commitment to quality improvement has led to a number of patient safety initiatives within the hospital setting. This vision has helped ISIS focus on the mission of patient safety. Dr. Sinanan is currently a leader in the development of ISIS' simulation curriculum for Central Venous Line Placement, used for training all UW Medicine clinicians in standardized safety procedures.

#### **Thomas J. Benedetti, M.D., M.H.A., Chair, Patient Safety and Quality Committee**

Dr. Benedetti currently serves as ISIS Associate Director for the Faculty Development Group; a member of the Board of Directors; and a member of the Executive Committee of ISIS.

Dr. Benedetti has been recognized throughout his academic career by residents and peers for his teaching as well as excellence in research at both the University of Southern California and the University of Washington. His main clinical research interest has been in birth trauma. Dr. Benedetti has spent time in Bristol, England studying at the Bristol Simulation Center and Southmead Hospital. He has adapted a prototype Birthing Trainer simulator to assist in training for shoulder dystocia and other obstetric emergencies for use at the University of Washington (initially developed in Bristol by the Limbs and Things Corporation). Dr. Benedetti serves on the Editorial Board of the *Society for Simulation in Healthcare*;

is a frequent presenter at simulation conferences; and has been a guest faculty at other simulation centers, including the University of California, Davis.

Dr. Benedetti is Professor and Vice Chairman of the Department of Obstetrics and Gynecology at the University of Washington. He received his M.D. in 1973 from the University of Washington in Seattle and completed his obstetrics and gynecology residency and maternal fetal medicine fellowship at the University of Southern California in Los Angeles. Dr. Benedetti joined the faculty at the University of Washington in 1979, serving as Director of the Maternal Fetal Medicine Division, Department of Ob/Gyn from 1983-2002. He received his masters in health administration from the University of Washington in 2000. He presently serves as the Director of Education for the Department of Obstetrics and Gynecology at the University of Washington.

**Richard M. Satava, M.D., Senior Executive Advisor**

Dr. Satava serves on the ISIS Board of Directors, and the ISIS Executive Committee.

Dr. Satava is a professor of surgery at the University of Washington. In addition to his role as senior executive advisor for ISIS, Dr. Satava is also the UW Medical Science Consultant at the U.S. Army Medical Research and Materiel Command in Ft. Detrick, Maryland.

Previous positions include professor of surgery at Yale University and a military appointment as professor of surgery (USUHS) in the Army Medical Corps assigned to general surgery at Walter Reed Army Medical Center.

Dr. Satava completed his undergraduate training at Johns Hopkins University. He attended medical school at Hahnemann University of Philadelphia with an internship at the Cleveland Clinic. His surgical residency was completed at the Mayo Clinic, culminating with a fellowship of surgical research at the Mayo Clinic.

Dr. Satava has served on the White House Office of Science and Technology Policy Committee on Health, Food and Safety. He is currently a member of the Emerging Technologies and Resident Education Committee and the Informatics Committee of the American College of Surgeons. He is past president of the Society of American Gastrointestinal

Endoscopic Surgeons, past president of the Society of Laparoendoscopic Surgeons, and is on the Board of Governors of the National Board of Medical Examiners.

He participates in a number of surgical and engineering societies and is on the editorial board of numerous surgical and scientific journals. He has been continuously active in surgical education and surgical research, with more than 200 publications and book chapters in diverse areas of advanced surgical technology, including Surgery in the Space Environment, Video and 3-D Imaging, Telepresence Surgery, Virtual Reality Surgical Simulation, and Objective Assessment of Surgical Competence and Training.

During his 23 years of military surgery he has been an active flight surgeon, an Army astronaut candidate, M.A.S.H. surgeon for the Grenada invasion, and a hospital commander during Desert Storm. With all of these other responsibilities, he has never given up his clinical surgical practice. While striving to practice the complete discipline of surgery, he is aggressively pursuing the leading edge of advanced technologies to formulate the architecture for the next generation of medicine.

## Status of Fifth Year Goals

### Integrate Patient Safety and Quality

1. Implementation of Central Venous Catheter (CVC) Enterprise Simulation-based training and credentialing by July 2010.  
**STATUS:** All CVC lines at UWMC and HMC will be placed by a trained and tested professional by July 1, 2010. ISIS supported testing for 523 residents, fellows, faculty, and healthcare professionals (690 trainees since 2006).
2. Interprofessional Curriculum Development and Peer Review:
  - a) Develop 5 scenarios for training of interprofessional students and faculty.  
**STATUS:** Interprofessional training scenarios were completed in June 2010 as part of the Capstone training project.
  - b) Validate 1 curriculum based on simulation and OR data.  
**STATUS:** Curriculum development in process.
3. Education Research:
  - a) Systematic literature review of informed consent format and patient understanding.  
**STATUS:** Ongoing.
  - b) Systematic literature review of interprofessional training.  
**STATUS:** Ongoing.
  - c) Validation of CVC pre/post knowledge test based on 400 residents' data.  
**STATUS:** Completed, Abstract accepted.
4. Integration of simulation into training for Professionalism & Communication Skills Expand ISIS Facility:
  - a) Disclosure (1 developed and validated curriculum)  
**STATUS:** Curriculum development in process.
  - b) Interprofessional handoff (1 developed and validated curriculum)  
**STATUS:** Curriculum development in process.
  - b) Simulated training for use of Electronic Medical Records (1 developed and validated curriculum)  
**STATUS:** Curriculum development in process.
5. Solidify ISIS's role on the Patient Safety and Quality Committee:  
**STATUS:** In FY11, ISIS Patient Safety Educational Planning and Oversight Committee (EPOC) will identify and give oversight for implementing patient safety initiatives across UWMC and HMC.

### Strengthen ISIS Interprofessionalism with Cross-Institutional Involvement

1. Curriculum Development and Peer Review:
  - a) Submit 4 curricula to AAMC MedEd PORTAL curriculum.  
**STATUS:** 6 curricula have been sent to AAMC MedEdPORTAL for publication. Two have been formally accepted in FY10 (totaling 4 accepted ISIS curricula), and the remaining four are under review.
  - b) Prepare 3-4 new curricula.  
**STATUS:** New curricula is under development with two of these new curricula submitted to MedEdPORTAL in FY10.
2. Faculty Development:
  - a) Offer monthly faculty development and networking forum.  
**STATUS:** ISIS holds a monthly faculty development meeting facilitated by the Chair of IPEP.
  - b) Develop a Faculty Development Web tool.  
**STATUS:** In progress.
3. Education Research:
  - a) Systematic review of simulation-based obstetric emergency management.  
**STATUS:** Manuscript in preparation.
  - b) Efficacy study of virtual anatomy for eventual use in a virtual cadaver.  
**STATUS:** In progress.
4. Allied Healthcare Provider Training:
  - a) Enhance/expand Neonatal Resuscitation Program.  
**STATUS:** In FY10, ISIS hosted over 20 NRP training courses, expanding its audience to include Seattle Children's transport teams and the UWMC Maternal Infant Center, in addition to the regional healthcare provider training sessions.
  - b) Incorporate HMC Clinical Education.  
**STATUS:** HMC Clinical Education has been incorporated, partnering closely with ISIS day-to-day operations.
5. Community Outreach:
  - a) Establish/sponsor NW Simulation Roundtable.  
**STATUS:** The Pacific NW Healthcare Simulation Collaborative was established in November of 2009, and meets monthly.

### Strengthen ISIS Financial Position

1. Pilot study and grant submission (government and/or private) for 4 additional projects:

- a) 2 in medical/cognitive/team training arenas
- b) 2 in procedural arenas

**STATUS:** In progress, ISIS submitted 4 grants as part of the PSIP project, 3 were funded and are slated to begin in September 2010.

2. Congressional directed appropriation continuation funding (FY10).

**STATUS:** In progress. Statement of work and budget submitted.

3. CME and other Funded Courses

- a) TeamSTEPPS (2 courses).

**STATUS:** Completed, funds received.

- b) ASA MOCA Training (2 courses).

**STATUS:** Scheduled for Fall 2010.

- c) Neurosurgery at HMC (2 courses).

**STATUS:** Received 2 funded educational grants for resident courses, scheduled for July and August 2010.

- d) ENT at HMC (1 course).

**STATUS:** Resident course tentatively scheduled for winter 2010.

- e) Vascular Surgery at HMC (1 course) .

**STATUS:** Fellows Course scheduled for September 2010.

- f) Orthopaedics at HMC (1 course).

**STATUS:** CME Course scheduled for July 2010.

- g) Industry Courses (2 courses).

**STATUS:** 3 scheduled courses for summer/fall 2010.



ISIS HOSTED MORE THAN 20 NEONATAL RESUSCITATION TRAINING SESSIONS, EXPANDING BEYOND REGIONAL HEALTHCARE PROVIDERS TO INCLUDE SEATTLE CHILDREN'S TRANSPORT TEAMS AND THE UWMC MATERNAL INFANT CENTER

# Facilities

## Harborview Medical Center

ISIS continues to expand its reach across the UW Medicine enterprise, with the opening of its second site at Harborview Medical Center. Opening in January of 2010, the ISIS HMC facility, housed in the recently completed Ninth and Jefferson Building is an 8,000 square foot, state-of-the-art simulation resource. Complete with a 2,000 square foot wet-lab space, the fully convertible training areas can house 8 cadaveric training stations, proctor location complete with video and projection capabilities, tissue storage, and medical equipment.

In addition to the wet-lab areas, the proctor station doubles as a fully functional Virtual OR that is fully outfitted with a range of surgical towers, booms, lighting, and anesthesia equipment.

Trainees also have access to a multifunctional ED/Trauma Bay. When not in use, this equipment can be moved and further flexibility is provided through reconfigurable walls to accommodate a variety of courses and group sizes in the larger classroom or skills hallway.

The main classroom serves a multipurpose role. Equipped with a Live OR feed and AV equipment, the room's technological capabilities make it ideal for conducting didactic sessions, scenario viewing, debriefing exercises, and larger breakout sessions. The area is complemented by an additional conference room for training and ISIS operational meetings. Both private and common staff areas round out the facility.

The Harborview space is the resulting effort of both ISIS and HMC hospital leadership. Supported by Harborview Medical Center and UW Medicine, the ISIS facility will provide much needed training space for ISIS, HMC Clinical Education and the Community Training Center.

The ISIS HMC space complements the existing ISIS UWMC facility with simulation training now fully operational at both hospitals.



ISIS HMC

## University of Washington Medical Center

ISIS UWMC will remain the hub for anesthesiology, family medicine, internal medicine, pediatric, and surgical EVATS training courses, with ISIS HMC expanding its focus to offerings in the areas of emergency medicine, neurosurgery, paramedics, ophthalmology, orthopaedics, otolaryngology, trauma, and vascular surgery.

Located on the first floor of the University of Washington Medical Center Surgery Pavilion, the ISIS-UWMC facility has been open to the UW Medicine community since 2007.

UWMC ISIS training is supplemented by the Center for Videoendoscopic Surgery (CVES). Housed in the Health Sciences Center on the 6th floor, the 950 sq. ft. experimental laboratory supports the training of medical students, residents in surgical disciplines, including General Surgery, Cardiothoracic Surgery, Urologic Surgery, OB/GYN Surgery, and Orthopaedics. It supports an extensive array of community-based educational programs in open and minimally-invasive surgical techniques.

The laboratory in the Center for Videoendoscopic Surgery is supported by a director and co-director, Drs. Carlos Pellegrini and Brant Oelschlager, surgeons in the Department of Surgery, and is linked to a fellowship training program in videoendoscopic surgery which trains two fellows per academic year.

The continued success of the UWMC facility along with transition into the new HMC facility will bring with it more involvement of programs within UW Medicine and a new focus on simulation as a vital training tool. As the expansion of ISIS continues to develop, the interest and involvement within the University community continues to grow.



ISIS UWMC

# Interprofessional Education and Practice



**Sara Kim, Ph. D.**  
Chair, Interprofessional  
Education and Development  
Committee

Associate Professor,  
Medical Education and  
Biomedical Informatics

## Overview

The Interprofessional Education and Practice (IPEP) Committee oversees a wide range of ISIS educational activities, including curriculum development, faculty development, and educational research. The Committee is chaired by Sara Kim, PhD, and Brenda Zierler, BSN, PhD.

## Mission

The Interprofessional Education and Practice Committee promotes excellence in education via:

1. Integration of standard curriculum development in all simulation training.
2. Development and validation of education measures.
3. Expansion of distance learning using cutting-edge technologies.
4. Faculty development targeting skills and expertise required of competent simulation educators.

The committee seeks to achieve its mission through an active collaboration within the School of Medicine and beyond, including Schools of Nursing, Pharmacy and the MEDEX Physician Assistant Program. Effective interprofessional communication and teamwork has become a central focus of the IPEP Committee.

With funding from the Josiah Macy Jr. Foundation and William Randolph Hearst Foundation (over \$1 million, combined), a new interprofessional training curriculum model was piloted in 2010 with in an immersive simulation-based, team training program focusing on team communication in acute care management and disclosing medical errors to patients.

This past June, in what was the largest health sciences-based interprofessional training at the University of Washington to date, over 45 students from the Schools of Medicine, Nursing, Pharmacy, and MEDEX program worked together in managing various clinical scenarios, gaining both skill-based and team communication training. This was the first time students from these disciplines have collaborated in a simulated training setting.

In addition to training courses, ISIS continues to provide assistance to faculty members as they develop curricula and generate scholarly products. Assistance is offered in a number of ways. First, the IPEP Committee assists faculty with identifying priority training areas prior to developing a curriculum. The Committee relies on multiple needs assessment methods (e.g., survey, literature review, expert opinion) and existing databases, such as the Patient Safety Net, for identifying training priorities.

Second, the Committee provides assistance to ISIS faculty on multiple aspects of developing a curriculum, including writing learning goals and objectives, identifying pre-requisite knowledge, required cognitive and procedural training components. Once the completed curriculum is internally peer reviewed, it is submitted for external peer review and acceptance at the Association of American Medical Colleges (AAMC) MedEdPORTAL. The MedEdPORTAL provides electronic, web-based access to peer-reviewed educational materials. Launched in 2006, this centralized repository houses digital educational materials including curricula, didactics, and teaching and assessment tools. Currently, ISIS has four curricula formally accepted by MedEdPORTAL with four more submitted and under review, and one prepared for submission.

## Formal Curriculum Under Development

Using a standardized curriculum template, Educational materials currently under development include:

### Anesthesiology

1. Anaphylaxis
2. Fundamentals of BasicUltrasound
3. Difficult Airway Management\*\*
4. OB Bleeding Emergency\*
5. O2 Line Failure
6. Medical Error Disclosure
7. Venous Air Embolism\*\*

### **Internal Medicine**

1. Code Blue Medical Emergency Management
2. Lumbar Puncture
3. Thoracentesis

### **OB/GYN**

1. Basic OB/GYN Technical Skills
2. Basic OB Ultrasound
3. Breach
4. Hemorrhage Management
5. Hypertensive Management
6. Intrapartum Fetal Monitoring\*\*\*
7. Shoulder Dystocia\*
8. Trans-vaginal Tape

### **Pediatric Dentistry**

1. Conscious Oral Sedation

### **Pediatric Emergency Medicine**

1. Pediatric Anticholinergic Toxidrome\*
2. Pediatric Opioid Toxidrome\*

### **Pediatric Urology**

1. Suprapubic Catheter Placement \*\*

### **Surgery**

1. Suturing/Wound Management
2. Laparoscopic Cholecystectomy

### **Interprofessional**

1. Basic Ultrasound Competency
2. Central Venous Catheter Placement
3. Flexible Bronchoscopy\*\*
4. Medical Student Elective
5. Team Training

\*Submitted to MedEd Portal;

\*\* Accepted by and Available on MedEdPortal

\*\*\*Under Internal Review

## **ISIS Educational Database**

The development and maintenance of the ISIS database continue to be a major focus. ISIS received Human Subjects Internal Review Board approval for the Repository ISIS Educational Database in the summer of 2008 and as the database continues to expand and improve; trainees and faculty members are able to log their courses, time-spent, and evaluations within the electronic system. The database provides

ISIS faculty and researchers with extensive reports on trainee courses, faculty hours, trainee and instructor evaluations and facility usage. The database provides two key benefits to affiliated ISIS faculty; (1) It provides the critical information for documenting faculty teaching records and effectiveness; and (2) It serves as a research database, informing the development of educational research questions and study design.

## **Faculty Development**

Under the direction of ISIS Executive Director, Dr. Brian Ross and IPEP Chair, Dr. Sara Kim, the ISIS faculty across UW Medicine maintain an active network of community via ISIS faculty development.

ISIS enrolls faculty and staff members from over thirty departments and programs through a formal review process. ISIS faculty are provided with access to regular faculty development meetings/workshops, support with IRB applications, as well as on-site promotion portfolio and curriculum development assistance. This past year, ISIS hosted 6 faculty development meetings with a focus on various curriculum development techniques, including a session on developing an e-learning module for teaching basic surgical skills.

ISIS uses different approaches to recruiting its faculty. Faculty and staff members either contact ISIS directly for involvement or are recommended by their affiliated departments. In addition, ISIS actively recruits senior residents with interests in implementing educational research projects, generating scenarios for curriculum, or serving as instructors.

The faculty is affiliated in one of the following three categories: (a) core faculty; (b) adjunct faculty; and (c) research faculty.

## **Membership Requirements**

### **Core Faculty (15 current members)**

Membership requirements and expectations for Core Faculty Members include:

1. Proposal by Departmental Chair;
2. ISIS Administrative Faculty (IAF) Review of the candidate's departmental teaching evaluations;
3. Dedication of 10% non-clinical time to the ISIS Program with work to be performed in ISIS;



4. Four, half-day dedicated time spent in the ISIS faculty workroom (with focus on ISIS and home department's curriculum efforts);
5. First author a minimum of one ISIS course curriculum, yearly;
6. Service as ISIS peer reviewer for at least two other curricula, yearly;
7. Attendance at monthly Faculty Development Group Meetings;
8. Participation in annual ISIS faculty review (by Faculty Evaluations Committee).

### Adjunct Faculty (36 current members)

Membership requirements and expectations for Adjunct Faculty Members include:

1. Proposal by Department Chair;
2. IAF Review of candidate's departmental teaching evaluations;
3. Submission of one-page curriculum proposal for existing ISIS course the member would like to teach;
4. IAF review of completed curriculum;
5. Attendance at monthly Faculty Development Group Meetings;
6. Participation in annual evaluation/ISIS activities review (by faculty Evaluations Committee).

### Research Faculty (14 current members)

Membership requirements and expectations for Research Faculty Members include:

1. Proposal by Department Chair;
2. IAF Review of candidate's departmental research credentials;
3. Submission of one-page proposal for research the member would like to conduct;
4. Completion of IAF and IRB project review;
5. Attendance at monthly ISIS Research and Development Meetings;
6. Participation in annual status review of research project (by R&D Committee).

## Faculty Members

### Core Faculty Members

Anesthesiology	Jo Davies, MD Stefan Lombaard, MD Julia Metzner, FACS Karen Souter, FACS Alexander Vitin, MD
Cardiothoracic Surgery	Thomas Varghese, MD
Dentistry	Simon Lin, DDS
Emergency Medicine	Adeyinka Adedipe, MD William Hurley, MD
MEDEX	Grace Landel, PA-C
Medicine	Karen McDonough, MD
OB/GYN	Michael Fialkow, MD, MHA
Ophthalmology	Michael Wu, MD
Orthopaedics and Sports Medicine	Lisa Taitzman, MD
Surgery	Andrew Wright, MD

### Adjunct Faculty Members

Anesthesiology	Gregory Dembo, MD Thomas Edwards, MD Aaron Joffe, MD Christopher Kent, MD Gene Peterson, MD Kenneth Plitt, CRNA Irene Rozet, MD Jenny Souders, MD Gouri Sivarajan, FACS Murali Sivarajan, MD Andrea Trescot, MD Youri Vater MD Karen Wong, MD
Family Medicine	Mark Beard, MD
Emergency Medicine	Kris Benvenuto, MD
Internal Medicine	Melissa (Moe) Hagman, MD
Neonatal Outreach	Jeanette Zaichkin, RN, MN, NNP-BC
Neurological Surgery	Laligam Sekhar, MD Manuel Ferreira, MD

Nursing	Cindy Sayre, RN Juvann Wolf, RN
Pediatric ICU	Amelie von Saint Andre, MD
Pediatric Emergency Medicine	Jennifer Reid, MD
Pediatrics	Thomas Strandjord, MD
Pulmonary & Critical Care	Amy Morris, MD Margaret Neff, MD
Pathology OB/GYN	Corinne Fligner, MD Anne Marie Aimes-Oelschlager, MD Kathy O'Connell, RN
Orthopaedics and Sports Medicine	David Barei, MD Robert Dunbar, MD Paul Manner, MD Sean Nork, MD
Otolaryngology	Maya Sardesai, MD Robert Stanley, MD
Surgery	Jeff Friedrich, MD

## Research Faculty Members

Anesthesiology	Ryan Jense, MD
Cardiology	Florence Sheehan, MD
Family Medicine	Frederick Chen, MD
Internal Medicine	Tom Gallagher, MD
Nursing	Brenda Zierler, BSN, PhD Lauren Cline, RN Sarah Shannon, PhD, RN
Pediatric Urology	Thomas Lendvay, MD
MEDEX	Alexa Martin, PA-C
Medical Education	David Masuda, MD
OB/GYN	Leslie Carranza, MD, MHS
Otolaryngology	Mark Whipple, MD
Radiology	Carolyn Wang, MD
Pharmacy	Peggy Odegard, PhD

## CVES Faculty Member

Surgery	Brant Oelschlager, MD
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## Current Courses

In addition to the 29 curricula currently in development, ISIS offers the following courses which have been taught to over 5,610 learners:

### Anesthesiology

#### Advanced ACLS for Anesthesia

These courses are comprised of a number of short ACLS sessions for fourth year Anesthesia residents. The residents must thoroughly interpret the monitors and lab results to correctly identify and treat the arrhythmias, which include bradycardia, PEA, and asystole.

#### Anaphylaxis

This course teaches Anesthesiology residents the appropriate management of an anaphylactic drug response. The patient first reacts with a bronchospasm followed by profound hypotension and an elevated pulse. Following treatment of the anaphylaxis, the residents must correctly identify and treat a tension pneumothorax that ultimately causes the patient's condition to deteriorate once again.

#### Basics of Airway Management

This course teaches the basic principles of airway management. Students first attend a lecture, followed by hands-on training on airway simulators. Students will learn about the anatomy of the airway, proper management before, during and after surgical procedures and emergency management. A number of different airway courses are offered and include courses for Anesthesiology residents, Family Medicine residents, Surgery residents, Otolaryngology residents and medical students.

#### Difficult Airway Management

This course teaches the principles of airway management on a patient with a difficult airway. The steps involved are assessing and recognizing a potential difficult airway, selecting the proper equipment and then performing the intubation on the patient. Separate courses with the same course content are offered for Anesthesiology residents, Family Practice residents, Surgery residents, Otolaryngology residents, and Medical students.

#### O2 Line Failure

This course teaches emergency patient management skills in a scenario where an oxygen line fails during a procedure. The course is designed for Anesthesiology residents.

### **Anesthesia Machine Failure**

This course teaches emergency patient management skills in a scenario where a power outage occurs and the anesthesia machine fails to work. The course is designed for Anesthesiology residents.

### **Intra-Op Courses**

These situational courses familiarize the students with the correct way to handle complications during an operation. The courses include Intra-Op Bronchospasms, MI, Embolisms and hypotension.

### **Conscious Sedation**

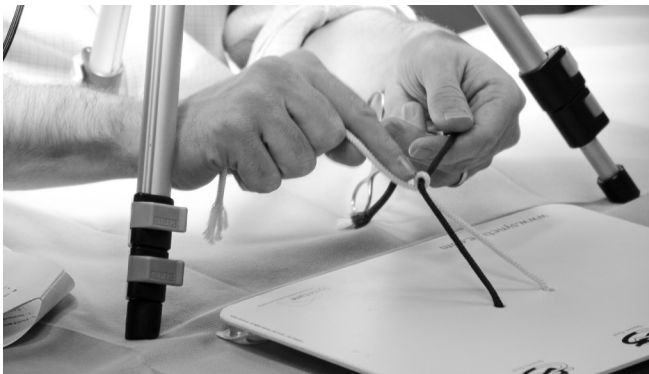
This course is taught two to four times per year and is for nurses. This review class covers a number of important scenarios and emphasizes teamwork and communication skills.

### **Fiber Optic Dexterity**

This course teaches Anesthesia residents appropriate methods for using a fiberoptic scope. The course utilizes an airway simulator that is internally comprised of a series of branching passageways and pictures that can be reconfigured however the instructor sees fit. The residents are taught how to manipulate the scope and navigate the simulated airway passages while maintaining the appropriate orientation and correctly identifying the images.

### **Medical Error Disclosure**

This course is designed for fourth year Anesthesia residents and ties in directly with another Anesthesia course. After assisting either R2s or R3s with one of a small subset of Anesthesia simulations, the R4 will be given a script detailing that it had been a specific error on their part that caused the complication that was managed in the preceding simulation. The R4 must then go in and disclose their error to an actor who is playing the role of a close family member of the patient.



### **Obstetric Bleeding**

This course teaches how to manage a bleeding emergency in labor and delivery. Opening with a spinal anesthetic for the woman in labor, this scenario proceeds to a management of uterine atony and acute post-partum hemorrhaging. Focus is given to administration of appropriate drugs, management of hypotension, identification of bleeding emergency and, ultimately, the necessity of a hysterectomy. This course is designed specifically for Anesthesia residents.

### **Venous Air Embolism**

This course is designed to teach proficiency with complex and invasive monitor systems, recognition of a venous air embolism as well as appropriate management and leadership of the OR team during its treatment. Anesthesia residents will take over a case where the patient is already anesthetized, surgery is already underway, and then recognize and respond appropriately to the clinical presentation of the embolism.

### **Basics of Interventional Ultrasound**

This course teaches basic ultrasound principles with a specific focus on identification of different forms in a tissue block and accurate needle placement. An introductory lecture is given and followed by a practical session with a simulated block of tissue that has a number of foreign bodies of different shapes and material compositions. One of the foreign bodies uses a novel method of determining accurate 3D placement of a needle in the tissue block for interventional training. This course was designed to train Anesthesia residents and will be extended to other specialties (e.g. Surgery, OB/GYN, etc.) in the future.

### **Malignant Hyperthermia**

This course teaches identification and management of MH. Anesthesia residents must accurately diagnose the problem and perform steps unique to resolving a case of MH as well as appropriate management and leadership of the OR team during its treatment. This course is designed for Anesthesia residents.

## **Emergency Medicine**

### **Emergency Medicine Procedures & Resuscitation**

These courses teach the basics for performing a lumbar puncture and managing a few different ACLS situations, including PEA, bradycardia, asystole and ventricular fibrillation. An instructional lecture is given prior to any of the practical portions and ACLS reference handouts are given to aid the ACLS scenarios that are run in the virtual OR. This course has been used to teach both medical students and Emergency Medicine residents.

## Internal Medicine

### Airway Skills

This course teaches the basics of performing intubations and cricothyrotomies. The class starts with a short overview of the procedures including an introduction to the anatomy, tools used and technique, followed by hands on training. Intubation and cricothyrotomy mannequin simulators are used to provide lifelike anatomy and feel.

### Lumbar Puncture

This course teaches the basic principles and techniques behind a lumbar puncture. Students attend a lecture, review situations in which a lumbar puncture is performed and then perform a lumbar puncture on a mannequin.

### Thoracentesis

This course teaches the basic principles and techniques behind thoracentesis. Students attend a lecture, review situations in which a thoracentesis is performed and then perform the skill on a mannequin.

## Medical Student Training

### Anesthesia Medical Student Skills Training

This course is designed to teach basic airway principles and give an introduction to managing both a general anesthetic and code situation. Students begin the day with a lecture followed by instruction in airway management and an introduction to the operating room equipment and anesthesia machine. The students move into the OR where they are guided through a general anesthetic on a human patient simulator and then allowed to go through it again on their own. The final simulated anesthetic will also include a code situation that will have to be managed appropriately.

### Basic OB/GYN Skills

This course is designed for medical students beginning their OB/GYN clerkship. The class introduces them to instrumentation, anatomy, terminology and basic techniques and procedures including pelvic exam, standard vaginal delivery, and episiotomy.

### Capstone 1

ISIS provides procedural training in a variety of specialties for 2nd year medical students as part of the year-end practicum. Each grouping reviews essential skills learned throughout medical school training as they make their transition to wards.

### Capstone 2

Much like Capstone 1, ISIS provides procedural training in a variety of specialties for 4th year medical students as part of the year-end practicum. Students review essential skills learned throughout medical school and clinic based training as they make their transition to residency.

### Suturing and Wound Management for Medical Students

This course teaches the essential elements of suturing. The student will learn a variety of suturing techniques and practice on a variety of artificial tissues that provide realistic texture and suture support.

### SVT to VFib Simulation

This course provides instruction on how to manage unstable SVT and Ventricular Fibrillation events. Geared towards team training, a number of different groups have trained with this course, but it was initially designed as a review for medical students at the conclusion of their 4th year.

## Nursing

### Obstetrical Bleeding & Neonatal Resuscitation for Nursing

These courses separately teach team communication in management of an OB bleeding emergency, and appropriate techniques for neonatal resuscitation. The bleeding emergency takes place in the real ORs in labor and delivery where a large group of OR nurses are given different roles and focus on teamwork, communication, and following appropriate hospital pathways as they resolve the emergency. The neonatal resuscitation utilizes a mannequin that turns blue with hypoxia and will only revert once appropriate techniques are used.

## OB/GYN

### OB/GYN Dry Lab

This course is comprised of a number of procedural and skills based stations. Simulators are set up for practicing episiotomy repair, hysteroscopy, and urethral sling procedures. Additionally, laparoscopic workstations are set up that allow for practice on a wide variety of general surgical skills. This course is designed for OB/GYN residents.

### Hysteroscopy

This course is designed for OB/GYN residents and shows the proper use of a hysteroscope during a hysteroscopy. The class runs for four hours and is attended by residents in all four years of training.

## **Shoulder Dystocia**

This course demonstrates the proper way to deal with shoulder dystocia during delivery. The class is attended by residents in all four years of OB/GYN training.

## **Ophthalmology**

### **Microsuturing Skills**

This course teaches Ophthalmology residents skills and principles specific to microsuturing. Using a microscope the residents get to spend one-on-one time with the instructor to develop their skills.

## **Pediatrics**

### **NRP Certification**

This course provides instruction and (re)certification for Neonatal Resuscitation Program providers in the Northwest. Detailed instruction sessions are alternated with simulations that use a newborn mannequin and focus on both the resuscitation procedures and the equipment involved. This course is designed for NRP providers from throughout the community.

### **Neonatal Mock Resuscitation**

This course provides instruction in the management of neonatal respiration and resuscitation. Designed for pediatric residents, the course provides detailed instruction sessions, alternated with simulations that use a newborn mannequin and focus on both the resuscitation procedures and the equipment involved.

## **Physician Assistant Training**

### **PA MEDEX Suture & Procedures Workshop**

This course is for teaching the MEDEX Northwest division of Physician Assistant Studies students a variety of different suturing skills. They practice their suturing on foam tissue pads that were specifically designed to meet the needs of this course.

## **Surgery**

### **CVES Courses**

The CVES (Center for Videoendoscopic Surgery) lab trains residents in a number of laparoscopic and endoscopic procedures. The classes offered cover a variety of surgeries including laparoscopic chole procedures and Hernia repair. Courses in electrosurgery safety and wound closure are also offered. The CVES is a valuable resource available to ISIS under the leadership of Dr. Brant Oelschlager.



THE 8,000 SQ FT. ISIS HMC FACILITY OPENED IN JANUARY 2010 AND INCLUDES A 2,000 SQ FT. WET LAB SPACE WITH CADAVERIC TRAINING CAPABILITIES.

### **Electrosurgery Safety for Residents**

This course teaches the basic physics principles for practical safety in OR electrocautery and other operating equipment.

### **Fundamentals of Laparoscopic Surgery**

Using the laparoscopic trainers mentioned above, students do a wide variety of exercises ranging from using the mirror trainers, which help the user with spatial recognition, instrument dexterity and improved motor control, to advanced computer simulators which simulate surgical procedures.

### **Laparoscopic Cholecystectomy**

This course covers work-up and indications for cholecystectomy, surgical anatomy, routine versus selective cholangiography (interpretation), risk areas and pitfalls, recovery and long term outcome, and troubleshooting.

### **Suturing and Wound Management for Surgery Residents**

This course teaches the essential elements of surgical suturing. The student will learn a variety of suturing techniques and practice on a variety of artificial tissues that provide realistic texture and suture support.

### **Wound Vacuum Principles**

This course, designed for R1s, teaches the principles of wound management with vacuum technology.

## Urology

### MIMIC DaVinci Simulation

Designed for residents, fellows and attendings, this course provides training on the virtual reality MIMIC DaVinci robot simulator with haptic feedback.

### Suprapubic Catheter Placement

This course covers all of the steps involved in the insertion of a suprapubic catheter. Urological residents fill out pre- and post-tests around a lecture, as well as running through the placement of a suprapubic tube on a simulator that inserts into the lower abdomen of a full patient simulator.

## Interdisciplinary Offerings

### Central Venous Catheter Placement

This course teaches the basic principles and techniques for placing a central venous line into a patient. Students first complete an E-Learning cognitive training module and training with a mannequin before attending the certification testing session. At each skills session, learners review situations in which a central line would be used, are instructed in ultrasound use and finally, practice central line placement using the Simulab's Central LineMan™. UWMC has mandated CVC certification for all incoming residents placing lines in the hospital by July 2010.

### Code Blue

Medical Emergency Response Teams are taught basic principles in interdisciplinary team communication and function in simulated full scale in situ patient emergency scenarios.

### Team Training

This course teaches the principles of crew resource management during a critical event in any medical setting. The class focuses on the development of communication skills, the prioritization of tasks, leadership skills and task assignments during the critical event. The class is taught with at least two, but preferably more, disciplines present so as to create a more realistic interaction environment. All are done in the Virtual Operating Room using a life size human patient mannequin.

## Future

This summer, ISIS will conduct a Faculty Survey to obtain opinions on ISIS Faculty support and improvements for the future as ISIS continues to expand.

Major efforts for this coming year include:

1. The submission of at least four new curricula to the AAMC MedEdPortal.
2. Development and implementation of web-based E-learning software for curriculum development.
3. Strengthening of infrastructure for collecting and maintaining course evaluation data, including completion and implementation of a web-based data collection tool.
4. Developing (e-learning modules) Simulation 101 course for educators new to simulation across WWAMI.
5. Active outreach to UW Medicine Nursing for integrating simulation into new staff orientation and professional development.

The IPEP committee will continue to provide guidance and support for ISIS faculty wishing to develop educational materials with ISIS. There continues to be added emphasis on identifying and developing interprofessional curriculum that can serve multiple specialties and professions as ISIS continues to expand upon its mission to provide standardized simulation education both locally and nationally.

With faculty development opportunities, curricula development support, mentoring for academic promotion, research support and formalization of faculty commitments to ISIS, the IPEP committee continues to provide valuable resources to faculty at all levels.



STUDENTS FROM THE SCHOOLS OF MEDICINE, NURSING, PHARMACY AND MEDEX PROGRAM WORK TOGETHER AS PART OF AN INTERPROFESSIONAL STUDENT PROJECT FUNDED BY THE JOSIAH MACY JR. FOUNDATION.

# Research and Development Committee



**Mika Sinanan, M.D., Ph. D.**  
Chair, Research and  
Development Committee

Professor, Surgery

## Overview

The ISIS Research and Development Committee (R&D) works in collaboration with the ISIS IPEP Committee, the Biorobotics Lab (BRL), and the Human Interface Technology lab (HIT Lab). The R&D Committee includes over 30 members from a variety of departments and programs at the University of Washington and is headed by Mika Sinanan, M.D., Ph.D., Chair, ISIS R&D and President of UW Physicians.

## Mission

The Research and Development Committee will:

1. Advise the ISIS Executive Committee on research, validation and development that will implement ISIS strategic plans.
2. Oversee research and development activities within ISIS.
3. Develop research proposals for ISIS.
4. Interface/partner with industry and others to establish research and development platforms.

The R&D Committee works on a wide array of projects, each project falling into one of four categories: 1) simulator and curriculum validation studies; 2) skills and technology assessment; 3) surgical robotics; or 4) training via telemedicine and virtual environments.

## Simulator and Curriculum Validation Studies

### Central Venous Catheter Project

PI: Mika Sinanan

*STATUS: Ongoing, Over 690 Residents, Fellows, and Faculty have completed ISIS testing since 2006.*

### Disclosure of Simulated Adverse Events in Obstetrics

PIs: Thomas Benedetti, Carolyn Prouty, Tom Gallagher, Leslie Carranza, Sara Kim, Karen Souter, Sarah Waller

*STATUS: Ongoing, Data Collection*

### Face and Content Validity of a Mannequin Simulator for Suprapubic Catheter Placement

PI: Thomas Lendvay

*STATUS: Ongoing, Data Collection*

### ISIS Educational Database

PIs: Brian Ross

*STATUS: Pilot Database Completed in 2007, Ongoing Data Collection*

### Individual Healthcare Training (Congressional Directed Appropriation - Institute for Simulation and Interprofessional Studies)

Project PI: Brian Ross

Pilot Program: Wound Management

Pilot Program Lead: Andrew Wright

*STATUS: Ongoing, Curriculum Development and Validation*

Pilot Program: Central venous Catheter (CVC)

Pilot Program Leads: Mika Sinanan, Andrew Wright

*STATUS: Ongoing, Curriculum Modification and Validation.*

Pilot Program: Cardiac Respiratory Exam

Pilot Program Leads: Karen McDonough, Molly Jackson

*STATUS: In Development*

Pilot Program: Percutaneous Suprapubic Catheter Insertion

Pilot Program Leads: Tom Lendvay

*STATUS: Ongoing, Curriculum Development Phase*



ISIS SUPPORTS ONGOING RESEARCH OF FACULTY IN EMERGING FIELDS.

Pilot Program: Laparo-endoscopic  
 Pilot Program Leads: Andrew Wright, Saurabh Khandelwal, Col. (Ret) Dr. Bernard Roth  
*STATUS: Ongoing, In Development*

Pilot Program: Intelligent Virtual Cadaver  
 Pilot Program Leads: Jim Brinkley, John Clark  
*STATUS: Ongoing, In Development*

#### **Interprofessional Team Training (Macy/Hearst)**

PIs: Brian Ross and Brenda Zierler  
*STATUS: Ongoing, Curriculum Development and Pilot Testing*

#### **Multi-Disciplinary Bronchoscopy Simulator**

PI: Tom Varghese  
*STATUS: In Development*

#### **Skills Acquisition in Single Incision Laparoscopic Surgery (SILS)**

PIs: Andrew Wright, Carlos Pellegrini, Renato Soares, Saurabh Khandelwal, Brant Oelschlager, Roger Tatum  
*STATUS: Ongoing, Data Collection*

#### **Survey for Medical Student Skills Curriculum**

PIs: Brian Ross, Sara Kim, Michael Wu, Julia Metzner  
*STATUS: Ongoing, Data Collection*

#### **Survey for Resident Interest in Global Health Rotations**

PI: Ryan Jense  
*STATUS: Ongoing*

#### **Team Performance for Pediatric Resuscitation**

PI: Jennifer Reid  
*STATUS: In Development*

#### **Team Training with Continuity of Care (Congressional Directed Appropriations - Institute for Simulation and Interprofessional Studies)**

Project PI: Brian Ross

Pilot Program: Team Training  
 Pilot Program Leads: Bill Hurley, Leslie Carranza  
*STATUS: In Development*

Pilot Program: Medical Emergency Black Box Information System (MEBBIS)  
 Pilot Program Lead: Brian Ross  
*STATUS: In Development*

#### **Transfer of Simulation Based Skills to Patients**

PIs: Julia Metzner, Brian Ross, Stefan Lombaard, Todd Cannon, Karen Souter, Sally Barlow, Alec Rooke, Chris Kent, Krishna Natrajan  
*STATUS: Ongoing*

#### **Validation Study of Simpraxis Laparoscopic Cholecystectomy Surgical Trainer**

PIs: Brian Ross, Andrew Wright, Mika Sinanan, Sara Kim,  
*STATUS: Second Recruitment Period Completed, Currently in Data Collection Phase*

### **Skills and Technology Assessment**

#### **Augmented Reality Collocation of Ultrasound Image Plane onto Endoscopic View to Improve Safety and Accuracy in Image Guided Procedures**

PIs: James Park, Raymond Yeung, Peter Oppenheimer  
*STATUS: Ongoing, Device prototype under development*

#### **Feasibility of Web-based Assessment of Physicians' Communication Skills: A Pilot Study**

PIs: Sara Kim, Tom Gallagher, Doug Brock, Carolyn Prouty, Odawni Palmer, Alan Gojdics, Eric Holmboe, Brian Hess, Kate Ross, Rebecca Lipner  
*STATUS: Ongoing*



### **High-Definition Video-endoscopy: An Assessment of Image Characteristics and Validated Laparoscopic Skills Curriculum Performance**

PIs: Michael Wu, Paul Doetsch, Sabrina Oldfield, Mika Sinanan

*STATUS: Pilot Completed, Second phase: In recruitment*

### **Validation Assessment Metrics for Basic Surgical Skills**

PIs: Andrew Wright, Sara Kim, Karen Horvath, Lisa McIntyre, Kristine Calhoun, Aaron Jensen, Samuel Park

*STATUS: Ongoing*

### **Virtual Reality Warm-Up for Robotic Surgery Skills Training**

PIs: Thomas Lendvay, Rick Satava, Monika Kasina, Timothy Brand

*STATUS: Ongoing, Recruitment*

### **Training via Telemedicine and Virtual Environments**

#### **Distributed Skill training and Healthcare Delivery (Congressional Directed Appropriation - Institute for Simulation and Interprofessional Studies)**

Project PI: Brian Ross

Pilot Program: Interactive Online Toolkit

Pilot Program Leads: Sara Kim and Brian Ross

*STATUS: Ongoing*

Pilot Program: Warrior in Transition Virtual World

Pilot Program Leads: Col. (Ret) Dr. Bernard Roth, LTC Daniel Dudek

*STATUS: Ongoing*

#### **Telemedicine Xbox Project in Conjunction with Microsoft Health Sciences (Technology Development):**

PI: Brian Ross

*STATUS: In Development*

### **Congressional Support**

In the federal fiscal year 2009 (FY09), ISIS secured a congressional directed appropriation in the amount of \$3.8 million (funding received April 2010). The pilot program based funding partners the University of Washington with Madigan Army Medical Center in the development of new and creative ventures for distributed skills training, individual healthcare provider training programs, and team training with continuity of care. This funding will allow ISIS to develop a robust research program in medical simulation and training.

### **Project Highlight: Central Venous Catheter Project**

Research and Development efforts continue to increase the presence of ISIS across UW Medicine. In 2006, consensus of hospital leadership, medical leadership, and educational experts in ISIS identified central venous catheter (CVC) placement as a primary focus of patient safety.

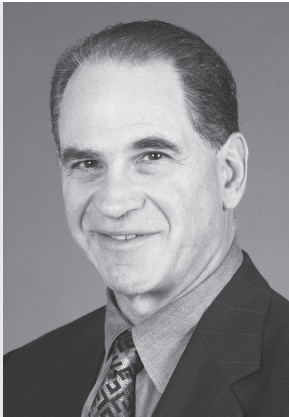
Since that time, UW Medicine has focused its effort on the development of a comprehensive CVC training program, incorporating e-learning and simulated skills training into an educational model centered on improved patient outcomes.

Beginning July 1, 2010, UW Medicine mandated anyone placing a CVC line in a patient at HMC or UWMC, must have successfully completed the ISIS CVC testing.

Backed by the support of UWMC and HMC, the interdisciplinary project has trained and tested 523 residents, fellows, attending, and healthcare professionals in the Departments of Anesthesiology, Radiology, Surgery, Family Medicine and Internal Medicine (totaling 690 since 2006). This innovative training project is one of the first in the UW Medical education program to utilize both computer based cognitive training as well as hands-on skills training in a simulated environment. The online module is currently being updated to include a specified training module for nurses and non-MDs.

ISIS hopes to use the CVC program as a guide for implementing future patient safety initiatives across the hospitals.

# Patient Safety and Quality Committee



Thomas Benedetti, M.D., M.H.A.  
Chair, Patient Safety and  
Quality Committee

Professor, Obstetrics and  
Gynecology

## Overview

The Patient Safety and Quality Committee (PSQC) was formed under a 2008 re-organization in response to an expanding ISIS mission. The committee, under the direction of Thomas Benedetti, M.D., M.H.A. and Gene Peterson, MD, is tied to the mission of the UW Medicine Enterprise of improving quality of care and patient safety. The PSQC serves as an intermediary between the ISIS Board and the affiliated hospital leadership, serving as its operational arm to ensure that curriculum and training developed through ISIS is consistent with the needs of the UWMC and HMC hospitals.

## Mission

The Patient Safety and Quality Committee will identify and prioritize patient safety opportunities within UW Medicine in which ISIS can provide leadership and operational support.

## EPOC Committee

In the spring of 2010, conversations with the Quality Improvement and Patient Safety organizations of UWMC and HMC hospitals led to the formation of the Educational Planning and Oversight Committee (EPOC). The committee, to ensure ISIS continues to address the training and safety needs of these organizations, will identify patient safety/quality initiatives and develop plans for training and deployment through ISIS. Following training distribution, the EPOC committee will systematically review the outcomes of these programs.

Following the success of the CVC training program, EPOC members have begun to identify future training programs to be rolled out in 2011.

## TeamSTEPPS Training

In the fall of 2009, ISIS was proud to become a Nationally recognized TeamSTEPPS training Center for Master Trainer Certifica-

tion. Since that time, ISIS has hosted 2 national courses and trained over 65 Master Trainers. As the American Institute of Research's (AIR) only West Coast training facility, ISIS provides TeamSTEPPS Master Trainer Courses for UW Medicine medical personnel as well as healthcare providers across the United States. TeamSTEPPS principles and techniques are currently being used in Labor and Delivery, UW Operating Rooms, the Emergency Rooms of HMC and UWMC and are expanding to include the ICU in the fall of 2010 and several additional departments and programs this year.

## In-Situ Training

The Patient Safety and Quality Committee has encouraged the hospitals to engage in simulation based training at the 'point of care' or in-situ training. In-situ training at the University of Washington Medical Center lessens the gap between practice and reality, provides increased authenticity of scenario based training, as well as allows the hospitals and service areas to evaluate their practice based systems. With each in-situ training session that has been held at the UW Medical Center, major systems errors were also identified and resolved. In FY10, ISIS completed over 10 in-situ trainings of Code Blue medical emergencies at the University of Washington Medical Center. Plans have been made to make these training sessions a regular part of the operation of the center. Additional Obstetric emergencies training sessions are also in the planning phase and are expected to be implemented after the beginning of the new year. Other services are also being evaluated for opportunities for future in-situ simulation training opportunities.

## Patient Safety Innovations Program

Announced in the spring of 2010, the Patient Safety Innovations Program was designed by UW Medicine to provide pilot funding for innovative research or projects with the potential to enhance the quality and safety of patient care at UW Medicine.

Following the first round of applications, several ISIS faculty were named as recipients for three funded projects totaling \$200,000. Funded projects will begin in fall 2010 and include: *An Innovative Multidisciplinary Approach to Code Blue Curriculum Development and Training Aimed at Improving Patient Outcomes* (PI: Brian Ross), *UW Division of Emergency Medicine TeamSTEPPS* (PI: William Hurley), *UW Division of Emergency Medicine TeamSTEPPS Video and Simulation Based Identification, Correction, and Monitoring of Critical Events on the Labor and Delivery Unit* (PI: Mike Fialkow).

The Patient Safety Innovations Program with ISIS infrastructure providing administrative and technical support funds these pilot programs with the intent to improve patient outcomes across UW Medicine.

# Advancement

## Overview

Securing long-term funding for ISIS is an on going effort. ISIS has been fortunate to have the Dean assign an advancement individual, who in turn works with a group from the School of Medicine Advancement office to assist in this effort. The Advancement team, headed by Sarah Nicholson, Assistant Vice President of Advancement, includes Melody Burson, Director for Philanthropy. This team meets regularly with ISIS staff to provide assistance with fundraising and partnership strategies and with particular efforts and events.

## Gift and Grant Activity Update

In FY10 a total of \$6,250 was donated to ISIS, with the average donation at \$1,563.

In addition, ISIS received over \$3.8M in the form of a congressional directed appropriation for the Institute for Simulation and Interprofessional Studies project, and over \$1,609,600 in the form of equipment and other donations in FY10.

## Activities

ISIS strives to enhance academic and community relations and has hosted a number of tours, seminars and other events in this capacity. Highlights of these activities are below:

### ACS

As one of the first Level I Comprehensive Accredited Education Institutes through the American College of Surgeons, ISIS was privileged to host the second annual AEI Post-Graduate Course at its UWMC facility in September 2009. The well attended (98 members), two-day course included overview and discussion of the development of a successful simulation education institute.

This was the second time ISIS was awarded the privilege to host the ACS Level I AEI Symposium (first session, September 2008).

### Collaboration

Simulation has also been a joint effort at the University, as ISIS and the School of Nursing have collaborated on combined training scenarios for nursing students, medical students, and residents. In addition, ISIS has collaborated with the Schools of Nursing and Pharmacy to continue the Macy/Hearst Interprofessional Team Training Projects in 2009-2010.

ISIS has entered its second year as home to Seattle Children's Neonatal Resuscitation Certification Program. Under the direction of Seattle Children's personnel, the NRP provider and recertification courses are offered on a bi-monthly basis to healthcare providers throughout the region. The NRP course has opened further collaboration with Seattle Children's, now partnering in curriculum development, research, transport resuscitation training, and other projects. Seattle Children's is also a member of the Pacific Northwest Healthcare Simulation Collaborative and aims to partner with PNWHSC and ISIS on several upcoming grant proposals.

## Individuals & Academics

ISIS regularly conducts tours for visiting national and international academics and VIPs. FY10 visitors included:

- Airlift NW
- Anspach
- Anesthesia Equipment Supply
- Christine Bachman, I-Tech, Mozambique
- Dr. Charles Balch, Johns Hopkins
- Dr. Campbell, SimLearn Seattle VA
- Covidien
- David deKrester, Governor of Victoria (Australia)
- Andy Demott, Legislative Aide for Congressman Norm Dicks, District 6
- Dr. Martinho Dgedge, Ministry of Health, Mozambique
- The Doctors Company
- Dr. John Hembroff, Oregon Health Sciences University
- Jennifer Huston, Executive Assistant to King County Executive, Dow Constantine
- Laerdal Medical
- Shawna Meecham, Legislative Aide for Congressman Adam Smith, District 9
- METI
- Mimic Technologies
- MIT Alumni Association – Seattle Chapter
- New York Times
- Dr. Okamoto, Keio University (Japan)
- Physician's Insurance
- Dr. Christian Ramers, I-Tech, Mozambique
- Red Llama Incorporated
- Russian Delegates
- Simulab Corporation
- Marla Smith, I-Tech, Mozambique
- Dr. Sakti Srivastava, Stanford University

- Maria Terry, ACS Site Visitor
- Taiwanese Delegates
- University of Namibia
- USC Medical Students
- UW MHA Student Tour
- UW Medical School Alumni (Class of 1960)
- UW School of Medicine Resident Applicants

## Community Outreach

ISIS leaders recognize and appreciate the need for science education within youth and school programs. ISIS works closely with the University of Washington's News and Community Relations to schedule a monthly tour to various schools and educational programs. The educational visits for FY10 included:

- Bellarmine Preparatory High School
- Epiphany School
- Glacier Peak High School
- Health Sciences and Human Services High School
- Issaquah High School
- Kennedy High School
- Nathan Hale High School
- North Kitsap High School
- Toppenish High School
- Treehouse Program
- UW Alpha Epsilon Delta
- UW Bioengineering Student Tour
- UW Gear Up Program
- UW Nursing Summer Camp
- UW Summer Medical Dental Education Program
- UW UDOC Program
- West Sound Tech
- White River High School

## Media and Events

ISIS often receives media coverage and hosts various events. Media and events included:

- Dawg Daze (September 2009)
- New York Times Article (September 2009)
- UWeek Article (March 2010)
- King 5 News Segment (March 2010)
- UWeek Article (June 2010)

## Accepted Abstracts and Manuscripts

ISIS faculty continue to generate scholarly products as directly related to ISIS curricular activities. Samples of FY10 publications and presentations are listed below:

Doetsch PE, Sinanan MN, Ross BK, Kim S, Wu MC. Hi-definition video-endoscopy: A functional assessment of image quality. *Journal of Investigative Medicine*, Vol. 58 (1), 472, Jan 2010

Kim, S, Spielberg, F, Mauksch, L, Farber, S, Dong, C, Fitch, W, Greer, T. Comparing Narrative and Multiple-Choice Formats in Online Communication Skill Assessment. *Med Educ* 2009; 43: 533-541.

Ross, B., O'Brien, K., Park, S., Sherman, M. "An Innovative Technique for Teaching "Teach-Back" TeamSTEPPS Collaborative Annual Meeting, Abstract, June 2010.

Tsigonis AM, et al. Validation of novel self- and expert-administered assessment tools for basic open technical skills. *Journal of American College of Surg.* 2010;211(3); S115-16.

Van Nortwick, SS, Lendvay, TS, Jensen, AR, Wright, AS, Horvath, KD, Kim, S. Methodologies for Establishing Validity in Surgical Simulation Studies. *Surgery.* 2010 May;147(5):622-30.

## Presentations

- Society of Simulation in Healthcare Annual Conference, Phoenix, AZ (January 2010), Dr. Sara Kim, Dr. Brian Ross *Propelling Scholarship: From Inception of a Simulation Curriculum to Publication through MedEdPORTAL.*
- 2010 Western Regional Meetings Carmel, CA (January 2010), Paul Doetsch, Dr. Mika Sinanan, Dr. Brian Ross, Dr. Sara Kim, Dr. Michael Wu *High-Definition Video Endoscopy: A Functional Assessment of Image Quality*
- 6th Innovations in the Surgical Environment Conference, University of Maryland (March 2010), Dr. Mika Sinanan *Does Simulation Really Improve Patient Safety*

- American College of Surgeons Annual Symposium, Chicago, IL (March 2010) Dr. Andrew Wright, Dr. Aaron Jensen, Abraham Tsigonis, Dr. Sara Kim  
*A Novel Basic Open Technical Skills Curriculum*
- The Airway Course, Seattle, WA, (April 2010), Dr. Brian Ross  
*Airway Management*
- University of Washington – Academic Evening – Department of Anesthesiology and Pain Medicine, Seattle, WA (May 2010), Dr. Nicholas Kassebaum, Dr. Ramo Naidu, Dr. Anna Shope, Dr. Josephine Tamola, and Dr. Ryan Jense  
*A National Survey of US Surgery and Anesthesiology Residents' Interest in International Training Rotations*
- Oregon Society of Anesthesiologists Annual Meeting, Salishan, OR (May 2010) Dr. Brian Ross,  
*In-Situ Simulation: Clinical Care and System Improvement*
- InCite Nursing Faculty Workshop, Spokane, WA, (June 2010), Dr. Brian Ross  
*ISIS, Simulation in Medical Education, Pacific Northwest Healthcare Simulation Collaborative, TeamSTEPPS*
- American College of Surgeons, Accredited Education Institutes Post Graduate Course, (September 2009), Dr. Sara Kim, Ms. Avalon Lance, Dr. Gerald Moses, Ms. Sarah Nicholson, Dr. Brian Ross, Dr. Richard Satava Dr. Mika Sinanan, Dr. Andrew Wright  
*Curriculum Design and Scenario Development*  
*Faculty Recruitment and Retention,*  
*Fundraising,*  
*Grant Funding Opportunities,*  
*New Technology to Support Education in Surgical Skills,*  
*Teamwork/Interdisciplinary Team Training*  
*Utilization Analysis: A Model to Plan and Monitor Resources*



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