

Utility of sensor-based technology

Utility of a sensor-based technology to assist in the prevention of pressure ulcers: A clinical comparison

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Aim: Detection of subcutaneous tissue damage before it is visible can trigger early intervention and decrease hospital-acquired pressure ulcer (HAPU) rates. The objective of this two-phase study was to evaluate the clinical utility of the Sub-Epidermal Moisture (SEM) Scanner (Bruin Biometrics (BBI), LLC), a hand-held device that assesses increases in interstitial fluid or sub-epidermal moisture, indicating early tissue damage.

Phase 1: Patients were provided standard-of-care risk assessment and interventions and were scanned with the SEMScanner, but the resulting SEM scores were not used to determine interventions. This gave a baseline pressure ulcer incidence rate.

Phase 2: This phase is the same as Phase 1, except the resulting SEM scores were used in conjunction with risk assessment scores to determine appropriate interventions and care planning.

Results: In Phase 1, 12 of the 89 subjects or 13.5% developed visible pressure ulcers — 4 Stage I's, 6 Stage II's, 1 Stage III, and 1 deep tissue injury. In Phase 2, 2 of the 195 subjects or 1.0% developed visible pressure ulcers — 1 Stage I and 1 Stage II. Patients in Phase 2 were more incontinent, less mobile, and had longer lengths of stay than those in Phase 1. Use of the Scanner resulted in a 93% decrease in HAPU. No deep injuries developed in Phase 2.

Source: U.S. National Library of Medicine

