In the future, patient safety is likely to be as much a part of education for the surgical team as dissection, suturing, and aseptic technique. Simulation labs are one way OR teams will learn to communicate more effectively and prevent errors. Simulation is playing an increasing role in the education of physicians and staff both in basic skills and in managing critical incidents like bleeding or bad reactions to medication.

Safety strategies are being tested in simulation labs such as ISIS—the Institute for Surgical and Interventional Simulation—at the University of Washington (UW) in Seattle.

“I think simulators are the key to the future of surgical education, not just for residents but also for practicing surgeons, anesthesiologists, and OR staff,” says Andrew Wright, MD, who will keynote the OR Business Management Conference May 19 to 21 at the Hyatt Regency San Francisco. A general surgeon and researcher at the university, he will give a preview of the future for simulation and other new technologies such as advanced robotics.

“There is a lot of interest in developing system-level approaches to improve patient safety and reduce the error rate,” he says. “One of the things we are looking at is how we can actually simulate circumstances where errors are likely so we can train people to avoid errors, or recognize and manage them.”

ISIS, located one floor below the ORs, has a mock OR with equipment identical to that in the regular ORs. UW’s school of nursing also has a simulation lab, and there are plans for more joint training.

“We can run training scenarios to simulate surgical misadventures,” says Dr Wright. “Then we try to track how people handle these situations and what interventions we can put in place to avoid them.”

Testing preop checklists is one project.

“How do we train people to use the checklists properly, and how do we test if they are actually avoiding errors?” he says.

Simulation labs are costly. But mistakes are also costly, he notes. The average cost of treating a central line complication is over $30,000, for example.

“If you can spend $50,000 to $100,000 on team training in a simulated environment and prevent one patient death, not only is that humane, but it also saves the financial impact on the hospital,” he says.

Soon all physicians at UW, not just residents, who place central lines will be required to pass a simulation test and be checked off. Simulation tests are likely to be required whenever a major new technology is introduced.

“I think we will see more of this, and it will be driven by the patient safety movement,” Dr Wright says. “I think insurers will start requiring it, and hospitals will start requiring it for credentialing.”

What’s ahead for OR technology?

Dr Wright will preview new technologies that are likely to appear in ORs over the next decade. Two leading examples in general surgery:

• a new generation of advanced surgical robotics
• NOTES—natural orifice transluminal endoscopic surgery.

Robotics will move beyond the da Vinci system to more automated systems, he predicts. Eventually, surgeons may be able to direct a robot to suture 2 pieces of tissue sim-
ply by touching a screen. Instruments might have sensors that flash a signal if the surgeon is moving out of the tissue plane or applying too much force.

NOTES, which promises to make surgery even less invasive, involves using special endoscopic equipment to operate through natural body orifices, such as removing the gallbladder through the mouth.

The OR Business Management Conference offers optional all-day seminars on Monday, May 19, followed by 2 days of general sessions and breakouts on Tuesday and Wednesday, May 20 and 21. The conference brochure is at www.ormanager.com.