GUIDELINE

Skin-to-Skin Holding

Scope (Staff):	Nursing and Medical Staff
Scope (Area):	NICU KEMH, NICU PCH, NETS WA

Child Safe Organisation Statement of Commitment

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations. This is a commitment to a strong culture supported by robust policies and procedures to reduce the likelihood of harm to children and young people.

This document should be read in conjunction with this disclaimer

Aim

To facilitate and promote skin-to-skin holding for infants and their parents within the neonatal units at KEMH and PCH.

Risk

Reduced time and contact between infant and parent may affect parent-infant bonding and other benefits of skin-to-skin contact.

Key Points

- Educate parents on the benefits of skin-to-skin contact and the sequence of events in transferring the infant to and from their chest.
- A staff member must be readily available throughout skin-to-skin to provide assistance should complications arise e.g. dislodgment, blocked ETT.
- Discuss scheduling skin-to-skin time and consider that skin-to-skin can be for prolonged periods and more than once a day.

Background

Skin-to-skin holding, also known as Kangaroo Care, is defined as early, continuous and prolonged skin-to-skin contact between a parent or caregiver and their infant. Skin-to-skin holding can be provided in a traditional or modified method or with hand cuddles (Table 1). Also refer to Parenting in the Neonatal Unit guideline.

Table 1: Methods of providing skin-to-skin contact

Traditional Skin-to -skin holding (also known as Kangaroo Care)	• Early, continuous and prolonged skin-to-skin contact between a parent or caregiver and their infant. • The method of holding an infant directly on the parent or caregiver's chest wearing only a nappy, and in some cases a beanie.	
Modified skin - to -skin*	• Baby is placed on the parent's chest but remains in their linen bed or "nest".	

Hand cuddles	• Parents place their hands directly onto their baby's skin, usually with one hand gently over the head and the other on the belly or below the feet.	
Cuddling	• The term cuddling is interchangeable with the above but in general it refers to the infant clothed and wrapped whilst held.	
*Image from *The Children's Hospital at Westmead: Info-sheet for Parents. Modified skin-to-skin and hand-hugs.* Available at modified_skin_to_skin_and_handhugs.pdf.		

Benefits of skin-to-skin holding

- **Breastfeeding and human milk feeding:** Increased exclusive and/or any breastfeeding at discharge, 1, 3 and 4 months and production of higher volumes of expressed breast milk.
- **Cardiopulmonary stability:** Improved cardiorespiratory stability.
- **Thermoregulation:** Improved temperature stability.

- **Infection prevention:** Skin-to-skin results in better colonisation with parental bacteria, which aid in regulating the infant microbiome and reduce colonisation with pathological organisms.
- **Pain management:** Skin-to-skin reduces procedural pain in term and preterm infants during procedures.
- **Stress:** Reduced infant stress responses as evidenced by improved heart variability, lower cortisol and higher oxytocin levels.
- **Growth and development:** Infants who receive skin-to-skin have more mature sleep organisation, better sleep cycling and more typical aEEG development. They have improved neurobehavioural findings, better attachment and better physical growth.
- **Mortality:** Consistently lower mortality rates are reported in infants who receive skin-to-skin, possibly due to a reduction in hypothermia and sepsis.
- **Parent mental health:** Skin-to-skin contact reduces stress, anxiety and depression in parents and promotes bonding and parent-infant attachment.

Eligibility

All babies are eligible for skin-to-skin contact with their parents, if their parents have no contagious skin lesions. Traditional skin-to-skin can be offered to babies with few exceptions. The exceptions include:

- Risk of significant instability or prolonged recovery with handling, for example during the acute stage of pulmonary hypertension of the newborn, those requiring ionotropic support and those requiring muscle relaxation to achieve adequate ventilation / support.
- Extremely preterm neonates <25 weeks' gestation in the first 72 hours of life.
- Presence of an abdominal wall or open neural tube defect.
- Infants receiving therapeutic hypothermia.
- Surgical infants within 24 hours of major surgery.
- Parents with contact-contagious illnesses.

Hand cuddles or a modified skin-to-skin hold can be offered to infants who cannot be moved from their bed due to their clinical condition or if they have medical equipment in place that limits their movement.

Other considerations

- Contraindications to skin-to-skin holding are considered relative and open to discussion with the parents and healthcare team in infants with a high likelihood of demise.
- Indwelling umbilical catheters, both venous and arterial, are not considered contraindications to skin-to-skin but should be well secured and closely monitored.
- Infants receiving therapeutic hypothermia should be offered a hold in their parents' / caregiver's arms whilst on the cooling mat rather than skin-to-skin due to the complexity of temperature regulation in these cases.
- Skin-to-skin is not always feasible for infants with a surgical diagnosis. In these cases, a hold in the parents' / caregiver's arms or skin-to-skin in a position other than prone on their parent's chest should be considered, including hand cuddles and/or the modified skin-to-skin hold.
- In certain circumstances, such as illness or social challenges, parents are unable to visit, an alternative caregiver may be elected to facilitate the skin-to-skin contact or cuddles.

Preparation for skin-to-skin holding

Equipment

- High back or recliner chair with arm support
- Pillow
- Tapes to secure respiratory support tubing
- Neopuff and suction easily accessible
- Mirror
- Quiet, calm environment
- Privacy screens may be required for culturally sensitive care

Parent preparation

- Educate parents on the benefits of skin-to-skin contact and the sequence of events in transferring the infant to and from their chest.
- Discuss scheduling skin-to-skin time and consider that skin-to-skin can be for prolonged periods and more than once a day.
- Skin-to-skin should ideally continue for at least 60 minutes at a time and parents should be advised to come prepared for this (had food, drink, toilet break etc).
- Parents should be advised to wear clothing that opens down the front or should be offered a hospital gown that opens down the front to maximize skin-to-skin contact.
- Mothers should ideally remove their bras entirely or wear a front closing bra that can be opened and moved aside.
- Skin-to-skin may continue for as long as the infant is stable, not requiring interventions other than feeds, and the parent is comfortable.
- Both parents should be offered the opportunity to provide skin-to-skin.

Infant preparation

- Ensure infant is wearing only a nappy +/- a woollen hat.
- Confirm patient monitoring alarms are appropriate and audible.
- Ensure patency and security of IV lines and nasogastric tubes.
- Place infant in supine position prior to transfer.
- Ensure ETT is secure, breath sounds are equal and suction the ETT prior to transfer if necessary.
- Drain condensation from respiratory support tubing.
- Consider increasing oxygen prior to transfer if this is usually required during handling.
- Consider relocation of IV infusion and pumps for continuous milk feeds as required and utilise mobile IV pump holders if multiple infusion pumps required.
- Lower cot side and place the chair close to the ventilator and infusion pumps.

- Ensure that all respiratory support tubing, lines and monitoring cables will easily reach the chair prior to transfer.
- Disconnect skin temperature probe and set the cot to an appropriate air temperature while the infant is in skin-to-skin.

Procedure

Transfer

- Ensure medical staff, coordinator and/or float nurse are on the floor and aware of planned transfer.
- Two nurses should be present for the transfer of an infant receiving SIPPV or HFOV and three for a patient on the jet ventilator.
- At least one nurse should be present for transfer of an infant on CPAP, HHF or PBF.
- One nurse will support the infant / parent on transfer from the cot / incubator while another nurse supports the ventilator tubing and ETT position.
- A third nurse is needed to handle and secure the JET box for patients on the jet ventilator.
- The infant should be placed on their back in the cot prior to transfer. A pouch can be used to support the infant during transfer to the parent's chest.
- Nurse-led transfer:
    - Ensure the nurses discuss and plan the transfer and each understands their role.
    - The nurse will slowly lift the infant to a vertical position and bring to the parent's chest in prone.
    - Ensure the infant has enough support to maintain neutral head alignment and flexed limbs.
    - The nurse responsible for the ventilator tubing maintains the connection to the ventilator and ETT position.
    - The parent should be seated comfortably, usually in a reclining position.

- Parent-led transfer:
    - The infant is turned 90° in the cot allowing their feet to meet the parent's chest first.
    - A nurse ensures all lines, wires, and tubing are free.
    - The parent stands as close as possible to the open incubator door with open top clothing.
    - The parent supports the baby's head and bottom, lifting the infant slowly and in an upright position directly to their bare chest.
    - The nurse responsible for the ventilator tubing maintains the connection to the ventilator and ETT position.
    - The parent chair is brought up behind the parent and they slowly sit down and slide back. Ensure the brakes are on.
    - The chair is reclined, and the nurse assists with adjusting the baby to a comfortable, secure position, ensuring skin-to-skin contact.
- Position the infant comfortably upright and prone with their legs and arms flexed and their head to one side. Have the parent support the infant with one hand on the infants' head and the other over the infant's bottom.
- If the infant is on CPAP, ensure prong or mask position is appropriate to not place additional pressure on the nares or septum and that the ventilator is delivering the correct pressure.
- If the infant is ventilated, ensure the ETT remains secure and without additional tension and that the ventilator is delivering the correct pressure.
- The nurse secures the ventilator tubing by taping to the parent's clothing at shoulder height, avoiding obstructing the parent's view of their infant.
- Other equipment, such as infusion lines, nasogastric tubes and monitoring leads, is checked, connected, free from tension and secured.

- The parent's shirt may be used as a cover to create the “pouch”. Additional covering may be necessary.
- A staff member must be readily available throughout the cuddle to provide assistance should complications arise e.g. dislodgment, blocked ETT.

During skin-to-skin

- A minimum of 1 hour of skin-to-skin is recommended, however parents shouldn’t be limited in the amount of time they spend nor denied skin-to-skin if they can’t provide it for at least 1 hour.
- Allow the infant time to settle and adjust oxygen as required.
- Ensure good head position is maintained and suction the airway as needed.
- Continue cardiorespiratory monitoring as per level of care and monitor colour and tone.
- Check the infant’s axillary temperature after 15 minutes of skin-to-skin, add or remove hats or blankets as required and continue to monitor.
- A mirror may be provided to allow the parents to see their infant’s face.
- Feeding via nasogastric tube should continue, ensuring that at least 20 minutes passes after completion of the feed before further transfer. If the infant is on continuous feeds, pause the infusion during transfers and restart once the infant is settled.
- The infant should remain in skin-to-skin unless:
    - There are repeated or profound desaturations, bradycardia or apnoea
    - Dislodgement of ETT
    - Dislodgement of IV access
    - Baby’s behavioural cues indicate that they are stressed and attempts to settle them have failed
    - Parents request the session to end

Completing skin-to-skin

- Ensure sufficient staff are present and that the infant and tubing, lines and cables are safely supported during the transfer back into the cot. At least two nurses are required for a ventilated infant, one looking after the infant and one responsible for the ventilator tubing and ETT position.
- In the case of parent-led transfer, the parent chair is slowly moved upright. Two nurses assist with the transfer, one responsible for the ventilator tubing and ETT position and the other assisting the parent and moving the chair. The parent slowly stands up beside the incubator and gently lowers the infant into the incubator in the supine position. The second nurse removes the chair.
- The infant's chest should be auscultated immediately on transfer back to the cot to ensure ETT placement and that suction is not required.
- Reattach temperature probes and record axillary temperature. Reengage servo control functions if they were being used prior to skin-to-skin.
- Document time and duration of skin-to-skin, and relevant observations and support required during skin-to-skin, in the infant's notes.
- Document on MR489/491 the date of parent-infant hold.

Modified skin-to-skin

- Staff, equipment, parent and infant preparation are the same as for traditional skin-to-skin contact.
- Slowly lift the infant's bed or "nest", with the infant in it, in a horizontal position and transfer to the comfortably seated parent.
- Position the infant facing the parent in a lateral or side-lying position, in direct skin-to-skin contact on the parent's chest but remaining in bed.
- Have the parent support the infant with one arm around the legs supporting the bottom and the other cradling the head in a flexed position.
- Ensure all equipment is secure and without excess tension.
- Continue cardiorespiratory monitoring as per level of care and monitor colour, tone and temperature.

Related CAHS internal policies, procedures and guidelines

Neonatology Clinical Guideline

- Parenting in the Neonatal Unit Environment

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