

Implementing a Continuous Bedside Pressure Mapping System to Enhance a Pressure Ulcer Prevention and Healing Program

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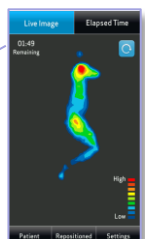
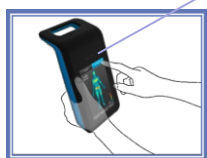
Purpose/Problem

The National Pressure Ulcer Advisory Panel guidelines for the prevention of pressure ulcers state: "repositioning should be undertaken to reduce the duration and magnitude of pressure over vulnerable areas of the body."¹ Clinicians have found it difficult to assess and confirm offloading of high pressure areas. A need was identified for an assessment tool for bedside staff to visually assess where high pressure areas exist and confirm with real-time data that repositioning and turning strategies were successful.

Objective

A continuous bedside pressure mapping (CBPM) system* was identified and implemented to provide staff with a visual assessment tool of real-time pressure beneath residents. The CBPM systems were placed under 22 residents for two months. These residents had multiple risk factors (see table) that put them at high risk for pressure ulcer development. Five residents had six existing pressure ulcers where staff needed to visually confirm low pressures more consistently to allow for wound healing.

Continuous Bedside pressure mapping (CBPM) system*



Outcomes

Risk Factors for 22 Residents Who Developed No Pressure Ulcers when Monitoring with CBPM

Risk Factor	% of Patients
Age > 70 years	95%
Immobile/bedbound	91%
Incontinence	100%
Diabetes	36%
Cardiovascular disease	73%
Albumin < 3.5 g/dL	100%*
History of PUs	59%
Sepsis	45%
Fractures	27%

*Albumin levels only available for 16 residents

Clinical Staff Survey Results

Statements	Agree	Disagree
1. The CBPM System provides valuable feedback.	54 100%	0 0%
2. The CBPM System provides for more efficient and effective patient repositioning.	54 100%	0 0%
3. The CBPM System assists me with completing repositioning protocols.	53 98%	1 2%
4. The CBPM System can assist with improved pressure detection and relief.	54 100%	0 0%
5. The CBPM System can help reduce the incidence of pressure ulcers.	53 98%	1 2%
6. I would recommend the CBPM System as an integral part of PU prevention methods.	54 100%	0 0%

Outcomes Summary

No pressure ulcers developed on these 22 residents for the two-month period when monitoring with the CBPM systems. The six existing pressure ulcers, on five residents, showed surface area reductions between 30% and 76% during the two months of monitoring with the CBPM systems. Staff surveys indicate that the bedside staff believes the CBPM systems provide valuable feedback and assists them with more efficient and effective resident repositioning.

Conclusions

With the addition of the CBPM systems to the pressure ulcer prevention and healing program, bedside staff are now able to assess and confirm offloading of high pressure areas under residents. The CBPM systems are easy to use and are valuable tools in our pressure ulcer prevention and healing programs.

References

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

*The M.A.P.™ System, by Wellsense, USA, Inc., Nashville, TN. Funding for poster production was provided by Wellsense.

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Surface Areas of Pressure Ulcers Before and After 9 weeks of BPM (N=6)

