Preventing Pressure Ulcers in the ICU: An Evidence-Based Practice Change

Paula Munch, MSN, RN, CCRN, Carol Stillicia-Klein, BSN, RN, & Christine VanLaaknooit, BSN, RN, CCRN
Scottsdale Healthcare - Shea Medical Center

Purpose

The purpose of the evidence-based nursing strategy is to reduce and prevent pressure ulcers (PU) in the ICU where patients are at the greatest risk of acquiring a PU. The evidence-based practice (EBP) change project aims to reduce PU prevalence in the ICU and to meet and/or exceed the national benchmark set by the National Database of Nursing Quality Indicators (NDNQI) for PU.

Background

Pressure Ulcers are a challenge to healthcare institutions across the nation. The Institute for Healthcare Improvement reports that 10% to 33% of all hospital patients sustaining PU are at risk. The National Pressure Ulcer Advisory Panel (NPUAP) states that PU is associated with significant mortality and cost.

Methods

Conducted assessment of current practice
• Reviewed nursing protocols
• Conducted CINHAL and Medline search for any newly published research studies

Conducted further evaluation, a quality issue was identified with the mattresses and during assessment findings
• Pressure redistributive qualities of the bed were inhibited.
• A quality issue with mattresses

Developed a Multidisciplinary Task Force - Nurses, Wound Care, Nutrition, Physician

Developed a PUP Guideline to be implemented on all patients in the ICU

Assessment Findings

• A quality issue with mattresses. In figure 1, the gel structure in mattress A was obstructing the heel, while the gel structure in mattress B was symmetrically, more evenly, than figure 1, and the heel was coming apart, after further evaluation, a quality issue was identified with the mattress and during December 2010, 660 mattresses were replaced throughout the ICU system.
• Linens were inhibiting the pressure redistributive qualities of the bed.
• Reduced or immobile

A quality issue with mattresses. In figure 1, the gel structure in mattress A was obstructing the heel, while the gel structure in mattress B was symmetrically, more evenly, than figure 1, and the heel was coming apart, after further evaluation, a quality issue was identified with the mattress and during December 2010, 660 mattresses were replaced throughout the ICU system.

In May of 2010, two patients discharged from the ICU at Scottsdale Healthcare - Shea with stage III-IV HAPU. While the two patients prompted the start of this change project, success is only possible if the nurses get on board. Consistency in implementation, continual education and re-education, and constant motivation and encouragement is key to successful implementation and sustainability.

PUP Guideline

All Patients in the ICU

Management/Bedding

• Eliminated use of sheets (check, chux, fitted sheets)
• Eliminated use of pillows
• Eliminated use of of optional cushion and fitted sheets
• Use flat sheet and breathable disposable pads only

Skin Care/ Moisturizing

• Increased use of dermatological agents
• Increased use of emollients

Skin Assessment

• Complete head to toe skin assessment documented and cosigned by second RN and physician signature

Extrinsic Contributing

• Pressure
• Shearing
• Friction
• Positioning
• Partial Limb

Inconvenience

• Reclining
• Bedsore

Antimicrobial

• Vaginal
• Cerumen

Causative

• Pressure
• Shearing
• Friction
• Positioning
• Reclining

Inconvenience

• Vaginal
• Cerumen

Assessment Diagnoses

• Incontinence
• Pressure Ulcer
• Ulcer

Causative

• Reclining
• Shearing
• Inconvenience

Inconvenience

• Reclining
• Shearing

Graph A: Quarterly Unit Acquired Pressure Ulcer Rates

Graph B: Monthly Unit Acquired Pressure Ulcer Rates

References Available

More advanced PUP strategies:
• Wound Consult
• Nutrition Consult
• PUP Order Set
• Guidelines for ordering a wound care surface

Mandatory education to all staff in the ICU throughout September 2010

Skin Before

Skin After

Results

The PUP guideline was successful in reducing pressure ulcer rates in the ICU. The implementation (April 2010) saw the PU prevalence rates of 4.6% to 0.0% during the post-implementation period. Monthly prevalence studies demonstrated 81% (Graph A) and 10% (Graph B) reduction of PU rates in the ICU. The following four quarters post-implementation (Graph A): Monthly prevalence studies demonstrated 81% (Graph A) and 10% (Graph B) reduction of PU rates in the ICU.

More advanced PU strategies:

Mandatory education to all staff in the ICU throughout September 2010

Skin Before

Skin After

Nursing Implications

As nurses we are obligated to give the best possible care to each and every patient. The EBP change enhances our profession and softens our image. While we cannot narrow the success down to one single intervention, what we do know is that the combination of interventions is successful. In this change project and with any change project, success is only possible if the nurses get on board. Consistency in practice, continual education and re-education, and constant motivation and encouragement is key to successful implementation and sustainability.

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Contact Information

Paula Munch, MSN, RN, CCRN, pnmunch@shc.org; (480) 323-3301
Carol Stillicia-Klein, BSN, RN, cklein@shc.org; (480) 323-3301
Christine VanLaaknooit, BSN, RN, CCRN, cvanlaaknooit@shc.org; (480) 323-3301

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