Impact of an Electronic Wound Mapping System on Burn Patient Management
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Problem: Accurate mapping of burn wounds is critical for initial resuscitation, ongoing nutritional requirements and wound healing progression. Variability exists among providers using the gold-standard Lund-Browder 1 paper-based mapping tool that is traditionally completed only upon admission. No method that both systematically evaluates burn wounds and displays wound progression is currently available.

Evidence: Decision support software has been shown to reduce variability among clinicians and improve patient outcomes. The Lund-Browder method is manually calculated and serves as a two-dimensional, static representation of the burn wound at a single point in time. Electronic mapping allows for incorporation of wound photographs and animation of wound progression.

Strategy: We developed a portable electronic system that could not only display the burn injury more effectively, but also demonstrate progression of healing to improve patient care. The burn wound is mapped using the Wound Flow software on admission, after surgical procedures and weekly during the hospital course. Digital images of the wounds are uploaded into the system and an animation function of the wound map provides an overview of wound evolution.

Practice Change: Wound Flow is used daily at the bedside by the interdisciplinary burn care team, which includes physicians, nurses, dieticians, physical therapists, wound care coordinators, and Clinical Nurse Specialists.

Evaluation: The practice change has led to improved communication among the team regarding wound assessment and healing resulting in earlier recognition of setbacks and more aggressive efforts towards resolution.

Results: The use of Wound Flow is now incorporated into daily interdisciplinary rounds. Having the ability to represent evolution of the burn wound has improved patient management, providing visualization of every stage of wound healing.

Recommendations: Evaluation is planned to assess the impact of Wound Flow on duration of hospitalization due to improved team communication, usefulness for discharge planning, and incorporation into nursing shift report.

Lessons Learned: Ensure future system modifications minimize provider workload and minimally interfere with patient care activities.
Bibliography: