Note: Guidance comments are written in *italics*

---

**NEONATAL SKIN AND WOUND CARE**

<table>
<thead>
<tr>
<th>Amendments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
</tr>
<tr>
<td>-------</td>
</tr>
</tbody>
</table>

Compiled by: Neonatal Unit Skin Care Team  
In Consultation with: Neonatal Unit Skin Care Team  
Ratified by: Dr P Reynolds, Clinical Management Group  
Date Ratified: March 2016  
Date Issued: March 2016  
Review Date: Feb 2021  
Target Audience: e.g. All Neonatal staff / All nursing staff / All Non-clinical staff / All Clinical Staff / All administrative staff  

Impact Assessment Carried Out By: Amie Cameron, Deputy Sister NICU  
Comments on this document to: Amie Cameron, Deputy Sister NICU
ASHFORD & ST. PETER’S HOSPITAL NHS FOUNDATION TRUST

NEONATAL SKIN AND WOUND CARE

See also: Reference to any other pertinent policies/procedures/guidelines

1. INTRODUCTION

2. PURPOSE

- To reduce incidence and severity of scarring.
- To minimise pain and discomfort.
- To reduce swelling.
- To provide protection and allow fluid to escape from tissues.
- To prevent further damage to vulnerable tissue.
- To ensure comprehensive assessment and documentation.
- To provide a record for infants notes.

3. DUTIES/RESPONSIBILITIES

Rationale

To reduce the risk of epidermal stripping

Action

* All staff must keep their fingernails short and ensure that all stoned rings are removed as in some cases handling alone may cause epidermal stripping (See hand washing guideline).

* Minimal use of adhesive tape (Do not use tape on the skin when securing umbilical lines)

* A layer of hydrocolloid (Duoderm) should be used under tape as appropriate e.g. for nasogastric tube fixation and under temperature probes.

* Careful removal of tapes and adhesive dressings following manufacturer’s instructions e.g. Remove film dressing by stretching the dressing parallel to the patient’s skin while stabilising the patient’s skin and IV catheter with the other hand.

* Use of adhesive removers to remove tapes if needed.(Appeel wipes)
Rationale

To reduce the risk of pressure necrosis

Action

• Timing of re-siting of probes will depend on the assessment of the individual infant’s skin condition and will be documented on the infant’s chart.

• Change infant position as tolerated to alleviate pressure and reduce risk for pressure sores.

• Consider the use of Duoderm under CPAP nasal prongs and mask on or under nasal septum and nasal bridge.

• Relieve pressure by Alternating mask and prongs, as tolerated.

Rationale

• To reduce the risk of extravasations

• Use of splints if necessary to support cannula site.

• To reduce the risk of extravasation injury

Action

• Intravenous cannulae and peripheral longlines should be secured with a sterile clear film dressing to ensure cannulation site is clearly visible. A small piece of gauze can be applied to support cannulae (UAC and UVC should be secured according to guidelines)

• A central line should be sited for the administration of total parental nutrition and infusions that contain glucose in concentrations greater than 12.5% and certain drugs e.g. morphine

• Positioning of limb to aid visibility of site of infusion. This may involve nursing infant in an incubator if temperature cannot be maintained with the limb exposed in a cot.

• Hourly assessment using the NESS observation scoring system for infusion site.

• Regular visual assessment of lines, ensuring tapes are secure.

• Check the pressure limit alarm on the pump is set correctly when taking over infant’s care. (see safety check list)
4. DISSEMINATION AND IMPLEMENTATION

Initiating Wound Care

Rationale

• To reduce incidence and severity of scarring.
• To minimise pain and discomfort.
• To reduce swelling.
• To provide protection and allow fluid to escape from tissues.
• To prevent further damage to vulnerable tissue.
• To ensure comprehensive assessment and documentation.
• To provide a record for infants notes.

Action

If an extravasation injury is suspected inform doctor immediately. Assist with Hyaluronidase treatment. *(See extravasation guideline, Appendix 1.)*

• Elevate and place limb in a comfortable position.
• Consider the need for Paracetamol.
• Complete wound care plan 1. Document type of injury, action taken and dressing applied. (Reference to the glossary and wound-care folder if necessary)
• Photograph the wound-site using ward camera or refer to medical photography if camera unavailable *(parental consent must be obtained either before the photograph is taken or before it is printed and put in the patient’s notes)*
• Affected limb not to be used for further cannulation.
• Inform attending consultant
• Complete an incident form
• Document in infants notes and inform parents.

*For recommended dressings see guidance notes in wound care folder*
Glycerine Trinitrate (GTN) treatment.

Rationale

- For use in poor perfusion of extremities, for example dusky toes or fingers
- Can be used after extravasation with certain agents such as, Dopamine, Dobutamine and Adrenaline.

Action

- Inform doctors of the problem
- Document findings in notes and start a wound care plan, showing areas affected. Take photographs if necessary (Gain consent from parents)
- Follow prescription as stated by doctors
- Discuss need for analgesia in response to pain score (PINC)
- Blood pressure should be monitored closely
- Close observation of affected limbs/fingers/toes

Nappy care

Rationale

- Facilitate prompt removal of stool/urine from contact with infant’s skin
- Avoid damage to skin from rubbing
- Protect the skin and reduce risk of rash
- Aid parents in contribution towards their infants care.

Preventative Measures

- Check infant’s nappy 3-4hrly and wash well with warm water.
- Pat dry area using cotton wool ensuring area is well dried.
- Identify infants at increased risk of developing nappy rash eg. Infants with loose, frequent stools or Neonatal Abstinence Syndrome, and provide frequent nappy changes.
- Update/educate parents on care required
Treatment of nappy rash.

- Having excluded yeast/fungal infection by visual inspection, apply Bepanthen with each nappy change. Consider more frequent nappy changes.
- Orabase can be used in severe cases
- Daily bathing as appropriate. Do not use any baby bathing products
- Consider the need for analgesia

Rationale

- To add moisture to promote healing and provide protection from stool and urine
- To prevent further skin damage
- To minimise pain and discomfort
**Nappy Rash/Sore Bottoms**

Is the area Red? Erythema?

Possible Cause?

Is there a Rash? White/red spots

Incorrect nappy care for infant?

Implement Parent craft/ education
Ensure Washing correctly, dry gently and thoroughly every 3-6 hours
Preventative cream **Bepanthen** with every nappy change for at least 48 hrs
No wet wipes or bathing products

NAS? Antibiotics?

Fungal Infection?

No improvement or Skin broken/bleeding **Orabase** with every nappy change until skin improves

Inform Doctors Swab

Treatment for at last 48hrs Clotrimazole cream Oral Nystatin as prescribed

*Ensure skin care plans are completed with skin break down.*
5. DISSEMINATION AND IMPLEMENTATION

When an Extravasation has occurred:

- Immediately stop the infusion/injection
- Elevate the limb
- Notify the neonatal doctor
- If necessary, aspirate as much of the residual drug as possible to minimise the injury caused by the residue of the drug
- **DO NOT FLUSH THE CANNULA**
- Fill in wound care plan 1

With a significant extravasation: (STAGE 3-4)

- Complete a DATIX form
- Take a photograph of the site. (Parental consent **MUST** be obtained before the pictures are printed and attached to the patients’ records **Treatment should be initiated without delay**. If consent is refused, then pictures must be deleted.)
- Use Hyaluronidase as soon as possible (IF INDICATED)

<table>
<thead>
<tr>
<th>HYALURONIDASE for extravasation injuries</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Materials</strong></td>
</tr>
<tr>
<td>0.5% Lignocaine/Xylocaine (no adrenaline)</td>
</tr>
<tr>
<td>1 vial Hyaluronidase (1500 units). Dilute with 1.5ml of normal saline as per neonatal formulary</td>
</tr>
<tr>
<td>250ml Normal saline</td>
</tr>
<tr>
<td>20 or 50cc syringe</td>
</tr>
<tr>
<td>2 x 10ml/ 50ml syringes</td>
</tr>
<tr>
<td>2 x 21G green needles 2 x 25G orange needles</td>
</tr>
<tr>
<td>23/25 gauge cannula</td>
</tr>
<tr>
<td>1 Galli pot</td>
</tr>
</tbody>
</table>
**Method (Aseptic technique, see policy)**

Remove the cannula
Give sucrose

1. Infiltrate local anaesthetic agent in and around the extravasation site (0.3ml/kg maximum.) Wait 3-5 minutes after infiltrating the anaesthetic agent

2. Using a 25G needle, infiltrate hyaluronidase in 0.3 – 0.5 ml aliquots into the subcutaneous tissue (1 vial is diluted with 1.5ml of normal saline) in 3-4 separate sites around the extravasation aiming at the centre of the site. Wait 3 – 5 minutes after administrating the hyaluronidase

3. Make multiple small exit wounds with a blue needle around the periphery of the area and within the affected area

4. * Flush 20-50ml of normal saline through the subcutaneous space in 3-5ml aliquots. The saline is irrigated through 4-5 of the exit wound sites, exiting as a shower through the remainder. (*The amount of fluid used depends on the size of the baby and extent of the wound)

5. Gentle massage of the limb can be done to express fluid through the injection site

6. Apply a sterile non-stick dressing and place the limb in a comfortable neutral position.
   - The site must be reviewed on a regular basis
   - Post procedural photographs are recommended
   - If necessary, the patient will be followed up by the plastic surgery service in conjunction with the neonatal service (community and outpatient follow up)

**GLYCERINE TRINITRATE (GTN) for extravasation injuries and ischaemic injuries**

Nitro-glycerine increases collateral circulation to the local area of peripheral venous ischemia and has been found to be useful to use after extravasation with certain agents. These include dopamine, dobutamine and adrenaline.

- Reduces peripheral vasospasm caused by indwelling umbilical arterial catheters and peripheral arterial lines
- A 18.5mg patch can be used on extremities

**Current indication for use:**

- Ischaemia secondary to arterial cannulation

**Side effects**

- Systemic vasodilatation and a rise in methaemoglobin level. If used for prolonged periods, measure metHb levels
• Hypotension

**Dosage and duration**

• **Transdermal patch**
  Apply a 18.5mg patch (delivers 5mg/day) to the affected area for 24 hours or less

• Review and reassess on a regular basis

• If required reapply a patch (if no improvements within a few minutes)

Approximately 4mm/kg applied topically is equivalent to 0.2 – 0.5 mcg/kg/min continuous infusion

**REMEMBER:**

Document all findings and actions, with timings, very carefully in the notes. Make drawings and take photos (parental consent needed) where possible.
MONITORING OF COMPLIANCE

Neonatal Initial skin care assessment.

Name………………………DOB………………Hospital number…………………………
NHS Number…………………………

Please mark clearly on the body map any bruises, marks, lacerations or other signs of skin damage.

Condition of skin on admission.
(Include detailed description of any damage seen refer to above body map)

If any ongoing skincare damage please begin Wound care plan 1.

Signed …………………………………   Date/Time………………………………………
Initial skin care assessment
Neonatal Unit

- Initial assessment should be carried out within 6 hours, (NICE, 2003)
- If skin injury is present, use care plan and body map to indicate location of damage, as well as daily assessment and documentation of wound process. (Wound care plan 1)
- Daily assessment should be carried unless ongoing skincare damage requires further attention (Daily assessment tool)
- All scores should be documented on the daily care plan.

Corrected Gestational Age

<table>
<thead>
<tr>
<th>Threshold</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;37 weeks</td>
<td>0</td>
</tr>
<tr>
<td>32-36+6 weeks</td>
<td>1</td>
</tr>
<tr>
<td>&lt;32 weeks</td>
<td>2</td>
</tr>
</tbody>
</table>

Visual examination of skin

<table>
<thead>
<tr>
<th>Condition</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>0</td>
</tr>
<tr>
<td>Localised damage</td>
<td>1</td>
</tr>
<tr>
<td>Extensive damage</td>
<td>2</td>
</tr>
</tbody>
</table>

Weight

<table>
<thead>
<tr>
<th>Threshold</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;2Kg</td>
<td>0</td>
</tr>
<tr>
<td>1-2Kg</td>
<td>1</td>
</tr>
<tr>
<td>&lt;1Kg</td>
<td>2</td>
</tr>
</tbody>
</table>

Level of care

<table>
<thead>
<tr>
<th>Condition</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special care</td>
<td>0</td>
</tr>
<tr>
<td>High dependency</td>
<td>1</td>
</tr>
<tr>
<td>Intensive care</td>
<td>2</td>
</tr>
</tbody>
</table>

Age

<table>
<thead>
<tr>
<th>Threshold</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;14 days</td>
<td>0</td>
</tr>
<tr>
<td>7-14 days</td>
<td>1</td>
</tr>
<tr>
<td>&lt;7 days</td>
<td>2</td>
</tr>
</tbody>
</table>

Nutritional status

<table>
<thead>
<tr>
<th>Condition</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal fluids for age</td>
<td>0</td>
</tr>
<tr>
<td>Restricted fluids (by day 1)</td>
<td>1</td>
</tr>
<tr>
<td>Severely restricted (&gt;1 day)</td>
<td>2</td>
</tr>
</tbody>
</table>

Temperature control

<table>
<thead>
<tr>
<th>Condition</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>0</td>
</tr>
<tr>
<td>Unstable with handling</td>
<td>1</td>
</tr>
<tr>
<td>Generally poor control</td>
<td>2</td>
</tr>
</tbody>
</table>

Additional factors

<table>
<thead>
<tr>
<th>Condition</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phototherapy</td>
<td>2</td>
</tr>
<tr>
<td>UAC arterial line in situ</td>
<td>2</td>
</tr>
<tr>
<td>Nappy rash /Other rash</td>
<td>2</td>
</tr>
<tr>
<td>Vapotherm/CPAP/ventilator</td>
<td>2</td>
</tr>
<tr>
<td>Ostomy In situ</td>
<td>2</td>
</tr>
<tr>
<td>Apparent birth trauma</td>
<td>2</td>
</tr>
<tr>
<td>Oedema present</td>
<td>2</td>
</tr>
<tr>
<td>Wound present</td>
<td>2</td>
</tr>
<tr>
<td>On inotropes</td>
<td>2</td>
</tr>
<tr>
<td>Cord clamp in situ</td>
<td>2</td>
</tr>
<tr>
<td>IV infusions</td>
<td>2</td>
</tr>
<tr>
<td>Extravasation injury</td>
<td>2</td>
</tr>
</tbody>
</table>

Mobility

<table>
<thead>
<tr>
<th>Condition</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>0</td>
</tr>
<tr>
<td>Unstable with handling</td>
<td>1</td>
</tr>
<tr>
<td>Generally poor control</td>
<td>2</td>
</tr>
</tbody>
</table>

- 0-8 Low risk of complications, daily assessment needed.
- 9-16 Moderate risk of skin complications 6-8 hourly assessment/ repositioning recommended.
- 17-24 High risk of complications 4-6 hourly assessment/ repositioning recommended.
- 24 at extreme risk of developing skin complications 2-4 hourly assessment/ repositioning recommended.
### Neonatal Intensive Care Unit Clinical Guideline

#### Daily ongoing skin care assessment form.

<table>
<thead>
<tr>
<th>Date/Time</th>
<th>Category</th>
<th>Age</th>
<th>Weight</th>
<th>Temperature</th>
<th>Stability</th>
<th>Visual</th>
<th>Diet</th>
<th>Medication</th>
<th>Score</th>
<th>Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>&gt;37 weeks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>32-36+6 weeks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>&lt;32 weeks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>&gt;2Kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1-2Kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>&lt;1Kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>&gt;1-14 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1-14 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>&lt;7 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Signed …………………………………... Date/Time………………………………………...**
<table>
<thead>
<tr>
<th>Temperature control</th>
<th>Mobility</th>
<th>Visual skin assessment</th>
<th>Level of care</th>
</tr>
</thead>
</table>
| **Stable:** Infant nursed in a cot, maintaining stable temperature. | **Normal:** infant makes frequent changes in their own position, they are moving all extremities. | **Normal:** There is no bruising, marking or break down of skin. | Special care:  
- O2 by Nasal cannula  
- Feeding by NGT, NJT or gastrostomy  
- Continuous monitoring  
- Stoma  
- IV cannula  
- Phototherapy |
| **Unstable:** Labile temperature with cares or intervention. | **Reduced:** Infant makes slight changes in body position. Is oedematous and on sedation. | **Localised:** one specific area due to known cause; i.e. cord clamp, wires across skin, extravagation injury, forceps injury etc. | High dependency:  
- Non-invasive respiratory support  
- TPN, continuous infusions of drugs  
- Longline/ central venous line  
- Tracheostomy  
- Urine catheter  
- Ventricular taps  
- Barrier nursed |
| **Poor:** A cooling or septic infant, Extreme preterm needing high humidity and increased incubator temperatures. | **Immobile:** Paralysed. | **Extensive:** skin breaking down in large areas due to extreme prematurity, bruising etc. | Intensive care:  
- Mechanic ventilation via ETT  
- BOTH non- invasive ventilation and TPN  
- Day of surgery ( including ROP)  
- Presence of UVC and UAC, PAL  
- Insulin and prostaglandin infusion  
- Repogal tube  
- Chest drain  
- Exchange transfusion  
- Cooling |

**Score 0 - 8 Low risk**  
Assess weekly or as condition changes. Provide standard care for new-born’s.

**Score 9 – 16 Moderate risk**  
6-8 hourly reassessments. Reposition and provide cares 6 – 8 hourly. Speak to skin care team if any concerns.

**Score 17 – 24 High risk**  
4 – 6 hourly assessments. Reposition regularly or as condition allows, provide cares regularly. Use appropriate developmental aids.

**Score 24 and above Extremely high risk**  
2 – 4 hourly assessment, Reposition regularly or as condition allows, provide cares regularly. Use appropriate developmental aids.
Wound Care Plan 1
Neonatal Unit

Description of injury
(Include specific details such as location, potential cause, colour, measurements of damaged area)


Diagram of injury

Does the wound require medical photography? If so, parental consent required (form on trust-net)

Initial treatment plan
(Include details of dressings/creams to be used and frequency of reassessment and changes)

Signed......................... Date.............

Please fill in details below when re-assessing or treating wound. If new care plan needed use continuation sheet to formulate new plan and document progress.

<table>
<thead>
<tr>
<th>Date</th>
<th>Action taken</th>
<th>Description of wound</th>
<th>New plan needed?</th>
<th>Signed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Wound Care Plan 2

(Continuation Sheet)

Neonatal Unit

New treatment plan
(Include details of dressings/creams to be used and frequency of reassessment and changes)

<table>
<thead>
<tr>
<th>Date</th>
<th>Action taken</th>
<th>Description of wound</th>
<th>New plan needed?</th>
<th>Signed</th>
</tr>
</thead>
</table>

Signed............... Date.............
Definitions of Wound Type

**Necrotic**: Also known as eschar. Dead tissue which may appear hard, dry and black. Dead connective tissue may appear grey. The presence of dead tissue in wounds delays healing. Necrotic tissue may soften by autolysis and bacterial liquefaction.

**Sloughy**: Slough is formed by an accumulation of dead cells in the wound exudate. It is light yellow/cream in colour and must not be confused with infected tissue and pus.

**Granulating**: Healthy red tissue which occurs during the proliferative phase of healing. Fibroblasts migrate to the wound to produce collagen fibres. The tissue is well vascularised and bleeds easily.

**Epithelialising**: Process by which the wound surface is covered by new epithelium. This begins when the wound has filled with granulation tissue. The tissue is pink, almost white, and only occurs on top of healthy granulation tissue.
6. EQUALITY IMPACT ASSESSMENT

An Equality Impact Assessment must be carried out for every policy document, referenced in the main body of the document and included as an appendix.

7. ARCHIVING ARRANGEMENTS

Please select from the following:

This is a Trust-wide document and archiving arrangements are managed by the Quality Department, who can be contacted to request master/archived copies.

Or

Explain how the document archiving system works in the area to which this document relates.
8. REFERENCES AND BIBLIOGRAPHY

Reference List