



From virtual to reality

Rajesh Aggarwal, clinical lecturer in surgery from Imperial College in London, England, sees virtual reality simulators adding a new dimension to training future doctors.

Medical training is being overhauled by virtual reality simulators

BY HEATHER TRAVIS

Virtual reality is more than just playing games; it may play a pivotal role in training future doctors and refreshing the skills of medical practitioners.

Rajesh Aggarwal, clinical lecturer in surgery in the Department of Biosurgery and Surgical Technology at Imperial College in London, England, sees virtual reality simulators as transforming medical training.

During a presentation to clinicians and industry representatives at the Canadian Network for Simulation in Healthcare Industry Roundtable held at CSTAR (Canadian Surgical Technologies and Advanced Robotics) on Oct. 5, Aggarwal presented evidence-based research on the benefits of laparoscopic virtual reality simulation.

"It's going to transform the way doctors are trained. It will allow us to refine our skills," he says.

Using the analogy of a musician, Aggarwal says patients would prefer a doctor work on his skills in the practice room, rather than during the grand performance on stage.

With various simulators on the market, he says doctors-in-training are able to practice surgical procedures, get familiar with the tools, improve proficiency and simulate working in a team inside an operating theatre.

No matter how many times a physician performs a surgery, there is no objective measure of his or her proficiency, he says. However, the virtual reality simulators can provide data on how well the task was performed.

Some simulators can provide what Aggarwal refers to as a "black box" recording of non-technical skills during the simulation as well, such as measurements of the surgeon's heart rate levels during a crisis or unexpected event.

Aggarwal suggested the simulators could also be used by surgeons wanting to maintain their skills or to gain familiarity with new technologies.

Like the old adage "practice

makes perfect," many other professions, such as the military, use simulators to rehearse a procedure. Aggarwal hopes the future of medical training will include virtual reality simulators as a common practice.

Doctors-in-training can make mistakes in the virtual world, rather than making the same – possibly life or death – mistake on a patient, he adds.

"In the operating theatre, the patient comes first. In simulation, you can focus on education."

Research has shown simulators make the learning curve less steep, improved effectiveness and reduced the necessary training hours.

With patients increasingly taking control of their own health and becoming more inquisitive, doctors must provide the best of their abilities and reach a high level of proficiency, he notes.

Although Canada is a leader in the use of simulation and much research and development has been done in the area, Aggarwal still finds resistance in the implementation of virtual reality simulators in medical training. He feels patients need to be included in the discussion of implementation.

"While simulation is good

for practice, it will never be a replacement. But, it augments our education process and enables us to learn our basic skills," he says.

Relative to other sectors, the use of simulation in medical training is fairly new, says John Parker, director of CSTAR.

Representatives from 16 simulation companies from Europe, the United States and Canada attended the event, as well as London clinicians, students completing their residency, members of the Canadian Patient Safety Institute, Daniel Johnston of the National Research Council of Canada, and representatives from the London Health Sciences Centre including President and CEO Cliff Nordal.

In the creation of a roundtable, Parker hopes to provide a collaboration opportunity for stakeholders in the simulation industry.

"Simulation is thought by many to be important in the training of young people entering health care and the ongoing maintenance of skills," says Parker. "Increasingly hospitals will use simulation to help operating teams prepare or help staff acquire new skills when hospitals acquire new technologies."

Ivey launches new MSc program

The Richard Ivey School of Business at The University of Western Ontario will launch a new Master of Science in Management degree in 2010.

The degree will focus on international business and will be delivered in conjunction with the CEMS Master in International Management (MIM) program, the top such program in the world according to the Financial Times' 2009 rankings.

Founded in 1988, CEMS is an alliance of 28 schools from four continents and more than 57 corporate partners. The alliance collaborates in delivering the curriculum, reaching broad agreement on what to offer.

"This degree addresses the need for a new breed of manager – one who not only understands best practice but can assess how innovation and changing best practice affect international management," says Darren Meister, Faculty Director of Ivey's MSc Program.

The Ivey MSc degree will begin its first class in August 2010 and is open to students with two years or less of full-time work experience. Ivey expects to enroll 30-40 students.

For potential students there will be two options.

In the CEMS option, students will have an undergraduate business degree, demonstrate fluency in two or more languages, and complete all the requirements of the MIM and MSc programs.

The international business option will be open to students with any undergraduate degree that prepares them to study international business at the graduate level and is completed at Ivey.

In both cases, Ivey and CEMS students will learn together.

"Joining the CEMS alliance will expand Ivey's international profile and our connection with practicing managers through a high-profile network of corporate partners," said Eric Morse, Ivey Associate Dean, Programs.

Ivey will be the exclusive Canadian partner for CEMS and is the leader in North America.

"CEMS is proud that the Ivey Business School will formally join the alliance this December and offer the MIM program," says Francois Collin, Executive Director of CEMS. "Ivey is a pioneer in leadership education and it is only fitting that they will bring the CEMS MIM to North America."

CEMS members include London School of Economics, National University of Singapore, HEC Paris, ESADE (Spain) and Fundação Getulio Vargas and EAESP (Brazil). Ivey will formally join later this year.

The program is subject to approval by the Ontario Council on Graduate Studies.

For more information, visit cems.org.