
EDUCATIONAL REPORT

WHERE ARE WE IN SIMULATION TRAINING? SIMMERK® TURKEY EXPERIENCES

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Simulation Training (ST) is a technique for practice and learning that can be applied to many different disciplines and trainees¹. ST facilitates learning through immersion, reflection, feedback, and practice while minimizing the risks inherent in a similar real-life experience². Simulators are used in various industries that include aviation, nuclear power plants, space aeronautics, the military, business, and healthcare³.

However, Medical Simulation (MS) is still in its infancy. MS is quickly helping to train and educate medical product manufacturers, hospital personnel, nurses, physicians and residents. Furthermore, it is gradually becoming a standard part of professional training. MS is rapidly expanding as more centers are emerging around the world. These centers are bringing medical education to the next level by developing curricula that advances the technology to improve surgical skills and assess performance⁴. MS combines real life cases and studies with innovative and interactive procedures.

The simulation centers are also conducting research and providing evidence showing that MS is an effective learning tool. The Medical Device and Simulation Center (SIMMERK®) is the first MS center in Turkey. Since 2008, 2268 participants has completed medical simulation sessions at SIMMERK® in different fields of medicine such as anesthesiology, laparoscopic surgery, urology, pediatrics, radiology, and emergency medicine (Table 1). Several simulation systems are provided in SIMMERK® including high fidelity adult patient simulators (one in METI®HPS Adult and two in Leardal®SIMMAN), a high fidelity pediatric patient simulator in METI®HPS Pediatric, a high fidelity laparoscopy simulator in Surgical Science®LAPSIM, a high fidelity videoendoscopy simulator in Symbionix®GI Mentor, a high fidelity transurethral resection (TUR) simulator in Storz®TUR, a high fidelity ultrasound simulator in Schallware®, a high fidelity pulsatile organ perfuzor in Optimist®POP and a laparoscopic box trainer in I-Sim® LAP Trainer-1.

ST is superior to traditional medical teaching methods. Particularly, ST is safer, non-restrictive, repeatable, cost effective, creative, and efficient. ST provides both visual and oral education.

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Through ST, trainees can learn essential values such as positive teamwork behaviour, effective coordination, critical situation awareness, leadership communication, crisis resource management, task management, precise decision making, effective hierarchy while they are given immediate feedback^{5,6,7}. Establishing ST follows

six steps as a method to enhance patient safety. These are professional skill, clinical performance, practice improvement, practice standards, patient outcome and patient safety⁵.

SIMMERK is a new simulation center; however, it has made a great contribution for medical education in Turkey.

Table 1
2268 participants have attended ST in SIMMERK® between 2008 and 2012

	2008	2009	2010	2011	2012
	n = 114	n = 414	n = 605	n = 785	n = 350
ST for Anesthesiology	65	180	177	380	211
Laparoscopic ST		21	65	30	16
Radiologic ST		6	4	2	3
ST for Emergency Medicine and 112	49	202	353	316	83
Pediatric ST				45	32
ST for Urology		5	6	12	5

References

1. COOPER JB, MURRAY D: Simulation training and assessment: a more efficient method to develop expertise than apprenticeship. *Anesthesiology*; 2010, 112:8-9.
2. DOMURACKI KJ, MOULE CJ, OWEN H, KOSTANDOFF G, PLUMMER JL: Learning on a simulator does transfer to clinical practice. *Resuscitation*; 2009, 80:346-9.
3. COOPER JB, TAQUETI VR: A brief history of the development of mannequin simulators for clinical education and training. *Postgrad Med J*; 2008, 84:563-70.
4. HUANG YM, PLIEGO JF, HENRICHS B, BOWYER MW, SIDDALL VJ, MCGAGHIE WC, RAEMER DB: 2007 simulation education summit. In collaboration with the 2007 summit consortium. *Simul Healthc*; 2008, 3:186-91.
5. MURRAY D: Clinical simulation: measuring the efficacy of training. *Curr Opin Anaesthesiol*; 2005, 18:645-8.
6. MANSER T, HARRISON TK, GABA DM, HOWARD SK: Coordination patterns related to high clinical performance in a simulated anesthetic crisis. *Anesth Analg*; 2009, 108:1606-15.
7. PIAN-SMITH MC, SIMON R, MINEHART RD, PODRAZA M, RUDOLPH J, WALZER T, RAEMER D: Teaching residents the two-challenge rule: a simulation-based approach to improve education and patient safety. *Simul Healthc*; 2009, 4:84-91.