

Case Study: “Assessing Impact of Cardiac Chair Protocols on Pressure Injury Formation in Spinal Injury Patients with wearable technology”

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Category: Case Series / Study

Background

The repositioning history of patients who develop pressure injuries is often difficult to determine. Documentation in EMR can often be incomplete. It is not unusual for repositioning activity to be charted retrospectively at the end of the shift.¹ This complicates root cause analysis and consequent changes to prevention and treatment policies.

Technology Implementation

A patient-wearable technology designed to monitor and document repositioning* was implemented on a 36-bed ICU of a 535-bed county hospital. Technology provides a full record of all position changes and visual cues to position patients based on individual turn periods and clinical need.

Case Description

30-y/o male with new paraplegia was admitted to the unit post MCC. Q2 turn protocol and physician orders for cardiac chair three-times daily were initiated. Patient developed Stage 4 Pressure Injury on sacrum.

Root Cause Analysis

Sensor data indicated that repositionings in bed were shallow, likely due to difficulty with spinal stabilization device. Patient had significant time in chair with irregular repositioning, including four consecutive hours without any repositioning.

Practice Changes

Training on seated repositioning was provided to nursing staff. Q15-minute tilt protocol was adopted. Criteria for seated protocol was lowered to 40-degree upright angle to include reclining patients.

Conclusions

Turning intervals used for patients in bed are not frequent enough for seated patients² and may create additional pressure injury risk especially for new para/quadriplegic patients. Automatic sensor data documentation can pinpoint HAPI root causes and reveal protocol improvement and education opportunities.

¹ Tyree E, Fisher K, Moyer C, Witherite K. Does repositioning matter? 46th Annual Conference in Wound Ostomy and Continence Nursing. 2014.

* Leaf Healthcare, Pleasanton, CA

² National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and Treatment of Pressure Ulcers: Quick Reference Guide. Emily Haesler (Ed.). Cambridge Media: Perth, Australia; 2014.