Pressure Injury

The purpose of a study was to evaluate the effect of a low-profile alternating pressure (AP) overlay system on hospital-acquired pressure injuries (HAPIs).

The study setting was the operating room and critical care unit of an urban quaternary care hospital in the Midwestern United States. One hundred neurosurgery patients undergoing surgery for 2 hours or longer in supine position were included in the study (AP group). The outcomes for the AP group were compared to a historical control group of 292 patients.

A group of 100 patients were prospectively placed on the AP overlay during surgery. Participants were enrolled preoperatively and tracked by the research team during their hospital stay. Demographic data, details of the operation, and pressure injury risk factors were recorded. Following surgery, AP group patients were evaluated daily and continued on standard protocol for pressure injury prevention. The primary study outcome was HAPI rate during the perioperative period (up to 5 days postsurgery) for the AP group (plus standard of care) compared to the standard of care alone (historical control). Control group data were extracted from electronic health records for the prior 2 years. A written questionnaire was given to the care team that used the AP technology; items queried the degree of acceptance of the overlay by surgeons and the operating room and intensive care unit (ICU) staff.

None of the patients in the AP group developed perioperative pressure injuries. Review of historical control group revealed a 6% perioperative pressure injury incidence (18 pressure injuries in a group of 292 patients). Responses on the written questionnaire indicated that the AP technology was well accepted by surgeons and the operating room and ICU staff. There were no adverse events.

Study findings suggest that AP overlay system can safely and reliably be used during neurological surgeries. Findings further suggest that using the AP product may improve outcomes with respect to perioperative HAPIs, including patients deemed at high risk for pressure injury development. Further studies are underway to evaluate the use of this AP overlay system beyond the operating room for more comprehensive care [1].

1)
Joseph J, McLaughlin D, Darian V, Hayes L, Siddiqui A. Alternating Pressure Overlay for Prevention of Intraoperative Pressure Injury. J Wound Ostomy Continence Nurs. 2018 Dec 27. doi: 10.1097/WON.0000000000000497. [Epub ahead of print] PubMed PMID: 30601427.