

S.O.S. Neonatal Skin Risk Assessment

Team Membership:

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Acknowledgements:

**NICU Staff Nurses, Wound Ostomy Nurses, Marc Weiss, MD,
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Camille Robinson, BSN, Julia Havey, MSN, CCN**



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Background – The Problem

- The significance of pressure ulcer injury in terms of pain, emotional suffering and financial expense in the adult population has been recognized for decades. It has only been in recent years that the same concerns have been documented in the high-risk neonatal population.
- Prevalence rates for pressure ulcers in the high-risk neonate are reported to be as high as 25%, with general skin breakdown nearing 50%. Many factors place the neonate at risk, including extremely low birth weight (ELBW), immature skin, equipment/devices, immobility, and oxygenation/hemodynamic instability.
- This project was developed in response to 3 pressure ulcer incidents in our NICU.

Project Aim Statement

- We recognized the need for a skin risk assessment tool in our NICU.
- Steps taken included an extensive literature review; multi-disciplinary team participation (NICU staff RNS and NICU CNSs, physicians, clinical dietician, Wound Ostomy RN, national skin care experts, and IT specialists); tool selection (Neonatal/Infant Braden Q Risk Assessment Scale), modification and pilot; staff education; inter-rater reliability testing with written case scenarios and concurrent RN:RN bedside scoring; documentation modification (Nurse Generated Order Sets and EMR Plan of Care); and skin care product and equipment trials.
- This project took one year to complete.

Project Goals

- Elimination of pressure related injury in the NICU
- Implementation of a skin risk assessment tool
- Interventions for all “At Risk” infants:
 - Selection of pressure-reducing products
 - Changes in turning and positioning practices
 - Documentation to ensure continuity of care
 - Wound Ostomy RN consult as needed

Project Goals

- EPIC Builds
 - Tool incorporation into Nursing Doc Flowsheet
 - Link to tool and other skin care documents on Patient Care Summary
 - Customized “Alteration in Skin Integrity” PIE note
 - Nurse Generated Order Sets for skin care, ostomy and tracheostomy products
- Clinical Protocol Page on Intranet
 - Links to tool and skin care documents

Solutions Implemented

- Neonatal/Infant Braden Q Scale selected
 - Education provided to staff
 - Piloted tool with multiple modifications based on inter-rater reliability testing and nursing feedback
 - Assessments done at time of admission, daily, and if a change in condition (i.e. post-op, edematous)
- Nursing Skin Care PIE Note customized and completed each shift for infants “At Risk”
- New skin care products and pressure reducing equipment trialed and purchased
- Tool placed in EPIC Nursing Doc Flowsheet and as link on Clinical Protocol Page
- Electronic Nurse Generated Order Sets developed

Results of Inter-Rater Reliability Testing

Case Scenario Testing showed:

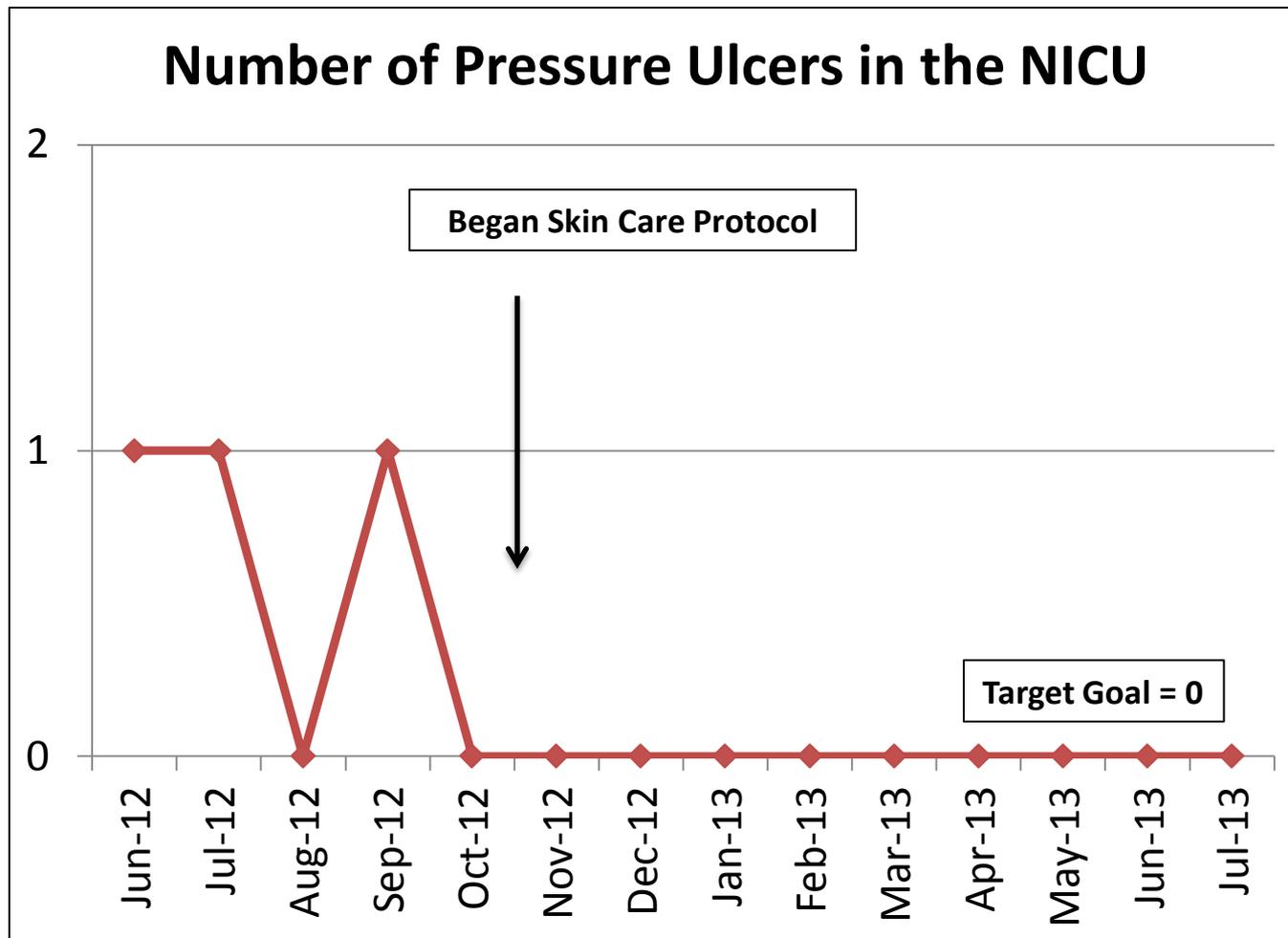
- Majority of patients were correctly categorized and would therefore receive the same intervention
- Several categories were scored “incorrectly” across several cases:
 - Activity
 - Moisture
 - Nutrition
- Nurses tended to over-state the documentation that was needed based on the score

Results of Inter-Rater Reliability Testing

RN:RN Bedside Scoring showed:

- N=99 patients
- # of times both nurses scored intact AT RISK = 42
- # of times both nurses scored NOT AT RISK = 52
- # of times score disagreements = 5
- Overall, 95% score agreement
- Analyzed data and solicited staff feedback; made final modifications to tool (5 modifications to tool during pilot period based on audits, staff feedback and inter-rater reliability testing)

Results after implementation of Neonatal/Infant Braden Q Scale



Analysis of Results

- Since implementation of the Neonatal/Infant Braden Q Skin Risk Assessment Tool, our NICU has not had any pressure related injuries.
- This project resulted in the nursing staff becoming more astute at recognizing patients at risk, generating a Wound Ostomy RN consult when necessary, and using pressure reducing aids.

Lessons Learned

- We found there are many skin assessment tools available for the neonate, but few skin *risk* assessment tools.
- Extensive literature reviews lead us to correspondence with the authors of the original Braden Q Scale (Martha Curley, Catherine Noonan, Sandra Quigley) and the Neonatal/Infant Braden Q Scale (Kathleen McLane, Carol Carrier).
- Proper selection and implementation of a tool for our NICU required multiple revisions to meet our specific unit guidelines for each condition being scored.
- Case scenarios and RN:RN bedside scoring proved to be extremely helpful in making tool modifications.

Next Steps

- Future plans include quarterly audits of the correct use of the Neonatal/Infant Braden Q Scale, interventions, and documentation.
- A plan to develop a comprehensive skin care protocol, including best practices for bathing, diaper dermatitis, generalized skin breakdown, and appropriate skin antiseptics.

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A review by Manager/AD/Medical Director/VP is recommended prior to submission.

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Date: August 2, 2013