INTRODUCTION

The Use of Simulators in Trauma Education

This issue gives us a special insight into the increasingly common and popular use of simulators in most branches of medicine. We are of course focusing on their use in the various areas for understanding more about the treatment of trauma patients. We give you a fascinating look into how the various types of simulators/simulation models are being use to train students as well as health care providers in how to approach and handle problems encountered in the everyday life of the class room, emergency department, and trauma sites.

Dr. Ireland and her group from Australia give us insight into how practitioners train to treat patients in rural Victoria. The geographic, access, and delivery barriers, combined with lack of multidisciplinary focus, present specific challenges to rural practitioners. They detail their approach of providing education for group of health care professionals in their own environment.

Next we go to Denmark, where Dr. Christensen teaches us about how microsimulators are being used as instruments to train using computer-simulated cases and to assess learning objectives easily and effectively.

Dr. Bond and his colleagues from around the United States collaborated on an excellent presentation of methods being used to train first responders in the care of potential terrorism victims. This group of patients is made all the more challenging because of the wide array of symptoms noted on presentation. They discuss a symptom-based algorithmic approach that has been developed to help health care providers make vital decisions during the early encounters with these patients. A screen-based bioterrorism simulator provides a source of hypothetical patients to test and refine the various algorithms detailed.

A fascinating look into how medical applications used by the National Aeronautics and Space Administration can be extended to terrestrial patients is provided by Dr. Doerr and colleagues, another group collaborating from wide-ranging parts of the country. They note that most military and civilian trauma occurs in severe environments that are remarkably similar to the aerospace environment routinely encountered by astronauts—cramped, noisy places with limited lighting, limited power, and limited communications. They present a description of a simulator that works in a spaceship that functions well in applicable terrestrial vehicles, to evaluate the ability of health care providers with various levels of medical training to perform many of the procedures that are critical to successful resuscitation of an injured patient during a lengthy spaceflight. They describe the procedures they were able to perform in microgravity and tell how trauma care can be improved by developing medical systems, training health care providers, and building teams using rugged simulators in real trauma environments.

Mr. Coker in Temple, Texas, and Dr. Kass in Hershey, Pennsylvania, describe how clinical simulation is a powerful teaching tool in educating health care professionals. The development of a clinical simulation center at Temple College in Texas is described in detail. Then the process of incorporating a simulation center into the residency program for emergency medicine at Penn State Hershey Medical Center in Hershey, Pennsylvania, is described. This two-part article discusses both the creation and implementation (and successes and complaints) of this useful teaching method.

Drs. Orledge and Swinton combine thoughts to discuss the highly relevant topic of disaster preparedness, particularly the education and training of health care providers called on to manage large-scale mass casualty events. Essential in this education is the need for the establishment of a uniform, coordinated approach to mass casualty management from all types of hazards. Recent advances in various clinical simulators are being implemented nationally to meet this serious concern. This article outlines the innovative application of clinical simulation in the Advanced Disaster Life Support (ADLS) course, which is the first known nationally standardized disaster preparedness course to incorporate high-fidelity simulation of human patients into its design.