



CLINICAL PRACTICE GUIDELINE

Guideline coverage includes NICU KEMH, NICU PCH and NETS WA

Skin Care Guideline

This document should be read in conjunction with the [Disclaimer](#)

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Key Points

- All infants admitted to the NICU must have both a skin assessment condition score, and a pressure injury risk assessment score completed once per shift. Use the Neonatal Skin Condition Score (NSCS)^{1,2} and the modified Glamorgan Scale (GS)³ for pressure injury assessment.
 - [NSCS](#): An assessment is to be documented within the first 4 hours of admission. Then assess with the first 'all cares' each shift and document on the Neonatal Observation Chart (MR489/491) in the comments section.
 - [GS](#): Document the GS score on the Neonatal Observation Chart (MR489/491) in the comments section at change of shift handover with other checks (ID, emergency preparedness equipment).
- When performing skin assessments ensure adherence to standard infection control measures to reduce transmission of infection (hand hygiene, environmental cleaning)
- Be aware of and identify infants with environmental, treatment or management factors that may alter skin integrity
- Be aware of and identify infants with risk factors for pressure injury from unrelieved pressure over bony prominences/dependent body parts and monitoring/medical devices.
- In the event of skin breakdown commence a Wound Assessment and Management Tool (MR492) and document in the progress notes.
- In the event of a pressure injury, a **Pressure Injury Alert sticker** is to be completed and placed in the progress notes. A Neonatal Wound Assessment and Management Tool (MR 492) is to be commenced and CNC notified.

Skincare Practices in the NICU

All infants are prone to developing skin injury or immobility-related pressure injury from medical devices. This is due to unrelieved or excessive pressure on dependent body parts, especially bony prominences⁵; prematurity (limited subcutaneous fat, underdevelopment of epidermis and dermis), and/or medical condition that restricts repositioning schedules and options^{1,6}. It is essential to perform and document an assessment of every infant's skin integrity on admission and for each day of their hospital stay⁷.

Routine hygiene is attended as per the [Care, Hygiene and Clothing guideline](#), this includes minimal cleanse, bathing and/or the use of anti-staphylococcal treatment for infants at risk.

Coconut Oil is to be used to maintain and improve skin integrity in preterm infants born <30 weeks gestation, and continued until 37 weeks corrected gestational age or discharge from the unit. Refer to [Coconut Oil](#) policy.

All health care professionals are responsible for maintaining an infant's skin integrity and for the prevention, identification, treatment and documentation of pressure injury due to medical devices for the infants in their care.

Using a Skin Assessment Tool¹ and a Pressure Injury Risk assessment Tool for routine assessment may promote consistency in scoring and in recognising skin problems^{1,8}. Prevention of pressure injury is incorporated into all NICU Guidelines (see [Neonatal Skin Care Quick Reference Guide](#) below). Trigger factors^{1,5,9} should be taken into account when performing assessments:

Neonatal Skin Condition Score Tool

Neonatal Skin Condition Score (NSCS)					
DRYNESS		ERYTHEMA		BREAKDOWN	
1	normal, no sign of dry skin	1	no evidence or erythema	1	none evident
2	dry skin, visible scaling	2	visible erythema, <50% body surface	2	small, localized areas
3	very dry skin, cracking/fissures	3	visible erythema, ≥50% body surface	3	extensive
Score 1-3 for each category: Perfect Score = 3, worst score = 9					

(This tool is designed to facilitate assessment of skin condition. It is copyright of Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) and was developed for the AWHONN/NANN Neonatal Skin Care Research-Based Practice Project (2007) and is reproduced with their kind permission)

Glamorgan Pressure Injury Risk Assessment (Modified)

Performing regular assessments identifies infants at high risk and early detection of pressure injury. Omission of a daily pressure injury assessment can lead to poor detection of risks associated with hospitalisation resulting in an inadequate level of risk identified. NSQHS Standard 8 - Prevention and Management of Pressure Injuries specifies the need for the use of screening tools and risk assessment frameworks. Application of reliable risk assessment tools provides a useful means for identification of at-risk infants so that appropriate and timely prevention strategies can be implemented. Pressure from medical devices and the degree of immobility are the 2 key trigger factors which place infants at risk^{3,10}.

Assess using the GS and document the total score; **however scores for individual risk factors should also be acted on.** Most infants admitted to NICU will score 10 or higher therefore the risk of developing pressure injuries should not be underestimated and action should be taken to prevent any occurrence.. This action may include normal nursing care, such as frequent changes of position (document how often position is changed), lying the infant on a sheepskin, gel mattress or on an air-filled mattress. Changing the position of pulse oximeter probes and other monitoring devices regularly, ensuring the infant is not lying on objects in the bed such as cables, tubing or monitoring devices. See [Neonatal Skin Care Quick Reference Guide](#) for recommended nursing care.

Glamorgan Scale Assesses Risk For Pressure Injury It is not necessary to disturb the baby to calculate the GS. Write score on observation chart under comments section.		
Trigger (Risk) Factors	Risk Assessment	Score
<ul style="list-style-type: none"> • GA <32 weeks • Vascular compromise or poor tissue perfusion (HIE, Cooling, inotropes). • Impaired neurological or sensory perception. • Immobility due to illness and/or sedation, muscle relaxation. • Sepsis, dehydration, oedema. • Ventilation - ETT and nasal CPAP. • Surgery. Monitoring devices/Cables/Leads <ul style="list-style-type: none"> • ETT, nasal CPAP, HHF, PBF • TCM, SaO2, ECG leads, temp probes. • Medical taping (IV lines/splints, gastric tubes, phototherapy eye pads) • Mattress surface 	1. Infant cannot be moved without great difficulty or deterioration in condition (a ventilated infant who de-saturates with position changes or in certain positions. Poor peripheral perfusion: cold extremities, capillary refill > 2 seconds / cool mottled skin)	20
	2. Infant unable to change his/her position without assistance/reduced body movement (an infant may be unable to move themselves, but carers can move the infant and change his/her position without deterioration in vital signs).	15
	3. Some mobility, but reduced for age (infant has some ability to change their own position but this is limited / restricted (infants on CPAP, nested, IV splints & fluids).	10
	4. Normal mobility for age	0
5. RISK ASSESSMENT of equipment / objects / hard surface pressing or rubbing on skin. This is either 'yes' or 'no' (most will score 'yes' so 15)		
Any object pressing, rubbing or taped on the skin for long enough or with enough force can cause pressure damage if not removed as per suggested action below. Infants scoring 20 in the above risk assessment are particularly at risk.		15
ACTION TAKEN Ensure plan of care is implemented / reviewed as per Neonatal Skin Care Quick Reference Guide Commence Wound Assessment and Management Plan MR492 if there are any areas of concern.		Total score Max 35 (add score from 1- 4 plus score from 5)

Risk score	Category	Suggested action following Glamorgan Pressure Injury Risk Assessment (Neonatal Skin Care Quick Reference Guide)
0	Not at risk	Continue to reassess daily and every time condition changes.
10+	At risk	Inspect skin at least twice a day. Relieve pressure by repositioning at least every 2-4 hours. Use a size and weight appropriate pressure redistribution surface if necessary. Re-site monitoring devices 2-4 hours.
15+	High risk	Inspect skin with each repositioning. Reposition infant / equipment/ devices at least every 2- 4 hours. Relieve pressure before any skin discolouration develops. Use a size and weight appropriate pressure redistribution surface.
20+	Very high risk	Inspect skin at least hourly <u>if condition allows</u> . Move or turn if possible, before skin becomes discoloured. Ensure equipment / objects are not pressing on the skin. Reposition equipment / devices at least every 2 hours <u>if condition allows</u> . Consider using specialised pressure relieving equipment if <u>unable</u> to reposition.

Pressure Injury Relieving Equipment

Refer to [Appendix 1](#)

Pressure Injury

On detection of any pressure injury a Pressure Injury Alert sticker is to be completed and placed in the progress notes. A Wound Assessment and Management form MR 492 is also to be commenced.

Wound Assessment and Management Tool

On detection of any skin breakdown or pressure injury the following steps should be followed.

- Identify the causative factors, aetiology e.g. device (CPAP prongs, saturation probe), decreased mobility (sedated, muscle weakness) or poor tissue perfusion (extreme prematurity, cooling).
- History and duration of injury if known.
- Check pain score and consider pain relief. Continue pain assessment until pain resolved.
- Inform Coordinator, Medical team and CNC.
- Complete a Neonatal Wound Assessment and management Plan MR492 and formulate a plan for the management of the wound and a dressing if needed - in conjunction with appropriate team i.e. Stoma Therapist, Plastics or Surgical Team.

Complete clinical incident (Datix CIMS) and document in progress notes that MR492 commenced.

Review nutritional status of patient with Dietician and Medical Team.

Inform Parent/Carer of the presence of the pressure injury, potential cause and the management plan, give parent information sheet.

Nappy Rash/Perineal Excoriation

Provide a Barrier and Prevent Further Breakdown

Routine nappy care	Standard perineal hygiene: use warm water ± mild soap and unsterile cotton wool balls or Redi-wipe®/Tru-wipe®/Waterwipes. Allow to air dry or pat skin dry. Take care not to drag the skin during removal of faeces and urine or whilst drying. Change nappies 4-6 hourly.	
	Infants that have calories added to their breast milk are to have Secura cream applied to the anal/perineal area at each nappy change to protect the skin.	If skin intact discontinue when tube empty
If Candida suspected take skin swab. Medical review. Treat with a topical antifungal and if candida confirmed or clinically evident treat with oral and topical antifungal for a minimum of 5 days.		
Mild nappy rash	After cleaning, apply a thick layer of Sudocrem as a barrier over the entire area at each nappy change, change nappies at least 4 hourly.	
Moderate – Severe nappy rash	KEMH After cleaning, apply Cavilon spray BD, allow drying. Apply a thick layer of Conveen Critic Barrier over the entire area at each nappy change, change nappies at least 4hourly. Subsequent nappy changes, try to only remove stool, take care not to drag skin during cleaning. Try to leave barrier intact but if skin showing through barrier layer, use Conveen Easi-Cleanse to remove barrier taking care not to drag the skin. Reapply barrier and Conveen Critic Barrier as needed.	PCH After cleaning, use Wellard no sting skin barrier wipe and allow to dry. Apply a thick layer of Conveen Critic Barrier over the entire area at each nappy change, change nappies at least 4hourly. Subsequent nappy changes, try to only remove stool, take care not to drag skin during cleaning. Try to leave barrier intact but if skin showing through barrier layer, use aqueous cream to remove barrier taking care not to drag the skin. Reapply barrier and Conveen Critic Barrier as needed.
	Nappy rash with skin breakdown	Inform CNC for individualised wound management plan.

Neonatal Skin Care Quick Reference Guide

Skin Assessment	
<ul style="list-style-type: none"> Complete Neonatal Skin Condition Score (NSCS) and Glamorgan Score (GS) within 4 hours of admission and then each nursing shift. Identify and document risk factors for skin injury in progress notes (GA <32/40, TEWL, HIE/Cooling, muscle relaxed +/- sedated, post-operative, oedema, HFO, poor perfusion/low blood pressure, vascular compromise). Instigate skin and pressure injury prevention strategies as below. 	
Skin and pressure injury prevention	Comments
<ul style="list-style-type: none"> Muscle-relaxed/sedated/vascular compromise - use pressure injury prevention devices and equipment ⇒⇒ 1st sheepskin, 2nd gel mattress, 3rd alternating air mattress. Other positioning aids include: gel wedges, positioning bolsters, gel protectors, fat pads, ear pads, comfeel applied to pressure points. Nasal CPAP - hats/mask/septal comfeel - use Bubble Flow CPAP - Nursing checks and see NICU CPAP guideline. ETT nasal/oral - maintain alignment. ECG leads - check around ECG site daily, replace leads every 7 days +/- after bathing. TCM - <27/40 and <14 days - set transducer temp at 41°C/rotate between 2 sites 2hourly. All others resite 3-4hourly or as directed* Temp probe - do not position underneath infant, resite at least every 24 hours. SaO₂ - resite 2-4 hourly, check site integrity at change time. Do not over tighten strappit. IV splints/taping - see taping guide below, check site and document PIVAS score hourly, maintain anatomical alignment of limb. Do not over tighten tape. Brainz monitor - assess sites 3-4 hourly. NAS- consider use transparent dressings to prevent friction injury on pressure points e.g. comfeel over knees, and sheep skin. PBF/NGT - do not position tubing underneath infant. Phototherapy eye pads – remove at care times/parent visits, check for exudate #. Do not over tighten. 	<p>*extra precautions with <32/40, TEWL, HIE/Cooling, muscle relaxed +/- sedated, post-operative, HFO, poor perfusion/low blood pressure, vascular compromise.</p> <p><u>Pressure points most at risk</u> Occiput - prolonged contact with mattress Ears - prolonged contact with mattress, CPAP hat Nose - prolonged contact with mattress (prone), nasal CPAP prong, nasal ETT Knees - prolonged contact with mattress (prone), symptomatic NAS Heels - prolonged contact with mattress Shoulder blades - prolonged contact with mattress.</p> <p><u>Medical devices and pressure injury</u> All staff must be trained in the correct usage of medical devices used in the NICU, as well as injury prevention strategies. See full NICU Guidelines.</p> <p>Commence MR492 if skin breakdown occurs.</p> <p># Cleaning the eyes should not be done routinely. If eye toilet necessary use sterile cotton wool & sterile Na Cl.</p>
Skin breakdown	
<p>Notify CNC. Complete Wound Assessment and Management Plan MR492, communicate the plan for management of the wound in conjunction with appropriate team: Stoma Therapist, Plastics or Surgical.</p>	
Skin antisepsis/skin cleaning	Comments
Mechanism of injury chemical and irritant	
<p><u>Aseptic technique (all procedures except clean procedures below)</u> ≤ 27 weeks - use Povidine-iodine 10% swab. > 27 weeks - use 1% Chlorhexidine solution.</p> <p><u>Clean procedure (venepuncture, heel prick)</u> ≤ 27 weeks - use Povidine - iodine 10% swab. > 27 weeks - use Chlorhexidine 1%/alcohol 70% swab.</p>	<p>Wash off excess solution after the procedure with sterile water or saline See Aseptic Technique in the NICU</p> <p>Use 2% Chlorhexidine swab for cleaning IV bungs.</p>

Tapes/adhesives/dressings Mechanism of injury stripping, pressure, infection	Comments
<p>IV TAPING FOR INFANTS ≤ 27 WEEKS (avoid tegaderm and leucoplast tape)</p> <ul style="list-style-type: none"> ▪ 3 small Leukostrips. ▪ Small sized splint. ▪ 3 large Leukostrips. <p>IV TAPING FOR INFANTS > 27 WEEKS</p> <ul style="list-style-type: none"> ▪ 3 small Leukostrips. ▪ Appropriately sized splint. ▪ Tegaderm. ▪ Leucoplast tape (should be backed with cotton wool if in direct contact with skin). <p>Tape removal - use SKIN-PREP® protective wipe or ConVaCare® adhesive remover wipe.</p>	<p>Use the ≤ 27-week strapping policy If there are concerns regarding skin integrity irrespective of the age.</p> <p>IV bungs must be flushed with 0.5ml of Normal Saline every 4-6 hours to ensure patency.</p> <p>Document the date of insertion and position of cannula on M489/491.</p> <p>Caution with use around mucous membranes.</p>
Intravenous infiltration Mechanism of injury chemical, infection	Comments
<p>Tape IV so site visible.</p> <p>Observe the IV site at least hourly and document PIVAS scores.</p> <p>Pay attention to pump pressures.</p> <p>Set initial pressure limit at 50-100cm H₂O above baseline and monitor fluctuations closely.</p>	<p>Most at risk VLBW, IV TPN, calcium, sodium bicarbonate or inotropes.</p> <p>See Extravasation Injuries and Medication Protocols Hyaluronidase / Phentolamine</p>
TEWL Mechanism of injury infection	Comments
<p>Commence humidity <32/40 or less than 1500g BW. Babies <27/40 commence in 80% humidity. Infants at high risk of skin breakdown.</p> <p>Commence weaning humidity during the first week of life when the infant is able to maintain a per axilla temperature within normal range. Wean at 5% intervals over 7days to ~ 50%.</p>	<p>Humidity reduction should be alternated with incubator temperature reduction until suitable temp regulation is maintained.</p> <p>.</p>
Perineal excoriation / nappy rash Mechanism of injury chemical, infection, pressure	Comments
<p>Change nappies no longer than 4-6hourly, use warm water and unsterile cotton wool balls or 'redi-wipe'. If Candida suspected take skin swab.</p> <ol style="list-style-type: none"> 1. Mild nappy rash - use Sudocream as a barrier each nappy change, change nappies 2-4hourly. 2. Moderate nappy rash - use Cavilon spray BD and Sudocream, change nappies 2-4hourly. 3. Severe nappy rash* (skin breakdown) - inform CNC. 	<p>Commence Wound Assessment and Management Plan MR492 if skin breakdown occurs.</p> <p>*See PERINEAL SKIN CARE GUIDELINE Nappy Rash Excoriation</p>
Emollients/barrier creams (skin moisturiser)	Comments
<p>Coconut Oil is to be used to maintain and improve skin integrity in preterm infants born <30 weeks gestation, and continued until 37 weeks corrected gestational age.</p>	<p>Contact CNC if concerned about skin integrity.</p>
Minimal cleanse/ Bathing Mechanism for injury/ infection	Comments
<p>Regular bathing or washing of the skin using lotions and soaps in the sick or preterm infant has been shown to alter</p>	<p># cleaning the eyes should not be done</p>

<p>the skin pH. The acid mantle and natural flora of the skin is an important defence against infection.</p> <p>Refer to the Cares, Hygiene and Clothing guideline for washing and bathing details.</p>	<p>routinely. If eye toilet necessary use sterile cotton wool & sterile Na Cl.</p>
<p>Anti-staphylococcal Procedure</p>	<p>Comments</p>
<p>Used on infants in incubators on day 1 then on alternate days.</p> <p>Used on infants in open cots on day 1 then on alternate days until having routine baths.</p> <p>Refer to Antistaphylococcal Procedure.</p>	<p>Antistaph should never be applied to excoriated or ulcerated areas of skin.</p>

References

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Related WNHS policies, procedures and guidelines

Neonatal Medication Protocol – [Coconut Oil](#)
 Neonatal Clinical Guidelines – [Antistaphylococcal Procedure](#)
 - [Care, Hygiene and Clothing guideline](#)
 - [Extravasation Injuries](#)

Related policies

[WA Pressure Injury Prevention and Management Clinical Guideline](#)

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Appendix 1 Pressure Relieving Devices

Device		Guide for use
Coziny 100 Air alternating pressure relief mattress	KEMH PCH	< 3.5 kg Can fit into incubator All muscle relaxed infants All infants with severe HIE (not to be used during active cooling) Neonates with an inability to move Consider for infants ventilated on Sensormedics ventilator
Coziny 200 Air alternating pressure relief mattress	KEMH PCH	3.0-10kg For overhead warmer use All muscle relaxed infants All infants with severe HIE (not to be used during active cooling) Neonates with an inability to move Consider for infants ventilated on Sensormedics ventilator
Giraffe warmer pressure diffusing mattress	KEMHx8	Overhead warmers Neonates with reduced mobility, nursed on overhead warmer
Drager warmer gel mattress	KEMH x1	Any neonate nursed on Drager overhead warmer
Omnibed pressure diffusing mattress	KEMHx3	Omnibed incubators
Gelliroll mattress for cooling	KEMH PCH	All infants being actively cooled
Sheep skin	KEMH PCH	Preterm infants on respiratory support. Or as individually assessed.
Comfeel	KEMH PCH	NAS, PRS infants over bony prominences to reduce injury by friction
Dermis Plus	KEMH and	All neonates <750g (under head) All muscle relaxed infants Neonates with identified pressure injury over a bony prominence Consider for infants with severe HIE or other high risk factors