

The Impact of “Micro-Shifts” and Airbed Adjustments with the Use of Continuous Bedside Pressure Mapping*

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Purpose/Problem

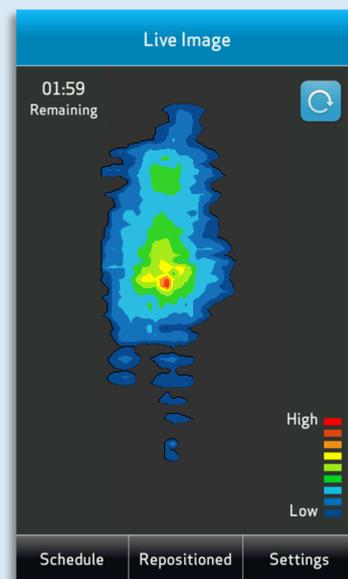
With advanced support surfaces, pressure ulcers continue to develop affecting 7.4 million people annually worldwide.^{1,2} Research has suggested that repositioning interventions are ineffective³ and caregivers only know if their repositioning techniques are ineffective when damage occurs. With the use of continuous bedside pressure mapping (CBPM), caregivers are able to assess areas of high pressure and, with “micro-shifts” (small adjustments made with draw sheets) and airbed adjustments, can maximize pressure redistribution.

Methods

In SICU, daily rounds were made to identify high-risk patients. During a month-long study, 10 patients were identified for CBPM intervention. An algorithm was implemented and, with the help of the bedside caregivers (nurses and aides), the patients were repositioned the way they normally do. Initial pressure was recorded and the caregivers were shown the mapping image and then were allowed to make adjustments including “micro-shifts” prior to second measurement (25 separate measurements). The CBPM allowed for support surface assessment for each individual and, when high pressures could not be managed with the hospital-owned mattress, a specialty surface and CBPM were rented.

Outcomes

Bedside caregivers were able to “micro-shift” patients and adjust airbed settings to lower peak pressures by 25% on average using the image from the CBPM systems. Screenshots overall showed lower pressures once “micro-shifting” and airbed adjustments were completed. CPBM highlighted hot, or red areas, prompting the caregivers to utilize “micro-shifts” and adjust airbed settings to gain optimal pressure redistribution. No patients developed a pressure ulcer with the use of CBPM.



CBPM-Guided “Micro-Shifting” and Repositioning

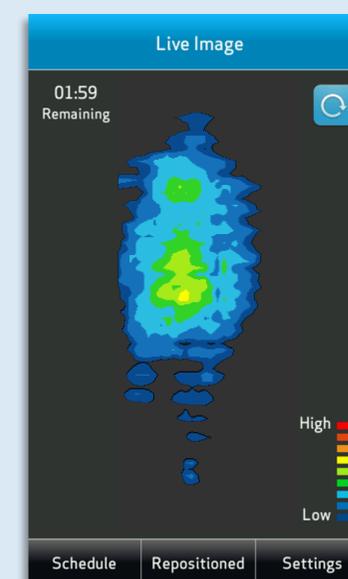
Patient positioned normally;
Peak pressure 82 mmHg on sacrum as indicated by red and orange colors



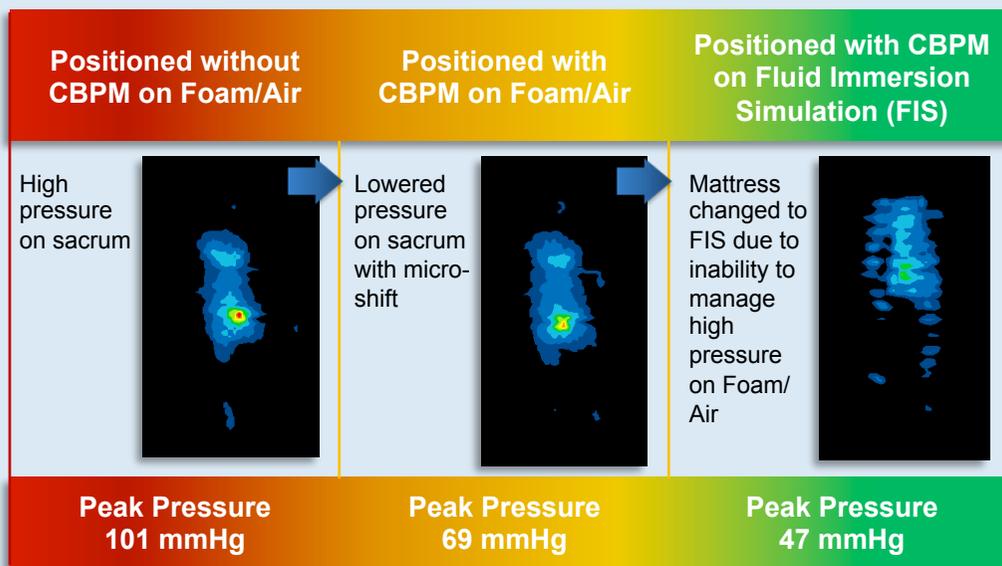
Caregiver shown image from CBPM; Made small adjustments to patient positioning, “micro-shifted” patient’s hips



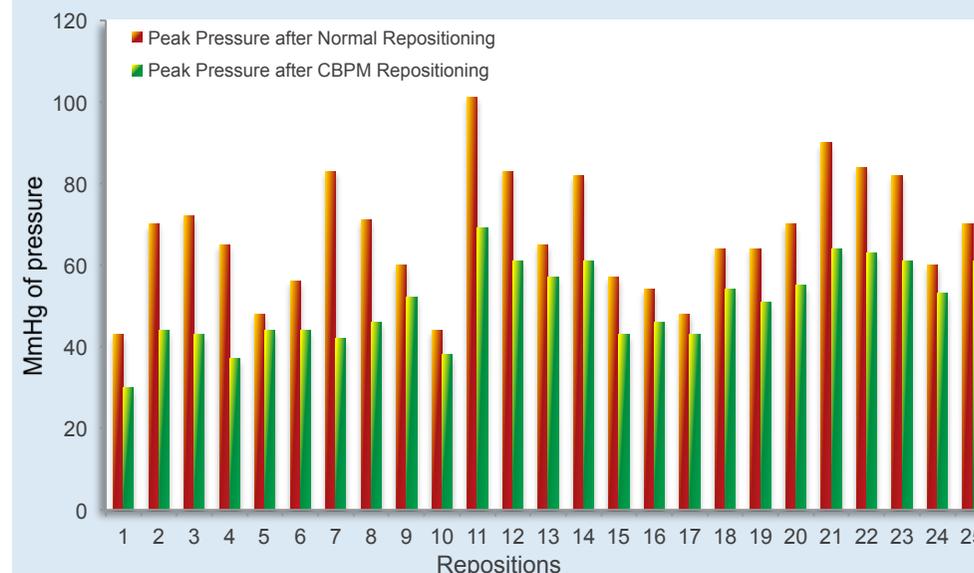
Enhanced patient positioning with peak pressure lowered to 41 mmHg as indicated by green and yellow colors



CBPM-Guided Repositioning and Support Surface Selection



25% Average Reduction in Peak Pressure with CBPM-Guided Repositioning and “Micro-shifting”



Conclusions

- ▶ Turning a patient alone does not ensure that high pressures on that patient have been minimized.
- ▶ With the CBPM image, caregivers effectively assess high pressures and can then utilize the interventions of “micro-shifting” and adjusting air settings on mattresses to gain optimal pressure redistribution.
- ▶ Effective patient repositioning and correct choice of support surfaces each plays an important role in minimizing pressure under bedbound patients, thereby contributing to prevention of pressure ulcers.^{2,4,5}

References

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