The Effect of Breathable Under Pads to Decrease Hospital Acquired Pressure Ulcers: A Nurse Resident Project

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PURPOSE
To reduce the rate of hospital acquired pressure ulcers (HAPU), in June 2013, a large urban academic medical center switched from non-breathable to breathable under pads for incontinent patients lying on either a standard bed (low risk patients) or low-air-loss mattress (high risk patients). Standard pressure ulcer prevention measures were maintained. Staff on two oncology units sought to determine the effectiveness of breathable vs. non-breathable under pads in reducing the rate of HAPU and UAPU.

LITERATURE REVIEW
- HAPU affects 2.5 million patients annually at a cost of over $11 billion. Under Centers for Medicare & Medicaid rules, hospitals are not reimbursed for treatment of HAPU.
- Breathable under pads hold less moisture and heat on the skin surface.
- After switching from non-breathable to breathable under pads, a New York Hospital successfully demonstrated a reduction in HAPU, as well as a reduction in patient stays, worker time, and other HAPU-related expenses.
- Incontinence products are most effective when they are able to wick away moisture and allow adequate blood flow and air circulation to reach the affected area.
- The number of pads and linens used underneath patients were directly proportional with skin temperatures and moisture gradients, thus increasing the risk of skin compromise.

RESULTS
Both units saw an overall reduction in average HAPU rates from baseline to 4 months post implementation, however that improvement was not sustained by 7 months as evidenced by spikes in HAPU rates post implementation.

METHODS
Data were collected according to NDNQI point prevalence data collection guidelines.
- HAPU rates
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  \frac{\text{# of patients who acquired a pressure ulcer after admission to the hospital}}{\text{Total # of patients in the population studied}} \times 100
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- Unit acquired pressure ulcers (UAPU) rates = subset of HAPU
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  \frac{\text{# of patients who acquired a pressure ulcer after arrival to the unit}}{\text{Total # of patients in the population studied}} \times 100
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- Monthly HAPU and UAPU rates for two oncology units were assessed pre implementation and at 4 and 7 months post implementation to determine the impact of breathable under pads in reducing HAPU.
- Use of non-breathable pads required an approval from the charge RN/CNS/manager.

CONCLUSION
The use of breathable under pads was implemented as part of a hospital wide HAPU prevention effort. The impact on HAPU rates resulting from this change in practice was assessed for at-risk oncology patients. A reduction in HAPU rates was seen at 4 months, however HAPU rates returned to baseline at the 7 month follow-up assessment. Further data collection and analysis is needed to determine the impact of breathable under pads on reducing HAPU and UAPU rates.

NEXT STEPS
- Continue present pressure ulcer prevention measures.
- Continue skin champion program.
- Daily skin assessments by unit based resource nurse.
- Continue monthly point prevalence study.
- Pilot other products that control moisture and temperature at the skin surface such as alternative synthetic (vs. cotton) bed lines.

REFERENCES