Skill acquisition

- Reshaping neurosurgical training: a novel simulation-based concept for structured skill acquisition and curriculum integration
- Sleep deprivation as a risk factor for cortical gray matter reduction in new medical residents
- The UMPIRE study: A first-in-human multicenter trial of bilateral subscalp monitoring for epileptic seizure detection
- Acquisition of Childcare Skills by a Patient With Transient Paraparesis Following Epidural Anesthesia for Cesarean Section
- Exploring the Efficacy of Virtual Reality Training in Obstetric Procedures and Patient Care-A Systematic Review
- The unilateral biportal endoscopy journey: proposing a 10-tier difficulty progression framework for unilateral biportal endoscopy
- A simple yet effective training model for mastering deep bypass procedures
- Simulation tools in neuro-oncological surgery: a scoping review of perioperative and training applications

Quality Improvement and Patient Safety (QIPS) is a recognized competency across residency programs. Although a variety of teaching modalities exist, many do not represent the multifaceted clinical environment that trainees work in. Residents have reported challenges in linking QIPS classroom-based learning with their clinical duties. High-fidelity simulation has been used to bridge this gap within clinical skills teaching and therefore has the potential to address this issue in QIPS learning.

Approach: We developed and piloted four high-fidelity simulation scenarios with 15 surgical residents (Orthopaedics, General Surgery, Gynaecology and Neurosurgery). Each scenario contained elements of both latent and active safety errors. Residents were provided with a short pre-reading from an open-access resource on basic QIPS methodology and underwent a debriefing by a trained QIPS faculty. Residents were then tasked to apply their learning to their scenario to develop a QIPS-focused solution.

Evaluation: Objective knowledge acquisition was assessed with the Quality Improvement Knowledge Assessment Tool-Revised (QIKAT-R) in conjunction with a survey based upon the Kirkpatrick Model of Learning. Overall, residents agreed that the simulation helped them learn QIPS methodology and agreed that they could perform fundamental QIPS tasks. The average QIKAT-R score demonstrated a trend toward improvement.

Implications: High-fidelity simulation is a potential means to provide residents with hands-on experience in QIPS knowledge acquisition and application. Future directions should aim to compare the efficacy of simulation with other teaching modalities and evaluate the long-term impact of QIPS teaching on resident behaviors and motivation to take part in QIPS initiatives [1)]

1)

Dhanoa M, Trivedi S, Sheridan M. A pilot initiative to enhance quality improvement teaching with simulation. Clin Teach. 2024 Jan 28:e13723. doi: 10.1111/tct.13723. Epub ahead of print. PMID: 38282461.