

## Surgical Simulation Curriculum

The Texas Tech University Health Sciences Center, Paul L. Foster School of Medicine (PLFSOM) Residency program leads the way in the adoption of Simulation into the curriculum for our adult learners. Our program begins each July with a skills camp where you learn and practice basic surgical component skills such as suturing, knot tying, incising skin, and the basic obstetric al exam for the vertex presentation and other communication skills in labor and delivery. During the skills curriculum, you will be evaluated in a competency based manner. After visiting each station you will have an opportunity to master the skill and be judged as competent before you move on to the next station. After the initial skills curriculum on the first week of residency, the lower levels are exposed to ultrasound skills. This is a unique opportunity for residents to practice gynecologic ultrasound on both the low fidelity and high fidelity simulator and on a standardized patient.

The curriculum begins with the residents having a didactic about trans-vaginal ultrasound and followed by a low fidelity scenario driven examination. Each of our low fidelity mannequins has a particular lesion on the pelvic exam. Following their differential diagnosis, the resident moves on to the high fidelity simulator that matches the case that they have been presented and are asked to use the ultrasound skills that they have gained to find the lesion that correlates with their physical examinations. This is done at the Advanced Teaching and Assessment in Clinical Simulation Center (ATACS). Staffed by Dr. Sonia Kupesic, world renowned ultrasonographer, the residents have an opportunity to learn vaginal probe ultrasound from one of the world's leaders. Once they have mastered their skills on the high fidelity simulator, Residents are allowed to reinforce their learning with a CD ROM that reinforces the principles of vaginal probe ultrasound. Following this, the next week they are given a scenario for the standardized patients and allowed to practice the vaginal probe ultrasound on the standardized patient.

The use of the low and high fidelity ultrasound simulator as well as the standardized patient is unique to our institution. In fact, we may be one of the only schools in the nation to have a combination of three different skills/simulation environments that we incorporate into our curriculum.

## Gynecologic Simulation Curriculum

In the Gynecologic simulation curriculum residents practice hysteroscopy, laparoscopy, and cystoscopy. These skills labs are done in the simulation center using both low and high fidelity simulators as described above. Limitations in work hours and exposure to complex operative cases necessitate the development of a surgical simulation curriculum. The implementation of complex laparoscopic procedures, as well as the demands of the Fundamentals of Laparoscopic Surgery, necessitates the integration of skills training stations into the routine didactic curriculum of residents. Routine practice on inanimate laparoscopic skills trainers has demonstrated objective improvement in the performance of surgeries including laparoscopic hysterectomy and ovarian cystectomy. The laparoscopy skills course involves participation in the resident maintained practice facility conveniently located in the clinic building enhanced by a more intense high fidelity use.

The remainder of the gynecologic skills curriculum

We are proud to partner with the Advanced Teaching and Assessment in Clinical Simulation Center on our campus just a block away. The ATACS Center is a cutting edge multimedia capable centered with multiple videotaped exam rooms, simulated operating room environments, several high fidelity mannequins, and several high fidelity gynecology skills training. Our curriculum includes teaching specific skills such as laparoscopic surgery, operative hysteroscopy, obtaining informed consent and

delivering bad news. The experience is invaluable and the setting is an outstanding asset to the university.

In addition to our obstetrical simulations done at our Yandell Sims Center, obstetrical emergency mock drills also take place on Labor and Delivery. We have a Noelle housed in an unoccupied labor room and we can perform mock codes on any given time when there is a lull. This allows us to practice as a team with both our team communication skills and effectiveness in emergency situation and honing of our emergency response so that we can function as a well oil pit crew.

#### Summary

At the PLFSOM we are committed to provide the very best educational experience for our residents. With the use of the three simulation and skills center here at PLFSOM, our residents will receive the important edge needed in their educational process.