

## 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

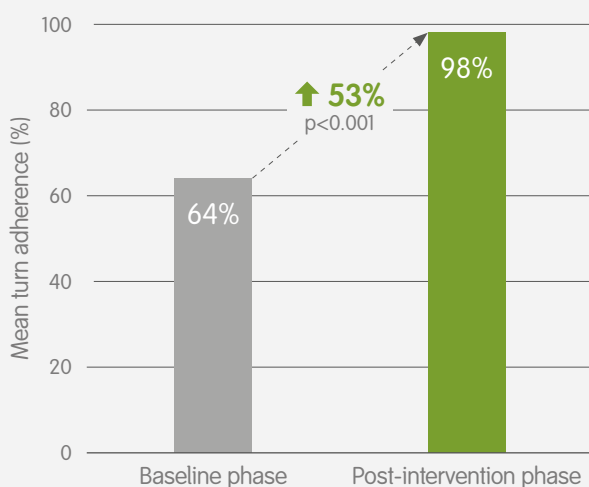


Figure: Turning protocol adherence pre- and post-intervention

## 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.