PRESSURE ULCER PREVENTION:

USE OF SACRAL MEPILEX IN PREVENTING PRESSURE ULCERS

IN THE INTENSIVE CARE UNIT PATIENT:

An Evidence-Based Project

By

Melissa Carder, BSN, Elizabeth Gard, BSN, and Maria Medina, BSN

Nebraska Methodist College

Department of Nursing

Omaha, Nebraska

Melissa Carder

5015 S 75th Plaza, #303, Ralston, NE 68127

402-429-1240

[Melissa.Carder@methodistcollege.edu](mailto:Melissa.Carder@methodistcollege.edu)

Conflict of interest: none declared

Pressure ulcers in the Intensive Care population continue to be a problem of staying in the critical care setting. These patients are at an increased risk for the development of this severely detrimental side effect of a hospital stay due to their underlying health status. These patients are typically immobile, malnourished, and are at an increased risk for negative factors such as friction, sheer, and moisture. It is essential to utilize any method to prevent pressure ulcers in this patient population. The use of sacral mepilex as a method to decrease pressure ulcer formation in these high-risk patients has been noted in hospitals in the Midwest. Because of this, an evidence based research project was developed to identify if the use of sacral Mepilex dressings were useful as a prophylactic method to prevent pressure ulcers in this high-risk populations.

Introduction

Patients in the Intensive Care Unit (ICU) setting are at an increased risk of acquiring pressure ulcers. Pressure ulcers, also known as pressure sores, bedsores or decubitus ulcers (McCance & Huether, 2010), can be defined as “lesions caused by unrelieved pressure resulting in damage of underlying tissue” (p. 1647). The risk of developing pressure ulcers is increased in the ICU population as these patients spend the majority of their stay in bed, increasing the exposure to “friction,” “shear,” “moisture” and “pressure” (McCance & Huether, 2010, p. 1647), the factors that lead to pressure ulcer formation. According to Kaitani, Tokunaga, Matsui, and Sanada (2010), up to 40% of patients in a critical care setting develop pressure ulcers. The cost of care to those patients who develop a pressure ulcer while in the hospital critical care setting is immense in the United States of America alone. Due to changes accompanying healthcare reform, patients who develop ulcers may not be covered by medical insurance. This results in added cost of care to the patient and facility. Additionally, pressure ulcers result in an increased length of stay, increased morbidity and mortality, and increased suffering for the patient (Elliot, McKinley & Fox, 2008). Pressure ulcer prevention is necessary in the ICU patient.

Purpose

The purpose of this evidence-based project is to determine if sacral border Mepilex dressings successfully reduce the risk of pressure ulcers in the ICU.

Methods

A CINAHL plus full text search was completed in September 2011 using the search terms of Adult, intensive care unit, hospitalized patient, patient, inpatient, Mepilex, sacral dressing, coccyx dressing, pressure dressing, foam dressing, back dressing, pressure ulcer and pressure sore Articles were included if they were peer reviewed, research article, and English language. Additionally, articles were examined from 2000 to present. Exclusion criteria included articles that were not peer reviewed, those that were not research articles, older than 2000, and those in a language other than English. Articles were further searched based upon relevance to the PICOT. Those articles that pertained to the PICOT were included, while those that were irrelevant were excluded. Additionally, a hand search of *Critical Care Nurse* 2011 was also completed and articles were included based on pertinence to pressure ulcer development in the critical care setting in addition to a Google Scholar search. Inclusion criteria for the Google Scholar search included articles from 2000 to present.

Review of literature

Five articles were identified that met criteria for this evidence based project. While the information presented in this evidence based research project does not relate specifically to sacral Mepilex in the ICU population, it does provide valuable information to reiterate the importance of knowledge of protecting skin integrity in the hospital population.

A longitudinal study by Shahin, Dassen, and Halfens (2009) identified the overall prevalence of pressure ulcers as 3.3% in this ICU setting as well as risk factors of pressure ulcer development. Importantly this article identified nursing care practices of skin inspection, repositioning the patient and massage were identified as methods to reduce the risk of pressure ulcers as well as facilitate healing of pressure ulcers in this ICU. Brindle (2010) completed a performance improvement to test the effectiveness of a prophylactic sacral dressing in preventing pressure ulcers. While no patients with this dressing applied developed pressure ulcers, more research on this prophylactic dressing is needed. A retrospective review by Alderden, Whitney, Taylor, & Zaratkiewicz (2011) identified ICU patients at higher risk of pressure ulcer development including those requiring intravenous vasopressor medication, those who had sustained a spinal trauma injury, and patients aged 40 or older were noted to have unhealed pressure ulcers at discharge/death. Conclusions of the research noted nurses that have knowledge of the risk factors for developing a pressure ulcer take aggressive preventive measures to prevent or reduce tissue damage.

Meaume, Perez, Descamps, Voinchet, Jault, Saunier & Bohbot (2011) conducted a single descriptive study to evaluate the effectiveness of the Urgotul flex dressing compared to the use of Urgotul dressing based on efficacy, tolerability and patient acceptance. Urgotul flex appeared to have better outcomes related to ease of use by the wound care nurses. Meuleneire (2008) completed a single descriptive study, which evaluated the effectiveness of Mepilex Ag, a polyurethane foam dressing, on various types of wounds. The results demonstrated that the use of Mepilex Ag may be beneficial to wounds requiring topical therapy

Synthesis of literature

The articles found during the review were limited, although articles of similar contemplation were located. In the five articles reviewed during the critical analysis of the literature, two identified the use of Mepilex specifically. The other three articles noted an interest in decubitus ulcer prevention, type of patient at risk, and treatment. Published research articles are limited relating to the PICOT. The literature suggests the use of a skin assessment tool such as the Braden scale, to assess the risk of a patient acquiring a pressure ulcer during the hospital stay. Three articles used this reputable tool and the other two used other means of documenting ulcers such as pictures, an author developed measurement tool, and visual assessment.

Discussion

While information related specifically to the use of sacral mepilex is limited, important information related to nursing can be noted from this review. Nursing staff must continue to be aware of the implications surrounding pressure ulcer development and prevention in the clinical setting. Because of this, we believe continued research should be completed on the area of pressure ulcer prevention. Nurse educators should continue to provide education regarding those at risk for pressure ulcer development as well as the methods that can reduce the risk of pressure ulcers in the ICU setting. We also look for support from nursing administrators in assisting with pressure ulcer prevention. This includes understanding cost savings of additional training for nurses on pressure ulcer prevention as well as the use of items that would decrease the patients risk of friction, shear and moisture. Most importantly, the results of the evidence based research project indicate that nursing has a large role in the prevention of pressure ulcers in the ICU patient. Continued education regarding proper prevention methods including positioning, nutrition, repositioning, and skin barriers is essential to preventing pressure ulcers within the ICU

Summary:

In reviewing the articles presented above, numerous findings could be identified. As the use of sacral Mepilex is used in critical care settings in the Midwest, more research is needed in order to identify if these dressings do lead to a reduction of pressure ulcers.

However most importantly includes that it remains the responsibility of nursing to assist in prevention of pressure ulcers. It remains that there is no better method for pressure ulcer prevention that excellent nursing care including being aware of risk factors for pressure ulcer development as well as understanding methods of prevention including proper positioning and repositioning, nutrition, and nursing assessments.

We recommend more research be completed on the use of prophylactic dressings for pressure ulcer prevention.

**Key Points**

* Understanding of pressure ulcer risk factors is essential in pressure ulcer prevention
* Nursing interventions are most effective means of preventing pressure ulcers
* More research is needed on prophylactic dressings for pressure ulcer prevention