ATLS® Announcement

November 7, 2001

TO: National and Regional ATLS® Faculty Members
ATLS® Course Coordinators

From: Steve Parks, MD, FACS
Chair, ATLS® Subcommittee

Irvene Hughes
Manager, ATLS® Division

Re: **Alternative Models for the ATLS® Surgical Skills Practicum**

Note to Coordinators: Please share this information with your course directors.

The Subcommittee on ATLS® and the Executive Committee to the ACS Committee on Trauma have approved an alternative model for use during the ATLS® Surgical Skills Practicum—an anatomical human body manikin. (See item #3.) Four types of patient models are available for use during the surgical skills practicum: (1) live, nonhuman models (swine, canine, goat, sheep); (2) human cadavers; (3) anatomical human body manikin; and (4) nonhuman cadavers. Only items 2 through 4 are outlined in this communication.

In those areas that must use an alternative model for conducting the surgical skills practicum, the following choices are available, providing their respective S/P COT Chair grants approval **before** implementation. These are the only alternatives to live, nonhuman models that are approved for use in an ACS ATLS® Course.

2. Fresh, fresh-frozen, or semipreserved human cadavers may be used in lieu of live, nonhuman species in those areas in which the use of such patient models is cause for significant concern. This type of patient model may be used providing appropriate precautions against communicable diseases are taken by faculty and participants, and the human cadavers are screened for communicable diseases. Such screening should be consistent with that done for organ and tissue donation, e g, HIV, hepatitis, viruses, and syphilis.

3. An anatomical human body model or manikin may be used in those areas in which the use of live, nonhuman species or human cadavers is cause for significant concern. The type of manikin approved for use is specific and is described in some detail herein. At the time of this writing, one supplier of this type of manikin is known. The name of the company and contact information is provided at the conclusion of this communication. If course site personnel are aware of another manikin which they believe is comparable to the one described herein, the ACS ATLS® Program Manager must be contacted for approval before using the manikin, model, or simulator. (See page two for a description of the approved anatomical human body model and supplier.)

4. Fresh, nonhuman cadavers may be used in those areas in which the use of live, nonhuman species, human cadavers, or anatomical human body models (as previously described) is cause for significant concern. The nonhuman model's death must be brought about by a licensed veterinarian or

at a government-managed shelter. Shortly thereafter, the fresh nonhuman cadavers are to be used for the surgical skills practicum. If this alternative is employed, the ACS advocates that the area USDA representative or appropriate government regulatory representative be contacted for specific mandates related to the use of fresh, nonhuman cadavers, and that the surgical skills practicum be conducted in accordance with the policies and procedures outlined in the *ATLS® Instructor Manual.*

Description of Anatomical Human Body Model

This model is designed for course participants to practice the various surgical skills procedures taught in the ATLS® Student Course. It consists of simulated human tissue made of an elastomeric composition and has at least one reinforcing layer of fibrous material, depending on the body region on which procedures are being performed. The simulated human tissue includes artificial venous and arterial channels. The channels are connected to a gravity flow reservoir or pump via tubes. When an incision is made in the tissues and a simulated vein is cut, simulated blood flows into the operative site.

Needle and surgical cricothryoidotomies can be performed on this model. In addition to the simulated human tissue structure on the exterior of the neck, the model includes a simulated cricoid cartilage, thyroid cartilage, cricothyroid ligament. The model also contains airflow through the trachea for a realistic response while performing the procedure.

Needle and tube decompression and pericardiocentesis can be performed in the correct anatomical sites on the model's chest wall. The model includes additional tissue structure in the form of a layer of simulated tissue to mimic the intercostal muscle and parietal pleura. A sternum, ribs, heart, and additional pericardium tissue structures also are included. Air flows inside the pleura for a realistic response during chest decompression and artificial lungs simulate breathing. The heart and pericardium are filled with simulated body fluids when performing pericardiocentesis.

The abdominal region of the model has a simulated tissue structure which includes these layers: (1) skin, (2) subcutaneous fat, (3) anterior rectus sheath, (4) muscle, (5) posterior rectus sheath, (6) extraperitoneal, and (7) peritoneum layer. Underneath these layers are the abdominal organs and cavities. The organs and cavities are filled with simulated body fluids, eg, blood, to lend realism when performing diagnostic peritoneal lavage.

Additional information, including cost factors, for this particular anatomical body model is available from

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Note: The Subcommittee on ATLS® still advocates the use of live human patient models for the Initial Assessment Skills Station and has not approved any other type of model for use during this station.