

## ***Trauma and Awareness***

Shashank S. Singh, MBBS, Jody Henry, W. Bosseau Murray, MD, Elizabeth H. Sinz, MD  
Simulation Development and Cognitive Science Laboratory  
Pennsylvania State University College of Medicine, Hershey, PA

### **Introduction**

A recent JCAHO alert inspired this simulation using a human patient simulator (HPS) and standardized patient (SP) to prepare trainees to manage patient awareness during general anesthesia. Each of the three distinct scenarios has specific learning objectives.

### **Methods**

In each scenario certain residents were chosen as participants while the remainder were observers.

Part I: A male (HPS) comes to the E.D. after a motorcycle crash with open femur fracture, encapsulated spleen laceration, and pneumothorax. Learning objectives are recognition and treatment of pneumothorax with a patent airway and ATLS review.

Part II: He arrives in the operating room intubated with invasive monitors and IV access. During repair of the open femur fracture, the patient develops acute, profound hypotension. Learning objectives include differential diagnosis of hypotension in this setting, use of CRM principles, and treatment including discontinuation of the inhaled anesthetic. Once the anesthetic is lightened, the orthopedic surgeon and trauma surgeon argue, making inappropriate comments regarding the patient. The trainees should recognize and manage this conflict while caring for the patient.

Part III: An SP is now the trauma victim, recovered in the anesthesia clinic. He has evidence of post-traumatic stress disorder due to recall from his surgery. Trainees interview the patient while the group watches via closed circuit television. Learning objective is appropriate interaction with a patient with awareness. A discussion about awareness and recall followed the simulation

### **Results**

All seventeen senior anesthesia residents who participated in this simulation rated the experience highly. (Overall session rating 4.82/5 +/-0.39) The realism of the HPS was not rated as highly as usual, (HPS=3.82/5 +/- 0.96; SP=4.5/5 +/- 0.52) possibly due to the juxtaposition of the HPS vs. the SP, still considered the highest fidelity simulator currently available. The HPS/SP combination was an effective teaching method. (4.19/5 +/- 0.6) Trainees were able to transition smoothly between the HPS and the SP (4.26/5 +/- 0.81).