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We're Sensing You! A Multiphase Clinical Trial Examining Innovative Technology to Improve Patient-Turning Compliance

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Background: Despite growing emphasis on prevention, pressure ulcers continue to be a common preventable hospital-acquired condition (1). It is well established that frequent and regular patient turning is a key element to preventing pressure ulcers. In many healthcare facilities, compliance with turning protocols can be difficult to maintain. Prior studies have estimated compliance rates at ~66% (2,3).

Research Question: Can a patient position tracking device help improve compliance with turning protocols?

Methods: A first-in-patient clinical trial was divided into two phases and conducted in a 39-bed acute-care medical unit. A small, wireless, disposable sensor was used to continuously monitor and record patient position.

Phase 1: Data from patient sensors was used to calculate the baseline compliance with a Q2-hour turning protocol.

Phase 2: Patient position information was wirelessly transmitted and displayed at nursing station computers. Nurses were able to remotely monitor patient position. Nurses could see which patients were turning on their own and which patients needed assisted turns. The system automatically documented all turns and the compliance rate was evaluated.

Results: 138 patients were enrolled in the study, and almost 8,000 hours of patient position data was recorded and analyzed. The baseline compliance with a Q2-hour turning protocol was 63%. Post-intervention, the documented compliance was 97%. When surveyed, 87% of nurses indicated that the system was helpful.

Conclusion: We demonstrated that continuous position monitoring is beneficial for patients and nurses. The monitoring system enabled nurses to effectively maintain compliance with turning protocols in an effort to prevent pressure ulcers.

References

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