TITLE
NEONATAL SKIN ASSESSMENT AND INJURY PREVENTION

SCOPE
Provincial: Neonatal Intensive Care Units

APPROVAL AUTHORITY
Vice President, Research, Innovation and Analytics

SPONSOR
NICU Committee, Maternal, Newborn, Child, and Youth Strategic Clinical Network

OBJECTIVES

- To promote best practice in the assessment and prevention of skin injuries including chemical burns, lacerations, tears, pressure injuries, epidermal stripping, extravasation injury, and moisture associated skin damage.

- To promote comfort of the neonate.

- To minimize skin injury.

- To maximize skin barrier to infection.

PRINCIPLES

- A comprehensive skin injury risk assessment with appropriate skin injury prevention strategies aims to identify at-risk neonates to prevent and/or minimize skin injury complications.

- Skin injury risk assessment includes risk assessment for pressure ulcers and other causative factors for skin injury.

- Best practice entails the use of standardized approaches, assessment tools, prevention strategies, and staff and family education to reduce the incidence and impact of neonatal skin injuries.

- Effective neonatal skin injury prevention programs employ a multidisciplinary approach, and recognize the family’s role as consistent primary caregivers in mitigating the risk of injury to
the infant. A complete neonatal skin injury prevention program also incorporates plans for short and long term evaluation.

APPLICABILITY

Compliance with this document is required by all Alberta Health Services employees, members of the medical and midwifery staffs, Students, Volunteers, and other persons acting on behalf of Alberta Health Services (including contracted service providers as necessary), working in Alberta Health Services (AHS) hospitals.

ELEMENTS

1. General Considerations

1.1 Care shall be based on individualized assessments using standard assessment tools.

1.2 All neonates shall be handled in a gentle manner at all times.

1.3 Neonatal skin assessment and injury prevention of all neonates admitted to Neonatal Intensive Care Units (NICU) units involves the following:

   a) completion of a Skin Injury Risk Assessment (SIRA);
   
   b) Skin Assessment;
   
   c) Assessment of Skin Injury; and
   
   d) documentation of SIRA, Skin Assessment, and Assessment of Skin Injury in the neonate’s health record.

2. Skin Injury Risk Assessment (SIRA)

2.1 Health care professionals shall perform a SIRA assessment on all neonates within two (2) hours of admission to NICU and/or when injury first noted.

2.2 All neonates in NICU shall have at a minimum a weekly SIRA.

2.3 A neonatal SIRA includes determination of a SIRA score using the Northampton Neonatal Skin Assessment Tool (NNSAT) (see Appendix A):

   a) the SIRA score shall be documented in the neonate’s health record; and
   
   b) the SIRA score may be documented on the Skin Injury Risk Assessment Record (see Appendix B).

2.4 The SIRA score determines the frequency of ongoing Skin Assessments for neonates in NICU. The following chart indicates the frequency of Skin Assessment based on the SIRA score.
### SIRA Score

<table>
<thead>
<tr>
<th>SIRA Score</th>
<th>Risk of Skin Complications</th>
<th>Skin Assessment Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-8</td>
<td>Low</td>
<td>Every shift</td>
</tr>
<tr>
<td>9-15</td>
<td>Moderate</td>
<td>6-8 hours</td>
</tr>
<tr>
<td>16-24</td>
<td>High</td>
<td>4-6 hours</td>
</tr>
<tr>
<td>Greater than 24</td>
<td>Extreme</td>
<td>2-4 hours</td>
</tr>
</tbody>
</table>

2.5 SIRA scores are reported:

a) during shift clinical handover, and

b) daily during multidisciplinary rounds for SIRA scores 16 and greater.

2.6 For SIRA scores eight (8) and below, general neonatal skin care guidelines will be implemented (see Appendix C).

2.7 For SIRA scores above eight (8), skin injury prevention strategies for neonatal patients shall be implemented as applicable (see Appendix D).

### Skin Assessment

3.1 The frequency of ongoing Skin Assessments shall be determined by the neonate’s SIRA score.

3.2 Skin Assessment shall include close examination for:

a) alteration in skin moisture (cracking, peeling, edema);

b) skin turgor;

c) temperature and any variation between sites;

d) lesions (rashes, blisters, hemangiomas);

e) perfusion;

f) congenital skin lesions (e.g. macular hemangioma, Mongolian spot);

g) color variations compared to usual skin colour (e.g. mottled, ecchymosis);

h) non-blanchable erythema;

i) changes in consistency either too soft (boggy) or too hard (induration);
j) pain;
k) any skin breakdown or open area, especially under a medical device;
l) assessment of the cord base with every diaper change or more frequently with umbilical lines looking for inflammation, drainage, or bleeding;
m) assessment of intravenous insertion sites hourly; and
n) assessment of diaper area with every diaper change.

3.3 The health care professional shall document the observations and results of each Skin Assessment in the neonate’s health record.

4. Assessment of Skin Injury

4.1 Skin injuries identified through the SIRA or a subsequent skin assessment shall be documented on the Neonatal Skin Injury Record (Appendix E) as well as in the narrative documentation area in the neonate’s health record.

4.2 Serious skin injuries are reported on the Reporting Learning System (RLS) and to the most responsible health practitioner, as per the AHS Reporting of Clinical Adverse Events, Close Calls and Hazards Policy.

4.3 Healing and status of the skin injury shall also be documented on the Neonatal Skin Injury Record (see Appendix E).

4.4 Reassessment of skin injury shall be completed daily or with dressing changes (if less than daily) using the Neonatal Wound Care Assessment Tool (see Appendix F):

a) neonates with wound(s) with a score greater than five (5) should have a referral to a wound specialist; and
b) neonates with deteriorating wound(s) should have a referral to a wound specialist.

4.5 Assessment of extravasation injury shall be assessed according to the Extravasation Injury Staging Tool (see Appendix G).

4.6 Assessment of moisture associated incontinence dermatitis (MAID) shall be with the Moisture Associated Incontinence Dermatitis Skin Care Guide (see Appendix H). For the purposes of this guideline treatment and application instructions in this document are for information only.

a) Neonates with deteriorating MAID should have a referral to a wound specialist.
5. Education

5.1 Families shall be provided with information on the identification of risk factors and suggested strategies to prevent skin injuries in their neonates.

5.2 NICU staff shall participate in ongoing skin injury awareness education as determined by their managers and AHS.

6. Evaluation

6.1 Data on the incidence of serious neonatal skin injuries should be collected through formal mechanisms such as the RLS or Trigger Tool.

6.2 Collected information shall be reviewed by the appropriate body which may include Quality Assurance Committee (see AHS Quality Assurance Review Handbook Appendix C).

DEFINITIONS

Family(ies) means one or more individuals identified by the patient as an important support, and who the patient wishes to be included in any encounters with the health care system, including, but not limited to, family members, legal guardians, friends and informal caregivers.

Health care professional means an individual who is a member of a regulated health discipline, as defined by the Health Disciplines Act (Alberta) or the Health Professions Act (Alberta), and who practises within scope and role.

Health Record means the Alberta Health Services legal record of the patient’s diagnostic, treatment and care information.

Most responsible health practitioner means the health practitioner who has responsibility and accountability for the specific treatment/procedure(s) provided to a patient and who is authorized by Alberta Health Services to perform the duties required to fulfill the delivery of such a treatment/procedure(s) within the scope of his/her practice.

Reporting Learning System (RLS) for patient safety means the electronic software program designated by Alberta Health Services to report related events resulting in adverse events, close calls or hazards.

REFERENCES

- Appendix A: Northampton Neonatal Skin Assessment Tool
- Appendix B: Skin Injury Risk Assessment Record (SIRA)
- Appendix C: Skin Care for All Neonatal Patients
- Appendix D: Skin Injury Prevention Strategies for Neonatal Patients
- Appendix E: Neonatal Skin Injury Record
- Appendix F: Neonatal Wound Care Assessment Tool
- Appendix G: Extravasation Injury Staging
• Appendix H: *Moisture Associated Incontinence Dermatitis Skin Care Guide*

• Alberta Health Services Governance Documents:
  o *Reporting of Clinical Adverse Events, Close Calls and Hazards Policy (#PS -11)*

• Alberta Health Services Forms:
  o *Neonatal Skin Injury Risk Assessment Record*
  o *Neonatal Skin Injury Record*
  o *Neonatal Wound Care Assessment*

• Alberta Health Services Resources
  o Northampton Neonatal Skin Assessment Tool
  o Skin Care for All Newborn Infants
  o Skin Injury Prevention Strategies for Neonatal Patients
  o *Moisture Associated Incontinence Dermatitis Skin Care Guide*
  o Quality & Health Care Improvement Quality Assurance Review Handbook (June, 2017)

**VERSION HISTORY**

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<thead>
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<tr>
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## APPENDIX A

### NEONATAL SKIN INJURY RISK ASSESSMENT TOOL

**Northampton Neonatal Skin Assessment Tool**

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<th>Category</th>
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<th>2</th>
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<td>Gestation</td>
<td>Term</td>
<td>Above 32 weeks</td>
<td>Below 32 weeks</td>
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<tr>
<td>Weight</td>
<td>More than 2kg</td>
<td>Between 1-2 kg</td>
<td>Below 1 kg</td>
</tr>
<tr>
<td>Age</td>
<td>Over 14 days</td>
<td>Between 7-14 days</td>
<td>Less than 7 days</td>
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<tr>
<td>Skin integrity</td>
<td>No damage</td>
<td>Small amount of damage</td>
<td>Extensive damage</td>
</tr>
<tr>
<td>Temperature control</td>
<td>Normal</td>
<td>Unstable during care</td>
<td>Generally poor control</td>
</tr>
<tr>
<td>Mobility</td>
<td>Normal</td>
<td>Restricted</td>
<td>Immobile</td>
</tr>
<tr>
<td>Nutritional status</td>
<td>Normal</td>
<td>Restricted</td>
<td>Severely Restricted</td>
</tr>
<tr>
<td>Medical Devices</td>
<td>No Device</td>
<td>Nasal cannula, enteral tube, splint, eye patches</td>
<td>Assisted Ventilation</td>
</tr>
<tr>
<td>Level of Care</td>
<td>Level 1</td>
<td>Level 2</td>
<td>Level 3</td>
</tr>
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</table>

Add up the scores and add on 2 for each of the following – Intravenous cannula in situ, arterial line in situ, site of extravasation, wound, apparent birth trauma, moisture associated dermatitis, electrolyte imbalance, cord clamp in situ.

**Final Score**

- **0-8** Low risk of skin complications. Recommend daily assessment.
- **8-15** Moderate risk of skin complications. Recommend 6-8 hourly assessment.
- **16-24** High risk of skin complications. Recommend 4-6 hourly assessment.
- **Above 24** Extreme risk of developing skin complications. Recommend 2-4 hour assessment.

**Mobility** – Normal; Restricted (full ROM not possible due to condition and/or medical devices); Immobile (No spontaneous movements)

**Nutritional Status** – Normal (Parenteral nutrition@ 90 mL/kg or enteral feeds @ 150 mL/kg); Restricted (Parenteral nutrition @70-90 mL/kg or enteral feeds 120-150 mL/kg); Severely Restricted (Parenteral nutrition < 70 mL/kg or enteral feeds < 120 mL/kg).

## Skin Injury Risk Assessment Record (SIRA)

If score is 0-8 assess every shift  
If score is 9-15 assess every 6-8H  
If score is 16-24 assess every 4-6H  
If score is greater than 24 assess every 2-4H

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<tr>
<th>Risk Factor</th>
<th>Score</th>
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<th>Date (yyyy-Mon-dd)</th>
<th>Date (yyyy-Mon-dd)</th>
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<td>Corrected Gestation</td>
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<td>N D E</td>
<td>N D E</td>
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<td>32 to 36+6 weeks</td>
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<td>Current Weight</td>
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<tr>
<td>Greater than 2 kg</td>
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<td>Less than 7 days</td>
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<tr>
<td>Skin Integrity</td>
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<td>Extensive damage</td>
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<tr>
<td>Temperature Control</td>
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<tr>
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<tr>
<td>Generally poor control</td>
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<tr>
<td>Mobility (See tool for definitions)</td>
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<tr>
<td>Normal</td>
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<tr>
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<tr>
<td>Immobile</td>
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<td>Nutritional Status (See tool for definitions)</td>
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<tr>
<td>Normal fluids for CGA</td>
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<td>Restricted fluids for CGA</td>
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<td>Severely restricted for CGA</td>
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</tr>
<tr>
<td>Medical Devices</td>
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</tr>
<tr>
<td>None</td>
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<tr>
<td>Nasal canulas, Small splint, Gastric tube</td>
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<td>Phototherapy eye mask</td>
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<tr>
<td>Assisted ventilation (includes CPAP)</td>
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<tr>
<td>Level of Care</td>
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</tr>
<tr>
<td>Normal</td>
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<td>Special (all NICU babies)</td>
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<td>IV Catheter in situ</td>
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<td>UVC, All Arterial Lines</td>
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<td>Site of Extravasation</td>
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</tr>
<tr>
<td>Wound</td>
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<td>Birth Trauma (until resolved)</td>
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<td>Diaper Dermatitis</td>
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<td>Electrolyte Imbalance</td>
<td>2</td>
<td></td>
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</tr>
<tr>
<td>Cord Clamp</td>
<td>2</td>
<td></td>
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</tr>
</tbody>
</table>

Total SIRA/ Nurse Initials  

2014/2017-05

Sample
APPENDIX C

SKIN CARE FOR ALL NEONATAL PATIENTS

- Do not remove vernix
- Handle babies carefully
- Assess the cord base with every diaper change
- Wash hands before handling cord stump
- Keep cord dry until it separates from the skin
- Keep diaper folded down and away from umbilical stump until cord base healed
- Use pH balanced cleanser, not soap. Bathe only 2-3 times per week
- Use soft cloths for cleaning and do not rub skin
- Use an emollient on dry flaky skin areas. Avoid the use of products with perfumes and dyes
- Check for urine / feces in diaper when neonate awake or a minimum of every four (4) hours and change diaper if soiled or wet
  - Teach parents how to diaper the area following perineal skin care principles
  - Use water or non-perfumed, non-alcohol diaper wipes to cleanse the skin
  - Use a gentle patting motion as compared to rubbing
- Do not retract foreskin on males
## SKIN INJURY PREVENTION STRATEGIES FOR NEONATAL PATIENTS

<table>
<thead>
<tr>
<th>At Risk – Northampton Skin Score greater than 8</th>
<th>Minimize or Eliminate Friction &amp; Shear</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lift baby with a hands or sheet to avoid friction and shear</td>
</tr>
<tr>
<td></td>
<td>Apply polyurethane film to body areas subject to excessive friction (elbow &amp; knees) when required</td>
</tr>
<tr>
<td></td>
<td>Only elevate head of bed 30° only for ventilated patients to reduce shear</td>
</tr>
<tr>
<td></td>
<td>Use soft care sheets for infants less than 29 weeks and less than 2 weeks of age; change when soiled or wet</td>
</tr>
<tr>
<td></td>
<td>Minimize or eliminate Friction &amp; Shear</td>
</tr>
<tr>
<td></td>
<td>Apply polyurethane film to body areas subject to excessive friction (elbow &amp; knees) when required</td>
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<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Optimize Tissue Perfusion &amp; Oxygenation</th>
<th>Report blood pressure outside of recommended parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimize Tissue Perfusion &amp; Oxygenation</td>
<td>Assess tissue perfusion every 2-4 hours</td>
</tr>
<tr>
<td>Optimize Tissue Perfusion &amp; Oxygenation</td>
<td>Monitor fluid / hydration status</td>
</tr>
<tr>
<td>Optimize Tissue Perfusion &amp; Oxygenation</td>
<td>Administer oxygen to maintain ordered oxygenation levels</td>
</tr>
<tr>
<td>Optimize Tissue Perfusion &amp; Oxygenation</td>
<td>Do not compromise blood flow to limb with encircling device</td>
</tr>
<tr>
<td>Optimize Tissue Perfusion &amp; Oxygenation</td>
<td>Do not encircle a limb with tape</td>
</tr>
<tr>
<td>Optimize Moisture Balance &amp; Protect from Feces</td>
<td>Use hypoallergenic emollients as needed to restore integrity to dry or cracking skin</td>
</tr>
<tr>
<td>Optimize Moisture Balance &amp; Protect from Feces</td>
<td>At the first sign of dryness, fissures or flaking, apply a thin layer of emollient every 12 hours</td>
</tr>
<tr>
<td>Optimize Moisture Balance &amp; Protect from Feces</td>
<td>Use single patient containers; maintain sterility of emollient in the container; and change container as per local guidelines</td>
</tr>
<tr>
<td>Optimize Moisture Balance &amp; Protect from Feces</td>
<td>Expose and dry intertriginous areas every 12 hours and assess for moisture associated skin damage</td>
</tr>
<tr>
<td>Optimize Moisture Balance &amp; Protect from Feces</td>
<td>Cleanse diaper area skin gently with water or pH balanced cleanser and non-woven cloth. Avoid excessive friction</td>
</tr>
<tr>
<td>Optimize Moisture Balance &amp; Protect from Feces</td>
<td>Use disposable commercial diapers, no tight diapering</td>
</tr>
<tr>
<td>Optimize Moisture Balance &amp; Protect from Feces</td>
<td>Follow incontinence associated dermatitis protocol when diaper dermatitis identified (see Appendix G)</td>
</tr>
<tr>
<td>Optimize Moisture Balance &amp; Protect from Feces</td>
<td>Consult prescribing practitioner for diaper dermatitis not improving after two (2) days of treatment</td>
</tr>
<tr>
<td>Optimize Moisture Balance &amp; Protect from Feces</td>
<td>Change ostomy bags immediately when leaking or when wafer is worn</td>
</tr>
<tr>
<td>Optimize Moisture Balance &amp; Protect from Feces</td>
<td>Change dressings that are saturated as needed</td>
</tr>
</tbody>
</table>

<p>| Minimize Pressure | Nurse on incubator / overhead warmer memory foam mattress with minimal linen between baby and mattress |
| Minimize Pressure | Minimize or eliminate pressure from medical devices by limiting contact and / or placing padding under areas of contact |
| Minimize Pressure | NCPAP – rotate mask size or mask / prongs to change pressure areas a minimum of every 6-8 hours or more frequently if skin breakdown is present. Assess for pressure areas every 4 hours |
| Minimize Pressure | Assess skin and ears under NCPAP cap once per shift and avoid the use of adhesives under the caps |
| Minimize Pressure | Use soft silicone dressing to damaged nasal area skin. Consider cushioning face from NCPAP ties with foam dressing |
| Minimize Pressure | Avoid positioning on or placing other pressure sources on reddened skin |
| Minimize Pressure | Reposition infant every 4 to 6 hours |
| Minimize Pressure | Resite saturation probes very 4 to 6 hours |
| Minimize Pressure | Loosen cord tie when hemostasis achieved |</p>
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<th><strong>Title</strong></th>
<th><strong>Effective Date</strong></th>
<th><strong>Document #</strong></th>
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<td><strong>April 18, 2018</strong></td>
<td><strong>PS-99-01</strong></td>
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<table>
<thead>
<tr>
<th><strong>Minimize Skin Injury</strong></th>
<th><strong>Epidermal Stripping &amp; Skin Tears</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Use hydrogel ECG leads and resite leads every 48 hours</td>
</tr>
<tr>
<td></td>
<td>- Use as little tape as possible for all babies</td>
</tr>
<tr>
<td></td>
<td>- Apply hydrocolloid dressing under medical device tapes unless using a commercial device designed for that purpose. Avoid removing hydrocolloid dressings for three (3) days as they adhere firmly to the skin</td>
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<tr>
<td></td>
<td>- Release adhesives with horizontal stretch (polyurethane &amp; hydrocolloid) or by slowly pulling adhesive on a horizontal plan (falling back on itself) while continuously wetting the skin with water, emollients or mineral oil at the skin-adhesive interface to release the bond. Support the underlying skin as tape is removed</td>
</tr>
<tr>
<td></td>
<td>- Secure ISC probes with soft silicone tape with foil cover on top</td>
</tr>
<tr>
<td></td>
<td>- Avoid the use of bonding enhancement agents</td>
</tr>
<tr>
<td></td>
<td>- Avoid adhesives when possible. Stop bleeding from skin punctures by application of gentle pressure with sterile cotton or gauze</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th><strong>Chemical Injury &amp; Toxicity</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Avoid use of skin products with perfume, dyes, or preservatives</td>
</tr>
<tr>
<td></td>
<td>- Avoid the use of solvents</td>
</tr>
<tr>
<td></td>
<td>- Use pH balanced cleansers, not soap</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th><strong>Reduce Infection Risk</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- May position antimicrobial foam disc around umbilical lines or a top of cord stump</td>
</tr>
<tr>
<td></td>
<td>- Cover open wounds</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Thermal Injury</strong></th>
<th><strong>Infants, 29 weeks &amp; &lt; 2 weeks old</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Limit contact of skin with cooling pad with care sheets for patients receiving therapeutic hypothermia</td>
</tr>
<tr>
<td></td>
<td>- Advocate for sedative use of active patients on therapeutic hypothermia needing low blanket temperatures to reduce subcutaneous fat necrosis</td>
</tr>
<tr>
<td></td>
<td>- Buffer skin with a layer of linen when using cooling packs</td>
</tr>
<tr>
<td></td>
<td>- Limit the use of transcutaneous monitoring on infants less than 29 weeks gestation and 2 weeks of age. If required, use the lowest effective temperature and resite the sensor probe without removing the adhesive ring. Refer to site specific guidelines</td>
</tr>
<tr>
<td></td>
<td>- Use chlorhexidine as skin disinfectant and do not allow “run off” from area cleansed. Remove residue with sterile water to avoid prolonged contact</td>
</tr>
<tr>
<td></td>
<td>- Use sterile drain sponge around base of umbilicus to absorb excess antiseptic before cleaning and replace after with a new sponge after cleaning</td>
</tr>
<tr>
<td></td>
<td>- Apply antiseptic to cord tissue not abdominal skin</td>
</tr>
<tr>
<td></td>
<td>- Avoid use of any tape on the skin</td>
</tr>
<tr>
<td></td>
<td>- Avoid blood work done by heel lance</td>
</tr>
<tr>
<td></td>
<td>- Decrease stickiness of saturation probe before application, or use neonatal &lt;1kg Velcro saturation probe</td>
</tr>
<tr>
<td></td>
<td>- Nurse in a highly humidified environment during first 7 to 10 days to promote development of natural moisturizing factor. Refer to site specific guidelines</td>
</tr>
<tr>
<td></td>
<td>- Refer to local neonatal wound expert if injury occurs (i.e., new or deteriorating wounds, unresolved moisture associated skin damage, yeast/bacterial infection/assistance with precaution planning)</td>
</tr>
<tr>
<td></td>
<td>- Use silicone based adhesive dressings when dressings required unless otherwise ordered</td>
</tr>
<tr>
<td></td>
<td>- Cleanse wounds with normal saline with body temperature</td>
</tr>
<tr>
<td></td>
<td>- Irrigate with an normal saline in 2 mL syringe with blunt needle “nozzle”</td>
</tr>
<tr>
<td></td>
<td>- Remove dressing and assess incision 48 hours after surgery unless drainage requires earlier dressing change</td>
</tr>
<tr>
<td></td>
<td>- Evaluate need for analgesia when providing wound care</td>
</tr>
<tr>
<td></td>
<td>- If polyurethane film dressing place on wound during surgery – remove according to surgeon’s recommendation. Change only if non-occlusive</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Surgical Patients</strong></th>
<th><strong>IV Management</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Use iv or non-umbilical arterial lines with sterile polyurethane dressing for ease of assessment &amp; infection prevention</td>
</tr>
<tr>
<td></td>
<td>- Assess iv and arterial access devices and surrounding area for injury every hour and prn</td>
</tr>
<tr>
<td></td>
<td>- Promptly report extravasation injuries using extravasation staging to determine extent of injury and management</td>
</tr>
<tr>
<td></td>
<td>- Assess limb every hour and prn for pressure area from limb boards and adhesives</td>
</tr>
<tr>
<td></td>
<td>- Use central lines for inotropes and hyperosmolar solutions</td>
</tr>
<tr>
<td></td>
<td>- Dilute concentrated medications</td>
</tr>
</tbody>
</table>
Appendix E

Neonatal Skin Injury Record

- Complete this within 2 hours of admission to NICU, and/or when injury first noted
- Mark location of injury on diagram with injury number and describe each injury by type and wound assessment score
- Multiple injuries may be noted per assessment, each injury requires its own number and type on diagram
- Each injury requires evaluation using the Neonatal Wound Care Assessment Tool
- Document interventions on progress notes

<table>
<thead>
<tr>
<th>Injury #</th>
<th>Type</th>
<th>Wound Assessment Score</th>
<th>Date/Time Identified (yyyy-Mon-dd) (hh:mm)</th>
<th>Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B=Bruising L=Laceration R=Red ST=Skin Tear O=Other (surgical, pressure, denuded skin, extravasation)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Signature</th>
</tr>
</thead>
</table>

Sample
# Neonatal Wound Care Assessment

- See back of the form for definition

<table>
<thead>
<tr>
<th>Site of Wound</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Injury Number</td>
<td></td>
</tr>
<tr>
<td>Date (yyyy-mon-dd)</td>
<td></td>
</tr>
<tr>
<td>Time (hh:mm)</td>
<td></td>
</tr>
<tr>
<td>Longest Length</td>
<td></td>
</tr>
<tr>
<td>0 = less than 2 cm</td>
<td></td>
</tr>
<tr>
<td>1 = 2.1 - 4 cm</td>
<td></td>
</tr>
<tr>
<td>2 = greater than 4 cm</td>
<td></td>
</tr>
<tr>
<td>Widest Width</td>
<td></td>
</tr>
<tr>
<td>0 = less than 1 cm</td>
<td></td>
</tr>
<tr>
<td>1 = 1.1 - 2 cm</td>
<td></td>
</tr>
<tr>
<td>2 = greater than 2 cm</td>
<td></td>
</tr>
<tr>
<td>Exudate</td>
<td></td>
</tr>
<tr>
<td>0 = none</td>
<td></td>
</tr>
<tr>
<td>1 = serous/serosang</td>
<td></td>
</tr>
<tr>
<td>2 = purulent</td>
<td></td>
</tr>
<tr>
<td>Periwound Skin</td>
<td></td>
</tr>
<tr>
<td>0 = healthy/intact</td>
<td></td>
</tr>
<tr>
<td>1 = red/irritated/white/other</td>
<td></td>
</tr>
<tr>
<td>Wound Bed Tissue</td>
<td></td>
</tr>
<tr>
<td>0 = healthy (no necrosis)</td>
<td></td>
</tr>
<tr>
<td>1 = less than 50% (necrotic)</td>
<td></td>
</tr>
<tr>
<td>2 = greater than 50% (necrotic)</td>
<td></td>
</tr>
<tr>
<td>3 = Presence of Prosthetic (foreign body/mesh, bone graft, bone flap, sternal wire)</td>
<td></td>
</tr>
<tr>
<td>Contamination with Feces</td>
<td></td>
</tr>
<tr>
<td>0 = no potential</td>
<td></td>
</tr>
<tr>
<td>1 = potential contamination</td>
<td></td>
</tr>
<tr>
<td>3 = actual contamination</td>
<td></td>
</tr>
<tr>
<td>Fascia/Bone</td>
<td></td>
</tr>
<tr>
<td>0 = closed/not visible</td>
<td></td>
</tr>
<tr>
<td>3 = open/visible</td>
<td></td>
</tr>
<tr>
<td>Total Score</td>
<td></td>
</tr>
<tr>
<td>Initials</td>
<td></td>
</tr>
</tbody>
</table>
Neonatal Wound Care Assessment

Wound Photography

- Photograph wound at initial dressing change, then once per week or if wound status deteriorates.
- Please have measuring tape adjacent to the longest dimension of the wound in the photograph.
- Ensure Form 07998 Consent to collection and use of a recording device or camera for Photographs, Video or Sound Recordings for Health Care Purposes is completed prior to photography of wound.

Date of Injury

- Operative date. Date other injury was recognized.

Wound Description

- In measuring wound size, use a paper with mm measurements and include scabs of all wounds except acute surgical wounds. Measure only the un-approximated areas of surgical wounds. If there is necrosis of skin that leads to a large scab, then include this in the measurement.
- Length – use the longest length
- Width – use the widest aspect of the wound perpendicular to the length.
- Exudate – serous/serosang is thin clear or yellow drainage ± blood; purulent is typically whitish in color also termed “pus”
- Wound Bed Tissue – Healthy refers to a red or pink wound bed. Less than 50% necrotic and greater than 50% necrotic refers to the percentage of wound bed that is yellow/black/brown in color. Presence of prosthetic may include but is not limited to foreign body/mesh/bone graft/bone flap/ternal wire in wound bed.
- Contamination with feces – areas with potential for fecal contamination are those within 3 cm of the anus or 1 cm from the stoma; areas with fecal contamination include wounds in the diaper area or wounds less than 1 cm from the stoma.
- Periwound skin – indicates if redness, irritated or white, or other skin manifestations which are not healthy are present
- Fascia/Bone – if the sternal bone, wires or the fascia of the abdomen is present.

Wound Scoring

Sum the 7 numbers in the column for the total NWAT score (0-16)

A score greater than 3 or a change in score of 2 between two consecutive evaluations suggests an Enterosomal Therapy (ET) nurse or wound specialist consult. Please feel free to consult the ET nurse or surgeon with concerns for any wound regardless of score.

A score of 3 in any category or a total score of greater than 9 constitutes a severe wound.
A total score of 4 - 8 is moderate wound.
A total score of 3 or less is mild wound.
## EXTRAVASATION INJURY STAGING*

| Stage 0 | Absence of redness, warmth, pain, swelling, blanching, mottling, tenderness or drainage. Flushes with ease. |
| Stage 1 | Absence of redness or swelling. Flushes with difficulty. Pain at site. |
| Stage 2 | Slight swelling at site. Presence of redness and pain at the site. Good pulse below site with CFT 1-2 seconds. |
| Stage 3 | Moderate swelling above or below the site. Blanching & pain at the site. Good pulse below infiltration site with 1-2 CFT below infiltration site. Skin cool to touch. |
| Stage 4 | Severe swelling above or below site. Blanching & pain at the site. Decreased or absent pulse. CFT greater than 4 seconds. Skin cool to touch with breakdown or necrosis at infiltration site. |

### MOISTURE ASSOCIATED INCONTINENCE DERMATITIS SKIN CARE GUIDE

<table>
<thead>
<tr>
<th>Skin Assessment</th>
<th>Goal of Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Intact skin • No erythema</td>
<td>Prevent skin breakdown; Provide barrier</td>
</tr>
<tr>
<td>• Intact skin • High risk for skin breakdown due to caustic stool (short gut, post pull through or ostomy closure) • With or without erythema</td>
<td>Prevent skin breakdown; Provide barrier</td>
</tr>
<tr>
<td>• Intact skin • Erythema • No Candida</td>
<td>Prevent skin breakdown; Treat Candida; Provide barrier</td>
</tr>
<tr>
<td>• Intact skin; • Erythema, • Evidence of Candida – satellite lesions</td>
<td>Prevent further skin breakdown; Provide barrier</td>
</tr>
<tr>
<td>• Denuded skin • No Candida</td>
<td>Prevent further skin breakdown; Treat Candida; Provide barrier</td>
</tr>
<tr>
<td>• Denuded skin • Evidence of Candida</td>
<td>Prevent further skin breakdown; Treat Candida; Provide barrier</td>
</tr>
</tbody>
</table>

*Adapted with permission from Perineal Skin Care Guidelines for all Diapered/Incontinent Patients. Copyright The Children’s Hospital of Philadelphia.*