

# Decreasing Operating Room Pressure Injuries

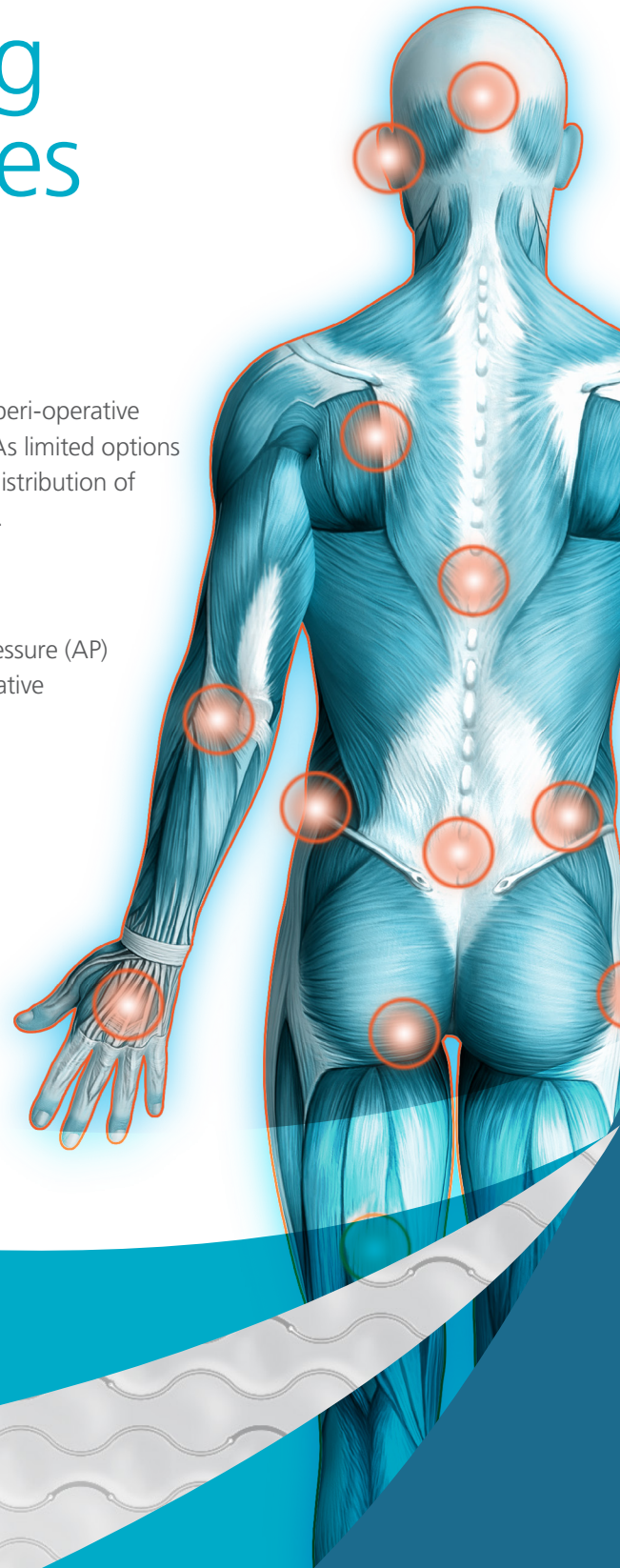
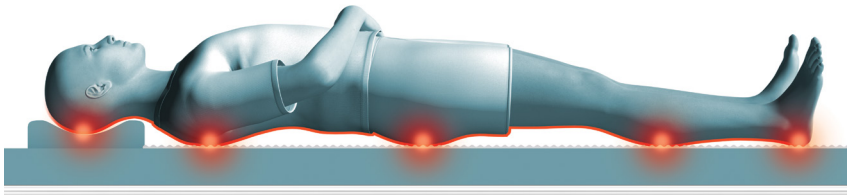
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## BACKGROUND:

Patients undergoing long duration surgeries are at higher risk for development of peri-operative hospital acquired pressure injuries (HAPIs) due to prolonged pressure on the skin. As limited options are available to reposition patients for pressure relief during surgeries, effective redistribution of pressure by support surfaces plays a crucial role in preventing peri-operative HAPIs.

## OBJECTIVE:

The purpose of this study was to determine the effectiveness of the alternating pressure (AP) surface system placed on a standard operating room table in preventing peri-operative pressure injuries (PI) among neurosurgical patients.



## METHODS:

The study was performed at an urban tertiary facility. A concurrent cohort nonconsecutive model where patients undergoing surgery either received the intervention (Alternating Pressure support surface + OR Pad) intraoperatively or served as controls (OR Pad alone). Criteria included procedure times greater than 2.5 hours, post-operative inpatient admission and supine positioning during surgery. Exclusion criteria included prone surgical position, intraoperative MRI, minors and operating room staff concerns regarding the technology. Post-surgery, patients were evaluated daily for at least 5 days and continued on standard protocol for pressure injury prevention. Patients were followed until they were discharged.

“During the study period, no patient developed peri-operative pressure ulcers after use of the alternating pressure AP surface in the OR.”

## CONCLUSION:

Low profile alternating pressure support technology is effective for prevention of pressure injuries in the operating room. In a population of high risk patients undergoing complex lengthy surgery this technology prevented pressure injuries without negative impact on the outcome. The technology was well accepted by the care team.

	Control (N=100)	APSurface (N=100)
Average BMI	27	30
Mean Age	61	58
Braden Score (assessed POD#1)	18	16
History of Previous HAPI	16%	2%
Mean surgery length	4.2 hours	3.8 hours

Subject characteristics for both the AP Surface and the control groups are provided in the table above. The mean surgery length was 3 hours or longer in both groups. The peri-operative PI rate for patients in the AP Surface group was 0% compared to 5% in the concurrent control group. Based on the average cost for treating a HAPI as \$10,000, the net savings to the hospital from preventing peri-operative pressure injuries was \$39,334.

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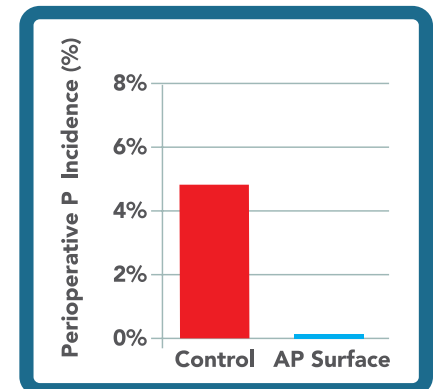
### REFERENCES:

- <https://www.ahrq.gov/professionals/systems/hospital/pressureulcertoolkit/putool1.html#12>
- <https://www.ahrq.gov/professionals/systems/long-term-care/resources/pressure-ulcers/pressureulcertoolkit/putool1.html>

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## RESULTS:

100 neurosurgery patients each in the AP and control groups were included in the study. During the study period, no patient developed peri-operative pressure ulcers after use of the AP surface in the OR. Concurrent control group had a 5% peri-operative pressure ulcer incidence (5 pressure injuries). Feedback surveys from surgeons and OR staff indicated complete satisfaction with the AP overlay technology.



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