A Proactive Approach: Preventing Hospital Acquired Pressure Ulcers

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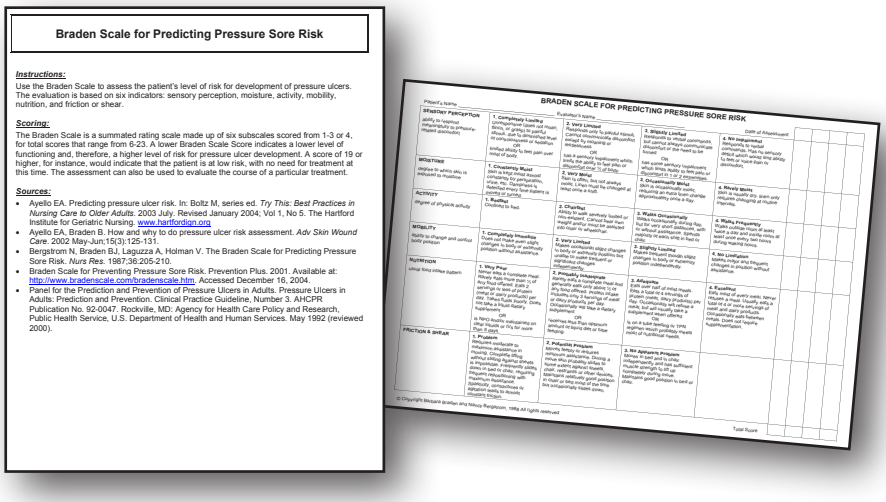
BACKGROUND

During 2016, my manager recommended I participate in a Professional Development Course. I was tasked with creating a performance improvement project. The facility is a 100 bed community hospital, with an 18 bed Intensive Care Unit (ICU). The ICU cares for a wide range of patients with many needs including: Cardiac, Cardiothoracic Surgery, Trauma, Medical, and Neurology. It was identified that there was an above average rate of hospital acquired sacral and coccyx pressure ulcers in 2015 based on the National Database of Nursing Quality Indicators (NDNQI)[1]. The NDNQI is the only national database that provides quarterly annual reporting of structure, process, and outcome indicators to evaluate nursing care at the unit level. The NDNQI comparison baseline for 2015 was 4.32.

OBJECTIVE AND PROCESS CHANGE

I decided that the best way to utilize the assigned practicum project would be to implement a process change that would reduce the number of sacral/coccyx pressure ulcers.

If a specially designed foam dressing* was applied to the sacral area preventatively to “at risk” ICU patients, then pressure, friction, and shear would be decreased to this area, thereby decreasing the overall number of Hospital Acquired Pressure Ulcers (HAPU). “At risk” patients were determined to be: intubated, have a Braden Score[2] of ≤14, or where every two hour turning was contraindicated. A tool to track and trend application and removal of dressing was developed, the target staff were provided with the protocol and product education. With the support of the clinical staff, a 20-week trial was initiated.



Braden Scale for Predicting Pressure Sore Risk

Instructions:

Use the Braden Scale to assess the patient’s level of risk for development of pressure ulcers. The evaluation is based on six indicators: sensory perception, moisture, activity, mobility, nutrition, and friction or shear.

Scoring:

The Braden Scale is a summated rating scale made up of six subscales scored from 1-3 or 4, for total scores that range from 6-23. A lower Braden Scale Score indicates a lower level of functioning and, therefore, a higher level of risk for pressure ulcer development. A score of 19 or higher, for instance, would indicate that the patient is at low risk, with no need for treatment at this time. The assessment can also be used to evaluate the course of a particular treatment.

Sources:

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BRADEN SCALE FOR PREDICTING PRESSURE SORE RISK

Patient’s Name _____ Evaluator’s Name _____ Date of Assessment _____

SENSORY PERCEPTION ability to respond meaningfully to pressure-induced discomfort	**1. completely Limited** Unresponsive (does not moan, flinch, or hold on) to painful stimuli, due to diminished level of consciousness or sedation OR limited ability to feel pain over entire body surface	**2. Very Limited** Responds only to painful stimuli. Cannot communicate discomfort except by moaning or restlessness OR Still a sensory impairment which limits the ability to feel pain or discomfort over 1/2 of body	**3. Slightly Limited** Responds to verbal commands, but cannot always communicate discomfort or the need to be turned OR Has some sensory impairment which limits his/her ability to feel pain or discomfort in 1/2 or 2 extremities	**4. Not Impaired** Responds to verbal commands. Has no sensory deficit which would limit ability to feel or express pain or discomfort	
MOISTURE degree to which skin is exposed to moisture	**1. Constantly Moist** Skin is kept moist almost constantly by perspiration, urine, etc. Dampness is detected every time patient is moved or turned	**2. Very Moist** Skin is often, but not always, moist. Linen must be changed at least once a shift	**3. Occasionally Moist** Skin is occasionally moist, requiring an extra linen change approximately once a day	**4. Rarely Moist** Skin is usually dry; linen only requires changing at routine intervals	
ACTIVITY degree of physical activity	**1. Bedfast** Confined to bed	**2. Chairfast** Ability to walk severely limited or nonexistent. Cannot bear own weight and must be assisted into chair or wheelchair	**3. Walks Occasionally** Walks occasionally during day, but for very short distances, with or without assistance. Spends most of each shift in bed or chair	**4. Walks Frequently** Walks outside the room at least twice a day and inside room at least once every 2 hours during waking hours	
MOBILITY ability to change and control body position	**1. Completely Immobile** Does not make even slight changes to body or extremity position without assistance	**2. Very Limited** Makes infrequent slight changes to body or extremity position in addition to independently initiated changes	**3. Slightly Limited** Makes frequent but slight changes to body or extremity position independently	**4. No Limitation** Makes major and frequent changes in position without assistance	
NUTRITION usual food intake pattern	**1. Very Poor** Never eats a complete meal. Rarely eats more than one-third of any food offered. Eats 2 servings or less of protein (meat or dairy products) per day. Takes fluids poorly. Does not take a liquid dietary supplement OR Is NPO and/or maintained on clear liquids or IV's for more than 5 days	**2. Probably Inadequate** Rarely eats a complete meal and generally eats only about 1/2 of any food offered. Protein intake is low, intake of fruit or vegetable is poor. Occasionally will refuse a meal. Appears to be on the verge of a negative nitrogen balance. Occasionally will refuse a liquid dietary supplement OR Ingests less than adequate amount of dietary fluid or tube feeding	**3. Adequate** Eats over half of most meals. Eats a total of 4 servings of protein (meat, dairy products) per day. Occasionally will refuse a meal, but usually will take a supplement when offered OR Is on a tube feeding or TPN regimen which probably meets most of nutritional needs	**4. Excellent** Eats most of every meal. Never refuses a meal. Usually eats a total of 4 or more servings of protein (meat, dairy products). Occasionally eats between meals. Does not require supplementation	
FRICTION & SHEAR	**1. Problem** Requires moderate to maximum assistance in moving. Complete lifting without sliding against sheets is impossible. Frequently slides down in bed or chair, requiring maximum repositioning with assistance. Spasticity, contractures or agitation leads to almost constant friction	**2. Potential Problem** Moves feebly or requires minimum assistance. During a move most probably slides to some extent against sheets, chair, restraints or other devices. Maintains relatively good position in chair or bed most of the time but occasionally slides down	**3. No Apparent Problem** Moves in bed and in chair independently and has sufficient muscle strength to lift up completely during move. Maintains good position in bed or chair		
				Total Score	

Product Notation: *AQUACEL® Foam Pro Dressing, ConvaTec Inc.

Citations

1. http://www.pressganey.com/solutions/clinical-quality/nursing-quality.
2. The Braden Scale for Predicting Pressure Sore Risk. Bergstrom N, Braden BJ, Laguzza A, Holman V. Nurs Res. 1987 Jul-Aug;36(4):205-10.

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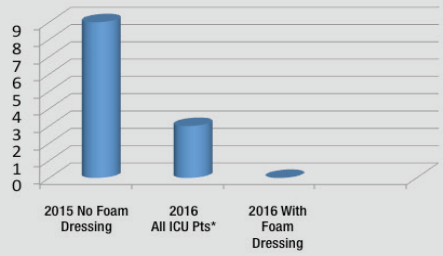
Lake Regional Hospital

ICU Clinicians



***Note:** 3 patients developed sacral/coccyx PUs during the 2016 period. Foam Dressings had not been applied as they did not fall within the "At Risk" assessment.

RESULTS

The foam dressing was used on 117 ICU patients with a wide range of diagnoses. The overall rate of sacral/coccyx HAPUs in the ICU in the designated weeks decreased 67% from 2015. There were no sacral/coccyx HAPU in the 117 patients who had the foam dressing in place.

RECOMMENDATIONS

In the future, I would expand the "at risk" criteria to include a Braden Score of 16 or less. I am proposing that the dressings be applied preprocedural/preoperatively, rather than waiting until ICU admission, as the patient is arguably most at risk while under anesthesia.