

Wireless patient monitoring significantly improves the frequency and quality of patient turning

Wireless patient monitoring technology helps providers more efficiently and effectively deliver preventative care for pressure injury prevention



Study design

- An open-label, non-randomized, pre- and post-intervention pilot study conducted at a single center in the USA to assess whether the Leaf patient monitoring system increases the frequency and quality of patient turning for pressure injury prevention efforts
- A total of 78 patients were enrolled in the baseline phase (data collected but not transferred to nursing station) and 70 patients were enrolled in the post-intervention (data collected and transferred to nursing station). Sensors were applied to patients during both phases



Key results

- Monitoring data were collected and analysed for:
 - Baseline phase: 75 patients over 4,322 hours
 - Post-intervention phase: 63 patients over 3,532 hours
- Leaf increased the percentage of time a patient's position changed within each two-hour turn period (baseline phase, 64% vs. post-intervention phase, 98%; $p < 0.001$; Figure.)
- From the baseline phase, there was a relative increase of 53% with the use of Leaf in optimum patient repositioning

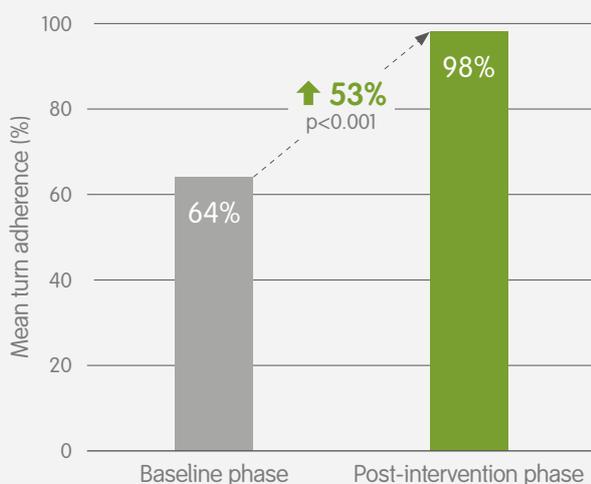


Figure: Turning protocol adherence pre- and post-intervention

Evidence in focus (continued)



Conclusion

Patient movement data generated by Leaf enabled nurses to identify patients who were self-turning and those who were in need of assisted turns in this study. Wearable patient sensor technology allows providers to identify care disparities in real-time to help ensure delivery of a high-quality prevention program for all patients at risk for pressure injuries



Considerations

- Leaf credits adequate self-turns by patients and therefore may prevent unnecessary nursing-assisted turns, which contribute to unnecessary patient disruption, sleep fragmentation, and reduced staff efficiency
- Two patients developed mild temporary skin irritation believed to be related to the adhesive on the film dressing used to attach the sensor to the sternal area
- Baseline turning compliance may have been artificially increased by participating in a clinical study (Hawthorne effect)
- Turns that were not performed due to patient refusal or clinical circumstances were documented in the patient notes



Study citation

* Schutt SC, Tarver C, Pezzani M. Pilot study: Assessing the effect of continual position monitoring technology on compliance with patient turning protocols. *Nurs Open*. 2017;5(1):21-28.