

Dynamic Physiologic Skin Monitoring to Enhance a Pressure Ulcer Prevention Program

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Purpose/Problem

Visual monitoring enables bedside staff to make informed decisions thereby increasing the quality of patient care and improving outcomes. Knowing that pressure is the main causative agent of a pressure ulcer, a good prevention program should incorporate ways to monitor the pressure beneath individual patients. The need for individualized monitoring is high, as every patient presents with different body types and different comorbidities that put them at high risk for pressure ulcer development.

Cost Burden of Hospital-Acquired Pressure Ulcers (HAPUs)

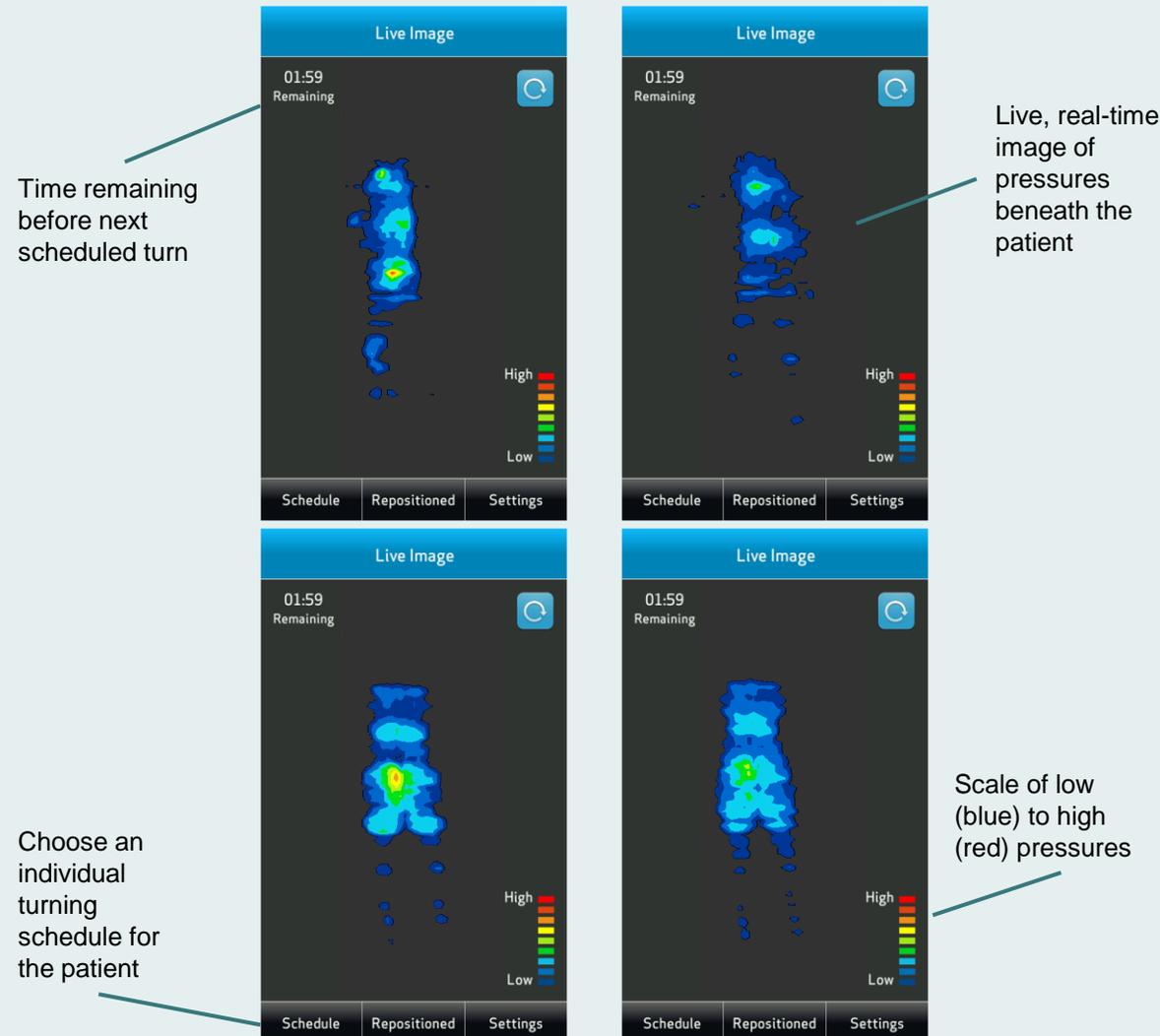
- 5-10 days longer length of stay
- Higher acuity support surfaces
- Additional medical costs
- Additional dressing costs

Methods

Continuous bedside pressure mapping (CBPM) systems were installed in January of 2012. The CBPM systems gave bedside caregivers the ability to see a visual image of real-time pressures under patients and monitor that pressure continuously. Patients with existing wounds and at high risk for pressure ulcer occurrence had CBPM systems placed on their mattresses. Caregivers used the pressure images on the monitors to effectively reposition patients and utilized the alerts on the monitors to reposition patients based on their individually determined turn schedules.

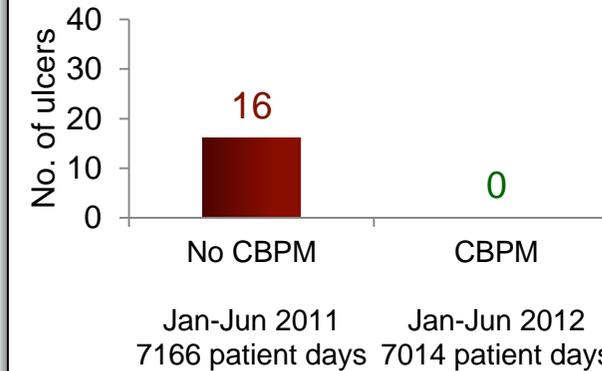
Patient Repositioning

Without CBPM Live Image With CBPM Live Image



Press button when patient is turned to reset clock and track accurate time to next reposition

Hospital-Acquired Pressure Ulcers (HAPUs)



Staff Survey Questions

Do you effectively reposition patients better with or without the pressure image from the CBPM?	Without CBPM 0%	With CBPM 100%
Does CBPM increase the quality of care that you are able to give your patients?	No 0%	Yes 100%

n=10 nursing and nursing assistant staff

Results

From January through June 2012, no hospital acquired pressure ulcers (HAPU) occurred. These 6 months accounted for a total of 7,014 patient days. For a historical comparison, in 2011 from January to June, accounting for 7,166 patient days, 16 HAPUs occurred. Caregivers found the CBPM system easy to use and also reported that families and patients were less likely to refuse repositioning and turning because they could see the high pressures below the patient that needed to be reduced.

Conclusions

Innovative, objective pressure monitoring practices with CBPM systems have assisted our pressure ulcer prevention program to obtain the goal of zero HAPUs. Dynamic physiologic skin monitoring shows promise in decreasing the occurrence of pressure ulcers in a high-risk patient population.

References

- NPUAP and EPUAP. Pressure Ulcer Prevention: Quick Reference Guide 2009. Available at: www.npuap.org/Final_Quick_Prevention_for_web_2010.pdf
- Thurman K, Wickard S. Take the Pressure Out of Pressure Ulcers. *Long-Term Living* 2011 October;60(10):22-23.

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