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Prophylactic Sacral Dressing for High Risk Patients

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Problem:

Patients in the Intensive Care Unit (ICU) are likely to have limited mobility due to hemodynamic instability and activity orders for bed rest. Bed rest is indicated due to severity of disease process, which often involves intubation, sedation, paralization, surgical procedures, poor nutrition, low flow states and poor circulation. This population of patients is predisposed to the development and/or the progression of pressure ulcers not only due to their underlying diseases, but also from limited mobility and deconditioned states of health.

Evidence:

It is estimated that the prevalence of PrU in acute care settings is in the range of 12% -19.7%, of those, 20% are on the sacrum or coccyx (Jenkins & O'Neal, 2010). Treatment of pressure ulcers is expensive, with estimates of the cost at $37,800 per ulcer (Russo & Elixhauser, 2006). Nakagami et al. (2006) showed a reduction of shear force over the heel with the use of a protective hydrocolloid dressing. Ohura et al. (2008) obtained mixed results when comparing various dressings for the reduction of pressure and shear. Bou et al. (2009) found that a foam dressing was more protective of the heel than was a gauze dressing, suggesting that the foam may provide some form of pressure redistribution that gauze does not. The Brindle study (2010) showed that none of the patients with prophylactic sacral dressings developed sacral pressure ulcers during their use.

Strategy:

The purpose of this study is to assess the rates for unit acquired sacral pressure ulcers before and after the implementation of a prophylactic silicone adhesive hydrocellular sacral foam dressing for high risk patients.

Specifically, the research proposes the following:

- Implementation of a nursing change to utilize the Allevyn sacral dressing prophylactically for high risk patients to prevent sacral pressure ulcers. This will be accomplished by screening patients for risk and appropriateness and monitoring patients while utilizing the dressing.
- A decrease in the number and rate of sacral pressure ulcers following the introduction of this prophylactic dressing for high risk patients. This will be measured by: surveillance of the number of unit acquired sacral pressure ulcers per 1,000 patient days.

Practice Change:
All patients newly admitted or transferred to the SCCU, MCCU and MICU will be evaluated utilizing the ICU Allevyn Gentle Border Sacrum Dressing Criteria checklist. This checklist was developed by looking at the current available evidence in this group of patients. Patients with any of the following conditions will be excluded from inclusion in this study: urinary or fecal incontinence not managed with a urinary catheter or fecal management system, weeping edema or anasarca, diaphoresis in sacral area, or pre-existing sacral pressure ulcer (unless recommended by wound care specialist).

If a patient qualifies for inclusion, nurses on the unit will implement a Wound Care Bundle designed for this study. The bundle includes the following: the ICU Allevyn Gentle Border Sacrum Dressing Criteria Checklist, the Allevyn Gentle Border Sacrum Dressing Prophylaxis Monitoring tool, and an Allevyn Sacral Dressing Application quick tips sheet.

Evaluation:
As a part of routine surveillance, preliminary rates for unit acquired sacral pressure ulcers were collected for October 2011-February 2012. This study proposes collecting data for four months following approval by the IRB. Tentatively, this study would begin April 2012 and run through July 2012.

Results:
Pressure ulcer data were collected in the Medical Coronary Care Unit (MCCU), Surgical Coronary Care Unit (SCCU) and the Medical Intensive Care Unit (MICU) prior to considering implementation of the prophylactic sacral pressure dressing. The data revealed the highest incidence rates of pressure ulcers are located in the sacral area as compared to other areas on the body. It is expected that this preventative treatment will decrease the incidence of sacral pressure ulcers in this critical patient population.

Recommendations:
The application of the prophylaxis is likely to significantly reduce risk of sacral pressure ulcers in high risk patients. The researchers believe there is/are both moral and ethical justifications for the use of this prophylaxis on any patient who might benefit. Once the results are compiled, if the data supports the use of this prophylactic treatment, it will be instituted as a practice change in this institution in all of the ICU's.

Lessons Learned:
The patients that are evaluated in this trial are at extremely high risk for developing pressure ulcers. Our preliminary data collection shows us that the highest incidence area is the sacrum. Additionally, we have learned that collecting daily incidence data with pressure ulcers over monthly prevalence data has opened our eyes to identifying areas for improvement. We will wait to see if a prophylactic dressing applied to these high risk patients show a decrease in the incidence of the occurrence of pressure ulcers which will improve the overall prevalence data.

Bibliography:

Bou, J. T., Lopez, J. R., Camanes, G., Narvaez, E. H., Blanco, J. B., Torralba, J. B.,...Soriano, J. V. (2009). Preventing pressure ulcers on the heel: a Canadian cost study. Dermatology Nursing, 21, 268-272.

Brindle, C. (2010). Outliers to the Braden Scale: identifying high-risk ICU patients and the results of prophylactic dressing use. World Council Of Enterostomal Therapists Journal, 30(1), 11-18.

Centers for Medicare & Medicaid Services. (2007). Fact Sheet: FY 2008 inpatient prospective payment system proposed rule improving the quality of hospital care. Retrieved from https://www.cms.gov/apps/media/press/factsheet.asp?counter=2119&intnumperpage=10&checkdate=&checkkey=&srchtype=1&numdays=3500&srchopt=0&srchdata=&keywordtype=all&chknewstype=6&intpage=&showall=&pyear=&year=&desc=&cboorder=date

Gallant, C., Morin, D., St-Germain, D., & Dallaire, D. (2010). Prevention and treatment of pressure ulcers in a university hospital center: A correlational study examining nurses' knowledge and best practice. International Journal of Nursing Practice, 16, 183-187.

Hanson, D., Langemo, D., Anderson, J., Thompson, P., & Hunter, S. (2010). Research forum. Friction and shear considerations in pressure ulcer development. Advances In Skin & Wound Care, 23(1), 21-24. doi:10.1097/01.ASW.0000363489.38996.13

Institute for Healthcare Improvement. (2008). 5 million lives campaign. Retrieved from http://www.ihi.org/offerings/Initiatives/PastStrategicInitiatives/5MillionLivesCampaign/Pages/default.aspx

Jenkins, M. L., & O'Neal, E. (2010, December). Pressure ulcer prevalence and incidence in acute care. Advances in Skin & Wound Care, 23, 556-559.

Langemo, D. K., Melland, H., Hanson, D., Olson, B., & Hunter, S. (2000). The lived experience of having a pressure ulcer: A qualitative analysis. Advances in Skin & Wound Care, 13, 225-235.

Nakagami, G., Sanada, H., Konya, C., Kitagawa, A., Tadaka, E., Tabata, K. (2006). Comparison of two pressure ulcer preventive dressings for reduction of shear force on heel. Journal of Wound, Ostomy, and Continence Nursing, 33 (3), 267-272.

Nakagami, G., Sanada, H., Konya, C., Kitagawa, A., Tadaka, E., & Matsuyama, Y. (2007). Evaluation of a new pressure ulcer preventive dressing containing ceramide 2 with low frictional outer layer [corrected] [published erratum appears in J ADV NURS 2007 Nov;60(3):357]. Journal Of Advanced Nursing, 59(5), 520-529.

National Pressure Ulcer Advisory Panel. (2009). Prevention and treatment of pressure ulcers: quick reference guide. Retrieved from http://www.npuap.org/Final_Quick_Prevention_for_web_2010.pdf

Ohura, T., Takahashi, M., & Ohura, N. r. (2008). Influence of external forces (pressure and shear force) on superficial layer and subcutis of porcine skin and effects of dressing materials: are dressing materials beneficial for reducing pressure and shear force in tissues?. Wound Repair & Regeneration, 16(1), 102-107.

Russo, CA, Elixhauser, A. Hospitalizations related to pressure sores. Statistical brief #3, AHRQ Healthcare Cost and Utilization Project, April, 2006. www.hcup-us.ahrq.gov/reports/statbriefs/sb3.pdf. Accessed January 10, 2012.

The Joint Commission. (2011). 2011 Joint Commission national patient safety goals. Retrieved from http://www.lovell.fhcc.va.gov/about/2011NationalPatientSafety.pdf

U. S. Department of Health and Human Services. (2011). Improving the quality and efficiency of health care. Retrieved from http://www.healthreform.gov/health_reform_and_hhs.html