

Biomechanically Validated Pressure Ulcer Simulator

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Technology Description

It is estimated that pressure ulcers place a \$1.2 billion annual burden on the U.S. healthcare system, partially because of the complexity of identifying, treating, and managing these wounds. A patient simulator that provides real-time information will reduce the occurrence of preventable medical error costs through hands-on training that will produce more confident and skilled healthcare workers.

Researchers at WCU, WFUBMC, and WSSU have developed a human patient simulator specifically for education in pressure ulcer management and prevention. This simulator will **mimic the bioinformatics of a geriatric patient and deliver real-time information** that will educate practitioners of the different biomechanical triggers that cause ulcer formation while teaching users to **distinguish surface pressure from localized deep tissue stress**. The **working prototype is also supplemented by a computer interface and training manual**, making it easily adoptable into any situation. In addition to its educational features, the pressure ulcer simulator is **capable of assessing the efficacy of preventative and therapeutic devices**.

Commercial Applications:

- Simulator will reflect biomechanical stress and strain conditions within soft tissue for a variety of body positions
- Provides real-time feedback on tissue pressure conditions in multiple tissue layers at high-risk anatomical sites
- Educates practitioners to distinguish surface pressure from localized deep tissue stress
- Simulation-based training will promote clinical skills and communication between healthcare staff and patients
- Therapeutic device assessment capabilities will empower clinical facilities by eliminating secondary costs arising from hospital-derived pressure ulcers which are considered a “non-event” for Medicare billing purposes

Licensing Contact Information

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