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## Lights, Camera, Medicine



As we walk through the hallways, director Amitai Ziv explains the inner workings behind the scenes. The rooms are prepared for the next day's filming, with video cameras positioned at various angles. A computer technician shows us how he adjusts the conditions on set - a change in lighting, some added background noise, perhaps a cloud of smoke. We pass by the dressing room, where the actors will don their costumes and makeup; an IDF uniform hangs on the back of

the door.

*By Ilana Hart*

This is not a movie set. It is MSR, the Israel Centre for Medical Simulation.

Founded in 2001 by Dr. Amitai Ziv, MSR was the first institution of its kind in the world. A former Israeli air force pilot, Ziv used his knowledge of flight simulation training to bring a similar teaching method to medicine. The unconventional classrooms take the form of mock battlefields, pharmacies, operating rooms and delivery rooms.

MSR, or *Meser*, is a Hebrew acronym that also means message. As Ziv explains, part of the *raison d'être* of MSR is to convey the message that medical education needs to change. Breaking away from the traditional training method of "see one, do one, teach one," Ziv's goal was to eliminate, or at least drastically reduce error in the field by increasing error in the classroom.

"There are no lectures, only hands-on learning," says Ziv. When errors are made in the virtual settings, they are made on patient simulators instead of on human beings.

Many foreign medical teams train at MSR. Ziv also exports MSR technology, helping to establish medical simulation centres in other countries, including Canada.

Training programs range from biochemical exposure management, to anaesthesiology and cardiology practices, to doctor-patient interaction skills. For example, Amharic-speaking Israeli actors recently helped a visiting group of Ethiopian physicians engage in role-playing scenarios relating to HIV/aids treatment.

For hands-on treatment, there are sophisticated mannequins. At \$250,000 a piece, these computer-enhanced mannequins look, feel and react like human beings. They exhibit vital signs such as heart rate and blood pressure. They can bleed, convulse or go into shock. In what Ziv describes as a "fast-forward, condensed medical encounter," trainees use real drugs and instruments to administer treatment - and their "patients" respond accordingly.

Simulated environments represent extreme medical scenarios, pushing trainees to the threshold of error. That means the most crucial step of the process is the debriefing component, when participants evaluate and discuss any errors that were made.

Ziv's innovative work has earned him worldwide recognition, including the 2007 Charles Bronfman Prize for his global contribution toward the betterment of humanity.

With Ziv's guidance, the McGill Medical Skills Centre, the largest and most important facility of its kind in Canada, began training doctors at Montreal's McGill University in October 2006. Since then, another MSR-inspired facility has opened in Ottawa, and discussions are underway to establish a centre in Toronto.

Says Kevin Lachapelle, director of the McGill Centre: "We want to make sure we are going in the direction of ensuring patient safety in all training at McGill. The Medical Skills Centre is one of the tools that we're using to ensure that physicians and nurses are well-trained, have the appropriate knowledge, and are able to work as teams to ensure the safety of patients."

As MSR enters the mainstream of Israeli medicine, Ziv hopes it will become a mandatory part of all medical practice, starting with medical school admissions and training, and extending to licensing and recertification.

Two groups of Palestinian doctors and paramedics recently received training in trauma management at MSR. While these sessions are difficult to coordinate, due to security and funding concerns, Ziv hopes to continue welcoming Palestinian physicians and, one day, doctors from the surrounding Middle East.

Says Ziv: "We believe in medicine as a bridge to peace."

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