OMICS Group Conferences
Accelerating Scientific Discovery

International Conference and Exhibition on
Surgery, Anesthesia & Trichology

November 26-28, 2012 Hilton San Antonio Airport, USA

Live Cadaver model for true simulation in surgical training

Emad Aboud
Arkansas Neuroscience Institute, USA

Introduction: Laboratory surgical training is one of the important millstones in building the surgical skills and self confidence of surgery residents in all surgical fields. The lake of Life-like conditions in available training models led to the use of live anesthetized animal for laboratory surgical training. Here I'm presenting a more realistic, life-like alternative training model using the human or animal cadavers in its functional condition.

Materials and Methods: 75 human cadaver specimens (parts or whole body) and seven animal cadavers were used. The major vessels are cannulated, and connected to an artificial blood reservoir; the arterial reservoir is further connected to a machine that provides pulsating pressure. A pressure of 80-120 mm Hg and pulse rate up to 100 per minute is applied; the venous reservoir is kept at a pressure of approximately 15 mm Hg. In these settings a life-like condition is achieved in terms of bleeding, pulsation, and softness of the tissues that is realistic enough to simulate a live surgery in the same desired anatomy.

Results: Microsurgical techniques, general surgical procedures, dealing with penetrating injuries to the lungs, heart and liver, and injury to major vessels have been practiced as have other procedures such as airway management and insertion of arterial and central lines in a realistic situation under the same circumstances as live surgery. In addition testing of new devises and surgical techniques was possible without the need for live animals.

Surgical residents experience the same challenges and difficulties faced during real surgery and are able to work under the crises of bleeding and massive hemorrhage in the same anatomy.

Conclusions: This life-like training model is the closest to live surgery of all available models and simulators. It is an important and essential teaching tool, readily available, cost-effective when compared with other training models, and of great value in teaching rare and difficult cases, as well as how to deal with complications. It will be a valuable addition to ATOM and ATLS courses and military surgical training. We recommend the use of this new approach in surgical training not only for trauma and general surgery but also for all surgical procedures in all surgical fields.

Biography

Emad Aboud, M.D. Fully trained neurosurgeon, serves as the Director of the ANI education & Micro-neurosurgery Laboratory. Dr. Aboud is responsible for creating the Aboud Model for Surgical Training, a life-like simulation device that he has lectured about and showcased in a variety of national and international venues. In total, Dr. Aboud has delivered almost 40 presentations on the Aboud Model and other relevant topics related to his field of expertise. He has also published multiple articles and book chapters in neurosurgical literature. Prior to joining the ANI at St. Vincent, Dr. Aboud served as an assistant professor for research at the University of Arkansas for Medical Sciences (UAMS)

Aboud received several awards recognize his contribution to Neurosurgery back home in Syria:

Appreciation from the Syrian American Medical Society, July 2010, Appreciation from the Turkish Neurosurgical Society, April 2010, Appreciation award from the Syrian Medical Association, Aleppo, Syria 2006, Appreciation from Minister of Health, Syria. for developing micro-neurosurgery in Swaida National Hospital, 2004, Award of the Alternatives Research & Development Foundation, USA, 2002, Appreciation from Executive Office of Swaida province for establishment of neuroendoscopy in Swaida National Hospital Swaida, Syria, 1999, Prize of Basel Al-Assad for Scientific Health Researches: 1998, 1999, And 2001 and Appreciation from Executive Office of Swaida province for establishment and development of neurosurgery department in Swaida National Hospital, Swaida, Syria, 1996.

And he is a member in several recognized medical associations: American Association of neurological Surgeons, Congress of Neurosurgical Surgeons, Syrian American Medical Society, Pan Arab Neurosurgical Society, Syrian Legend of Oncologists, WALN, the World Association of the Lebanese Neurosurgeons, Syrian Association of Neuroscience and Syrian Medical Association.

EAboud@stvincenthealth.com