



JOHNSON CENTER FOR SURGICAL INNOVATION

UT HEALTH SCIENCE CENTER<sup>®</sup>

DEPARTMENT OF SURGERY

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## What are we teaching in the JCSI?

When the JCSI opened in June 2007, there were only 2 defined curricula. We are excited to report that we have grown our curricular offerings to include the following:

Basic suturing & knot tying	Laparoscopic camera navigation
Intermediate suturing & knot tying	Ultrasound for Surgeons
Introduction to OR instruments	Airway Management
Introduction to laparoscopic instruments	Code management
Central venous access	Fundamentals of Laparoscopic Surgery
Intraosseous access	Vascular and bowel anastomoses

In the upcoming 2010 academic year, the JCSI faculty and staff will continue to expand educational opportunities by developing new curricular offerings. Plans for next year include:

**Mock codes:** Simulation equipment is expensive and hard to come by. We were fortunate to find an unused MegaCode Kelly manikin (by Laerdal™) at our sister campus, the Regional Academic Health Center in Harlingen, TX. MegaCode Kelly is capable of simulating breath, heart, and bowel sounds, cardiac rhythms, blood pressure, pulse, difficult intubation scenarios, chest tube insertion, nasal airways, cricothyroidotomy, CPR, and can be defibrillated.



**Interdisciplinary team training:** We are working with Internal Medicine and School of Nursing faculty, as well as nursing staff from the VA Hospital to create interdisciplinary training modules to enhance communication among surgeons, internists, and nurses during intense situations such as codes.



### TASSL - Texas Association of Surgical Skills Laboratories

The Texas Association of Surgical Skills Laboratories (TASSL) is a collaboration of 15 Texas surgery residency training programs. The group first formed in 2007 as a way for residency training programs to share curriculum ideas and enhance education using simulation-based training for surgery residents and other learners by fostering collaboration and research. To learn more about TASSL, please visit their website at [tassl.org](http://tassl.org).

TASSL meets twice annually. The 2009 President was Mohsen Shabahang, MD, from Texas A&M's Scott & White Hospital. As such, the 2009 Fall meeting was held at Dr. Shabahang's home institution in Temple, TX. Members discussed curricula implemented at their respective institutions, educational research projects, and toured the simulation facility. At the meeting, Kent Van Sickle, MD was elected to serve as the President for 2010.

The 2010 Spring meeting was held during the Association for Surgical Education conference in San Antonio, TX. The 2010 Fall meeting will be hosted here at UTHSCSA and will include a tour of the JCSI.

### TASSL collaborates with the JCSI on flexible endoscopy training curriculum

The Texas Association of Surgical Skills Laboratories (TASSL) collaborated to create a flexible endoscopy training curriculum using the Symbionix GI Mentor II virtual reality simulator. The project was spearheaded by Kent Van Sickle, MD. Sixteen General Surgery interns participated in a prospective, multicenter research effort. All 16 residents showed significant improvements in their flexible endoscopy skills over the 2 month training course. The research was accepted for poster presentation at the annual meeting of the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) conference in Washington DC and for podium presentation at the International Conference on Surgical Education and Training (ICOSET) in Dublin, Ireland.

## JCSI Skills Development Rotation

The 2009-2010 academic year was the inaugural year for the JCSI Skills Development Rotation, which offers interns the ability to learn technical skills in a safe, low-stakes, simulated environment. The rotation is funded by the Veteran's Administration Educational Innovation grant.

During the year, first-year surgery residents (i.e., "interns") rotate through the JCSI twice, with each rotation lasting 2 weeks. During the first rotation, interns learn the names, uses, and proper handling of surgical instruments, basic knot tying and suturing, central line and intraosseous line placement, laparoscopic camera navigation, and proper usage of ultrasound.



Above: Resident Carole Villamaria, MD, practicing Fundamentals of Laparoscopic Surgery

The second rotation includes laparoscopic skills, vascular and bowel anastomosis, and airway management. Preliminary data analyses show that interns performed significantly better on all skills after completing the rotation. The VA grant has been renewed for next year.

This newsletter is published each summer as a review of our previous academic year and a look at our upcoming year. All content & images are the property of and copyrighted by the University of Texas Health Science Center San Antonio Department of Surgery. To contact us, please email [willisr@uthscsa.edu](mailto:willisr@uthscsa.edu).

## Medical Student Education

The JCSI continues to reach out to medical students finding new and innovative ways to enhance their educational experiences.

*2nd Year medical students* are often anxious about embarking on their 3rd year surgery clerkship. **Amita Shah, MD**, (pictured right) a third-year General Surgery resident currently completing her research years, constructed a course designed to alleviate these fears. The curriculum also included skills training sessions such as suturing and knot tying, laparoscopic camera navigation, and central line placement. The sessions were held in the JCSI and were led by General Surgery faculty and residents. Dr. Shah presented this "Clerkship Readiness Elective" at the Out of the Box luncheon at the Association for Surgical Education conference held in San Antonio this past April.

*3rd Year medical students in surgery clerkships* (a total of 220 students throughout the year) get instruction on knot tying, suturing, central line placement, and airway management in the JCSI.

*4th year medical students Surgery Boot Camp* was held in February 2010. This 4-week program gave students who have matched into surgical internships an opportunity to learn basic surgical skills in the JCSI - a much less stressful environment than those first days as a surgical intern. Students learned suturing and knot tying, laparoscopic skills, central line placement, airway management, and code management.

In April 2010, the *Neurosurgery Student Interest Group* held a suturing and knot tying clinic in the JCSI. It was attended by 20 students.



## JCSI Research Residents & Fellows

It is with sadness that we say goodbye to **Joga Ivatury, MD**, a third-year General Surgery resident who spent two of his research years supporting research efforts in the JCSI. Dr. Ivatury produced a manuscript reporting the data collected from the Open Skills Training Program at the 2009 annual meeting of the Aust Surgical Society, which won first place. Additionally, Dr. Ivatury conducted research on laparoscopic camera navigation and video game performance. In this study,

subjects were asked to play video games and then perform laparoscopic camera navigation training on a real life simulator and computer simulator. Results from the study showed performance on video games that use the same skills as laparoscopic camera navigation correlated strongly with complex computer simulator based camera navigation.



We are happy to report that **Richard Oppeltz, MD**, third-year General Surgery resident, will continue to do research in the JCSI during his second research year. Dr. Oppeltz is helping with the JCSI Rotation, providing guidance and instruction on open skills, central lines, laparoscopic skills, anastomotic skills, and airway management. He will also continue his work in the Trauma Immunopathology Lab with Martin Schwacha, PhD, Professor



of Surgery, Division of Trauma and Emergency Surgery.

**Amit Parikh, DO**, Minimally Invasive Surgery fellow, will continue to do research in the JCSI during his second year of fellowship. Dr. Parikh is leading the charge with virtual reality laparoscopic training with laparoscopic camera navigation and simulated laparoscopic cholecystectomy.



## 2010 FLS Competition

On June 1, 2010, the JCSI hosted the Fundamentals of Laparoscopic Surgery (FLS) Competition. Several residents participated and Ashwini Kumar, MD, (pictured left) proved to have the best laparoscopic skills. Dr. Kumar was awarded a \$300 gift card to the Apple Store, a Surgical Atlas, and bragging rights for the year. Second place went to Kshitij Kakar, MD, (pictured right) who was awarded a \$100 gift card to the Apple Store. Other participants included Nanda Kumar, MD, Jacky Richa de Arco, MD, and Matt McHale, MD. Past winners include Jason Kempnich, MD (2009), Gustavo Guajardo, MD (2008), and Danny Kim, MD (2007).



## Airway Management

**Tony Hernandez, MD (Anesthesia)** (pictured, right) is offering bi-monthly airway management instruction to General Surgery and Anesthesia residents. Curriculum includes intubation, tracheostomy, cricothyroidotomy, laryngeal mask airway, and oral and nasal airways.



## Ross Willis, PhD, awarded teaching grant

Dr. Willis was awarded a Scholarship of Teaching Grant through the Academic Center for Excellent in Teaching at UTHSCSA. The \$4200 grant will fund a research project designed to study various pedagogical approaches to teaching psychomotor skills such as laparoscopic suturing and knot tying.