Background and Significance: Critical care units pose challenges to preventing the development of pressure ulcers given the high acuity of patients and the highly invasive nature of interventions and therapies those patients receive. Hospitals are under immense pressure to improve quality of care while containing costs. An innovative interdisciplinary Pressure Ulcer Prevention (PUP) team was established to identify high risk patients and reliably implement evidence based prevention strategies.

Purpose of the Study/Project: The purpose of this project was to determine if the implementation of a PUP team could significantly reduce pressure ulcers in a critical care setting.

Sample/Population: All patients in the 72 bed Pediatric Intensive Care Unit at Children’s Hospital of Wisconsin from March 2009 to present.

Framework: The Influencer Model identifies multiple sources of influence that address a problem from multiple angles thereby leveraging success and sustainability.

Method/Approach: The role of PUP team members include (1) educate staff nurses about prevention, assessment, and pressure ulcer treatment (2) implement a specific prevention bundle for children at high risk and (3) implement a system for data collection in order to get real time data. The skin care champions’ model of implementing change goes beyond traditional nursing education by bringing hands on peer-to-peer education to the bedside.

Results/Outcomes: The key outcome measure is that between 2008 and 2011 the PUP team’s intervention was associated with a 65% decrease in all stages of pressure ulcers and there has not been a hospital acquired Stage 3 or Stage 4 pressure ulcer in the PICU since September 2010.

Conclusions/Implications: A multi-pronged approach, guided by the principles of the Influencer Model, to nursing education (online interactive modules, bedside education, resources within the unit, staff meetings, and the use of skin care champions) allowed the team to implement the changes. Rapid cycle feedback helped the nurses to connect the change in practice to improved patient outcomes creating buy-in and sustainability in practice changes.
Learners must fill out and turn in evaluations to successfully complete this program.
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Rebekah Kraus, MS, RN
Mary Bolhuis, RN, CCRN
Paula Balestrieri, RN, CCRN
Mary Charter, BS, ADN,RN

Focus Studies (one in PICU, one with NACHRI)
Grade III, IV, and unstagable pressure ulcers are susceptible to loss of hospital reimbursement
Multi-disciplinary approach including education and data collection
Champions are staff nurses, allowing for real-time peer-to-peer education at the bedside.

Champions are known to be successful in creating and sustaining a change.

Able to quickly assess a skin integrity concern and have resources for intervention.

Key Roles of Skin Care Champions

- Put “skin on the surface”
  - To increase awareness of pressure ulcer risk
  - To identify, assess, and monitor patients at moderate and high risk
  - Initiate pressure ulcer prevention protocol
  - Make recommendations for pressure ulcer prevention and treatment
  - Interdisciplinary education
  - Pressure ulcer data collection (weekly skin audits)
  - To perform a root cause analysis on pressure ulcer development in the Pediatric Intensive Care Unit (PICU)
Pressure Ulcer Risk Awareness

- Braden Q - modified for pediatrics and neonates
- A score of ≤ 21 is high risk and requires a hands-on skin assessment by a skin champion
- Mobility
- Activity
- Sensory Perception
- Moisture
- Friction-Shear
- Nutrition
- Tissue Perfusion and Oxygenation

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Pressure Ulcer Risk Awareness

- Bedside RN and skin champion discussions
- Daily Rounding Tool

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Daily Rounding Tool
Risk Factors
- ECMO
- Mechanical Ventilation
- Neonates
- Length of Stay ≥4 days
- Edema
- Weight Loss
- Use of Inotropes
- Cardiac Arrest
- Hands on skin assessment for patients with Braden Q ≤ 21, medical devices, or known skin problems

How we identify who’s at risk
- 4 skin care champions for each critical care unit
- Weekly rounds on 6 patients
- Pressure ulcer prevention rounding tool

Pressure Ulcer Prevention Protocol
- Nursing Order Set
- Communication Tool for Pressure Ulcer Prevention: Interventions and Treatment
- Skin integrity tracking in online order system
Communication Tool for Pressure Ulcer Prevention: Risk Indicators, Interventions & Treatments

Date: _______

Check all risk indicators that apply below:

1. Current documentation of Braden Q___

2. Is skin concern related to a medical device?

3. LOS > 4 days? √

4. Vasoactive drip(s)? □

5. Mechanical ventilation? □

Interventions / Treatments

- Check all mobility / activity interventions currently in use:
  1. Assess and inspect skin q position change (min q 4 hr)
  2. Specialty bed / mattress, Stryker Go-Bed, Cub Crib
  3. Turn and Position System
  4. Lift patient completely for repositioning
  5. Reposition q 2 hr (q 4 hr if infant)
  6. Initiate a repositioning clock
  7. Avoid positioning patient directly on trochanter / occiput
  8. Float heels off of bed
  9. Utilize heel boots
  10. Remove pillow from under head
  11. Use pillows / gel pads to elevate pressure points off bed, if not on specialty bed
  12. Use minimal layers between patient and mattress on the specialty beds (goal of 3)
  13. Use foam overlay with infants in warmers

- Check all moisture interventions currently in use:
  1. Assess skin folds q 8 hr
  2. Change diaper / briefs q 2 hr
  3. Cleanse peri area and skin folds with barrier / shield wipes
  4. Apply protective moisture barrier ointment with diaper changes
  5. Consider antifungal PRN
  6. Comfort bath for > 2 months
  7. Moisturizer after bathing

- Check all friction interventions currently in use:
  1. Assess and inspect skin q 8 hr and PRN
  2. Lift completely with repositioning
  3. Keep HOB < 30 degrees if not contraindicated
  4. Apply moisturizer to at risk skin
  5. Make a plan to control agitation

- Check all skin products used:
  1. Generic barrier paste (diaper rash cream)
  2. A&D
  3. Aquaphor
  4. Hydrogel
  5. Shield barrier wipes
  6. Incontinence cleansing spray
  7. Mepilex Border® Sacrum
  8. None
  9. Other please specify: ____________________________

Documentation in Sunrise/Flowsheet? □ yes □ no

Plan communicated with nurse caring for the Child? □ yes □ no

Comments: ____________________________

NOT PART OF THE PERMANENT MEDICAL RECORD: keep this form with the plan of care at the bedside.

Skin integrity concern tracking system
Recommendations for Prevention and Treatment

- Pressure Reducing Surfaces
  - Stryker Go-Bed, Cub Cribs, infant warmer overlay
- Sage Prevalon® Turn and Position System
- Prevalon™ Pressure Relieving Heel Protector
- Minimal Layers
- Frequent Repositioning
- Minimize Friction and Shear
- Silicone Dressings

Recommendations for Prevention and Treatment

- Use of neutral pH cleanser for bathing
- Moisturize at risk skin after bathing
- Barrier Wipes and creams — IAD guidelines
Education

- Shift to shift resource for bedside nurse
- Know More By The Door
- Trial role as skin integrity maintenance nurse house wide

Know More By The Door

**Turn and Reposition System**

- To assist and maintain proper positioning
- Use for entire hospitalization (may be taken home)
- Microclimate body pads (white chux) are available in separate packs of 5
  - Located next to complete system
- Clean with Comfort Baths (do NOT wash in washing machine)
- Offload the sacrum with wedges
- Place wedges directly onto the mattress
- Use minimal layers—pt should lay directly onto white microclimate body pad

Education

- Traveling Road Show
- Emphasis on skin care products and prevention measures
- Presence on daily rounds
Education

- CHEX modules
- NDNQI pressure ulcer module
- Skin care resources page

Data collection Tools and Documentation

- Skin concern data collection form
- Weekly report on all skin concerns entered in online order system
- Quarterly prevalence audits-NDNQI
- Root Cause Analysis form for Stage III, IV, and unstagable pressure ulcer
Quality Improvement

- **PLAN**: Guided creation of team charter, roadmap, and flow of overall process
- **DO**: Developed measures to test the team’s improvement
- **STUDY**: Clinical interpretation of data and graphs, identify opportunities for improvement
- **ACT**: Provide support to team as improvement activities implemented

Number of skin integrity concerns entered Feb 2011 - Jan 2012

Number of Skin Concerns Entered

Pressure Ulcer Prevention in the ICU

![Graph showing pressure ulcer prevention in the ICU](image)
Outcomes

- PUP team decreased pressure ulcer incidence in PICU by over 65% from pilot work
- Increased knowledge of staff nurses
- Improved surveillance and early identification for at risk patients
- Estimated cost savings $1,722,210 over the last two years

Questions?????