



Dynamic Cadaver: Ultimate Training Model for Lifesaving Procedures

Title: Perfused Cadaver to Train Life-saving Procedures and Evaluate Exsanguinating Hemorrhage Control Devices

Inventors: Robert A. DeLorenzo, John A. Ward

The Army seeks a partner interested in commercializing this technology.

The Technology

Accurate simulation training is essential for emergency medical professionals to work confidently and efficiently under pressure in order to help improve patient survival rates. Current use of plastic mannequins and high fidelity simulators lacks the realistic tissue feel, physiologic response, true anatomy, and provider reaction



when presented with a patient with life-threatening conditions. A high fidelity model will better prepare medical professionals to save patients' lives.

Application

The dynamic cadaver model reanimates a body by providing realistic tissue feel, true anatomy, and is able to replicate key local physiologic parameters of acute life-threatening hemorrhage. It is equipped with pumps that mimic pulsatile blood flow with a pulse during a hemorrhagic situation.

Status

Available
For
Licensing

Benefits

- Provides an accurate representation of visual, tactile, and anatomic & physiologic modeling for hemorrhage control and cricothyrotomy.
- Allows medical professionals to simulate trauma repair procedures and verify hemorrhage control by monitoring the blood pressure and flow data.
- May be used to assess hemorrhage control medical devices, including tourniquets, wound adhesives and/or sealants.
- Can be further developed to simulate invasive procedures, such as tube thoracostomy, surgical thoracotomy, invasive airway insertion and mechanical ventilation.
- Improved model over live animal models and low and high fidelity plastic simulator mannequins.
- Potential simulation model for mobile training solution companies that specifically service and certify medical professionals.

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