



THE UNIVERSITY of TEXAS

HEALTH SCIENCE CENTER AT HOUSTON

Office of Technology Management

RESUSCITATION FROM SHOCK

Market: The Clinical Decision Support System (CDSS) market in Europe alone is estimated to grow to near \$430.7 billion by 2012. The American Hospital Association (AHA) reported in a 2006 survey that the number of hospitals adopting moderate to high use of IT systems in general increased 37% from 2005. With more than \$37 million patient admissions in 2006 to AHA registered hospitals, the market for increased IT adoption, including CDSS, has very lucrative potential.

Competitors and Current Problems: Shock resuscitation after severe injury and blood loss is an emergent effort to regain normal hemodynamic and physiologic function. Many different approaches are used by individual trauma surgeons and among trauma centers. Criteria for recognizing shock and the need for resuscitation, adequate interventions for resuscitation, and monitoring of response to interventions vary. If resuscitation is inadequate, severe complications can result, including abdominal compartment syndrome and multiple organ failure.

The Technology: Faculty at the University of Texas Health Science Center at Houston (UTHSC-H) have developed and patented a novel shock resuscitation technology, utilizing an interactive, CDSS for determining the need for resuscitation of shock due to severe trauma and for directing patient specific interventions as a part of their early management in the intensive care unit (ICU). A computerized process is the preferred method of implementation of the protocol, which is comprised of a sequence of simple, reproducible measurements and interventions, indicating the patient's resuscitation status compared with extensively tested thresholds for intervention. The UTHSC-H technology provides a CDSS with specific, standardized criteria, intervention thresholds, and interventions. A prototype computerized CDDS has been used in resuscitation of >400 severely injured patients who arrived at a Level I Trauma Center in Houston, TX and who survived to be admitted to the Shock Trauma ICU. Based on existing evidence, and updated with new findings, the system was used extensively by bedside clinicians including nurses to direct shock resuscitation during the 1st ICU day. Over 5 years experience, computer generated instructions for intervention had ~95% acceptance by the bedside clinicians, and ongoing analyses of the decision process recorded using the bedside decision support system were described in several publications. The system has demonstrated to be valuable to the clinician at bedside and effective in standardizing decision making for the time critical shock resuscitation process.

NON-CONFIDENTIAL TECHNOLOGY DESCRIPTION

The preceding is intended to be a non-confidential summary of a novel technology created at the University of Texas Health Science center at Houston (UTHSCH), for which the University has obtained patent protection.

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License Available: world-wide; exclusive or non-exclusive

To obtain further information about this technology, please contact:
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