

## Creating Healthy Work Environments 2019

### Turning the Unturnable Patient: A New Algorithm for Changing the Culture of Pressure Ulcer Prevention

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#### ABSTRACT

##### **Purpose :**

Hospital acquired pressure ulcers (HAPUs) are associated with adverse patient outcomes, higher health care costs and increased mortality. Evidence supports use of care bundles to improve adherence to nursing protocols and guidelines in critical care.<sup>4</sup> A high prevalence of HAPUs are associated with patients who require vasopressor/ionotropes, have active arrhythmias, need active fluid resuscitation due to hemorrhaging or vasoplegia, or have an unstable oxygenation profile. Quaternary level hospitals, such as Abbott Northwestern Hospital (ANW) are highly specialized to provide interventions including extracorporeal membrane oxygenation (ECMO). This extremely vulnerable patient population is at high risk for pressure ulcer (PU) development and is associated with increased mortality.<sup>8</sup> ANW had 19 reportable pressure ulcers in 2017. ANW's annual goal is set at less than 8 reportable pressure injuries per year. In addressing this issue, we found that the majority of these reportable PUs were in critical care areas where patients had a complex presentation with high morbidity. A large barrier to prevent PUs in critically ill patients is their intolerance to repositioning with current methods. Classic methods of repositioning include hospital driven protocols of turning stable patients every 2-4 hours. Research has shown that less than 3% of critically ill patients are turned every 2 hours as recommended by current guidelines.<sup>2</sup> Many critically ill patients develop prolonged gravitational equilibrium from periods of time without repositioning. This term acutely describes many critically ill patients who develop further instability when repositioned and become high risk for HAPUs during their most vulnerable period of poor vascular tone, dysfunctional autonomic feedback loops, and low cardiovascular reserve. This results in inability to adapt to the gravitational changes that happen with attempts at repositioning.<sup>2</sup>We sought to address this critical component of HAPU development by providing a new algorithm for repositioning that "teaches the body to turn." This algorithm will guide nurses in a step by step fashion in how to reposition unstable patients. The goals of this algorithm include: 1) Increasing nursing confidence in repositioning unstable patients; 2) Provide nurses with alternative turning options if manual repositioning is not tolerated; 3) Increase nursing adherence to algorithm interventions; 4) Ultimately reducing HAPUs in the ICU. We believe implementing this algorithm will increase compliance and confidence in the critical care team to "turn the unturnable" patient.

##### **Methods:**

Currently, ANW has trained "Skin champions" who have received specialized education to identify and stage pressure ulcers. These Skin champions participate in weekly rounds on ICU patients and provide education to bedside nurses regarding current pressure ulcer prevention. Skin champions report HAPUs through an online patient safety report form (PVSR) and consult Wound Ostomy Continence Nurses (WOCN) to monitor and treat the patient. The PVSR is used to collect information regarding HAPUs at ANW, and are submitted by nurses when HAPUs are found. Skin champions provide feedback through audits regarding staff adherence to hospital protocols. These audits identified the opportunity for increased education and the need for further protocols regarding how to reduce HAPUs in the high risk

population at ANW. A literature review was done to assess current methods of PU prevention and to define the high risk patient based on hemodynamic characteristics and clinical findings. This literature review revealed a lack of availability or research regarding the effectiveness of an algorithm to guide nurses how to prevent pressure ulcers in hemodynamically unstable patients. An algorithm with a step by step profile was introduced to ICU bedside nurses to provide tools on how to prevent pressure injury and reposition all critically ill patients regardless of their hemodynamic state. This education included reinforcement of the importance of interventions within the care bundle for PU prevention at the basic level. Education was provided to nurses at the bedside with return demonstrations regarding the algorithm care bundle elements and continuous lateral rotation therapy (CLRT) protocols. CLRT is an available turning function on ANW ICU beds that is utilized if the patient is intolerant to standard repositioning. CLRT slowly increases the rotation by a percentage so the patient “learns to turn” over a 3 hour period. After this 3 hour period, the nurse is instructed to attempt a standard turn, determine the patient’s hemodynamic stability, while assessing the patient’s skin.

### **Results:**

The ICU Pressure Injury Prevention algorithm was launched at ANW in June 2018, and data collection is currently ongoing. Compliance has been observed by Skin Champions of bedside nurses utilizing the algorithm. Critical care staff were receptive and expressed positive feedback regarding ease of use. A survey to assess usability and functionality will be provided to staff in October 2018. Based on survey results and comparison of 2017-2018 year to date reportable HAPUs, modifications may be necessary to ensure continued compliance. Education on the new pressure ulcer prevention guidelines is continuing and provides staff opportunity to grow in knowledge of skin as the largest organ in the body.

### **Conclusion:**

Hospitals providing quaternary level care present with the highest challenges with prevention of HAPUs due to the high acuity patient populations they serve. Guidelines in the form of an algorithm equip the bedside nurses with a clear understanding on how to provide effective interventions to prevent HAPUs in high-risk populations. This algorithm is unique in the critical care field since it addresses the current and complicated issue of repositioning in the setting of severe hemodynamic instability. By providing critical care nurses with further education and resources, we expect to improve patient outcomes through a change in culture. This change in culture includes repositioning as an expectation that will improve our patient’s hemodynamics if the nurse perseveres with available interventions. Goals include preventing the unstable patient from becoming hemodynamically “calibrated” to a supine position.<sup>2</sup> Support in the form of education for the bedside nurse is essential for prevention of HAPUs.

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### **Title:**

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### **Keywords:**

Algorithm, Hemodynamically Unstable and Pressure Ulcer Prevention

### **References:**

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### **Abstract Summary:**

We sought to address a critical component of HAPU development by providing a new algorithm for repositioning that "teaches the body to turn." This new ICU Pressure Injury Prevention (PIP) algorithm provides guidelines for repositioning of hemodynamically unstable patients reducing Hospital acquired pressure ulcers.

### **Content Outline:**

#### **INTRODUCTION**

A. A high prevalence of HAPUs are associated with patients who require vasopressors/ionotropes, or have an unstable oxygenation profile.

B. Abbott Northwestern Hospital exceeded our annual goal of reportable pressure injuries for 2017.

C. A large barrier to prevent pressure ulcers (PUs) in critically ill patients is their intolerance to repositioning with current methods

D. An algorithm was created to guide nurses in how to reposition hemodynamically unstable patients.

#### **METHODS**

A. A literature review was done to assess current methods of PU prevention in hemodynamically unstable patients.

B. An algorithm was created and launched in June 2018 with education to bedside critical care nurses regarding its utilization.

C. Data collection is ongoing and a survey will be provided to staff in the fall of 2018 to assess usability.

## CONCLUSION

A. Guidelines in the form of an algorithm equip the bedside nurses with a clear understanding on how to provide effective interventions to prevent HAPUs in high-risk populations.

B. This algorithm is unique in the critical care field since it addresses the current and complicated issue of repositioning in the setting of severe hemodynamic instability.

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