

Skin to skin (kangaroo care)

Standard

All infants who are eligible (see note 1) for skin to skin/kangaroo care will, with the agreement of their parent, have the procedure carried out in a safe manner.

Equipment

Chair and foot stool, privacy screen if appropriate, pillow(s), tape for securing lines/tubing, pre-warmed blankets, hat and socks/booties for infant

Preparation

Of parent (mother and father/partner)

- discuss the benefits and potential problems (see note 2) of skin to skin care with parents
- offer parents the Bliss skin to skin information leaflet if they have not already received it
- plan and agree a suitable time for skin-to-skin with parents
- advise parents to:
 - wear clothes with opening in the front,
 - have a cold drink to hand
 - go to the toilet prior to skin to skin care
 - expect skin to skin to be for at least one hour if baby is stable
- parents should not apply strong perfume or smoke prior to skin to skin care
- explain that baby may be briefly unstable during transfer to and from the incubator or cot, but that baby will be observed during this time.
- discuss with parents how they may recognise stability/instability in baby during skin to skin
- parent sits in comfortable chair, (offer a foot stool and or pillow)

Of baby

- assess and record vital signs; if recordings are within acceptable ranges proceed with skin to skin preparation
- the same temperature monitoring occurring whilst baby is in the incubator/cot should apply during the duration of skin to skin. If a T1 temperature probe is being used this should be attached to baby using a temperature probe cover or a piece of DuoDerm.
- verify the ETT is secure and assess the need for ETT suction
- verify peripheral/central lines are secure
- if gastric feed is due, withhold until baby is in skin to skin position and physiologically stable
- dress baby in a nappy, hat and socks/booties

Of equipment

- place a blanket in the incubator to pre-warm for about 15 minutes prior to skin to skin care
- have easy access to a comfortable chair, footstool, pillow and privacy screens
- Ensure ventilator/ CPAP tubing is free and not tangled so that there is unrestricted movement during transfer
- ensure ETT/CPAP tube is free of collected water
- ensure ECG/saturation leads/cables/temperature probes are through the side port hole of the incubator so that there is unrestricted movement during transfer
- ensure emergency equipment is accessible and working

Transfer and settling procedure

Transfer technique is the major factor affecting stability therefore for babies receiving ET ventilation or CPAP this is a two or three person procedure

- cleanse hands according to the NNU policy.
- one nurse holds baby for the transfer and the other nurse manages the leads, cables and ventilator/CPAP tubing
- both baby and equipment are moved simultaneously
- baby is placed vertically on parent's chest with legs and arms flexed and head to one side. Guide parent's hands to achieve this support.
- secure ventilator/CPAP tubing to parent's clothes using tape; position leads and cables so that they do not pull on baby or touch the floor.
- cover baby with pre-warmed blanket; if able wrap around parent's clothes around baby and blanket.
- guide parent's hands to support baby's head and body – the head should be in midline so that there is little flexion or extension of the neck
- enable parent and baby to remain in skin to skin for as long as baby is stable and parents are available – aim for at least for 1 hour of uninterrupted skin to skin care (tube feeding can be carried out in skin to skin; if baby shows signs of feeding readiness, his/her position can be adjusted so that baby can lick and attach onto the breast)

Reason for returning baby to cot/incubator earlier than planned

- Unintended extubation
- Thermal stress - Assess baby's temperature after 30 minutes of skin to skin – if there is more than 0.5°C drop in T1 and or more than 1°C drop in T2, then reassess temperature control methods – they may need re-adjustment (additional warm blanket, woollen hat if not already applied, mittens and booties, make sure baby is well covered). If baby's temperature does not begin to return to baseline within 45 minutes of skin to skin then return baby to incubator.
- Increasing apnoea and bradycardia that does not resolve with repositioning of the head/stimulation
- Parental request

After skin to skin

- complete documentation in Badger
- if continuous monitoring is not being carried out, take and record baby's temperature
- if mothers are expressing breast milk, encourage them to carry this out

Notes

1. Determining eligibility is a shared decision between medical and nursing staff in collaboration with the parent. Decisions arising from this assessment must be documented in baby's Badger notes. For babies who are eligible, parents should be actively encouraged to participate in skin to skin care.
All babies should be considered eligible for skin to skin **unless they are:**
 - less than 72 hours old and requiring respiratory support or with significant respiratory symptoms (unless determined by the attending Consultant as being eligible for skin to skin)
 - unstable, defined as:
 - frequent apnoea and/or bradycardia (more than 2/hour; HR < 85 bpm) requiring stimulation/Neopuff for recovery
 - receiving inotrope support or muscle relaxants,
 - have umbilical catheters, peripheral arterial lines and/or chest drains in situ,
 - receiving high intensity phototherapy (unless delivered via biliblanket)
 - < 24 hours post major surgery

- receiving therapeutic hypothermia.
2. Benefits and potential problems of skin to skin care
- Benefits
- Promotes physiological stability – if skin to skin care is carried out for a minimum of one hour as shorter periods than this are less likely to allow the baby time to settle and to get the full benefit
 - Facilitates parent/baby relationship
 - Improves lactation
 - Reduces parental stress

Potential problems

- Hypothermia – prevent by using warm blankets, hat and booties
- Dislodgement of tubes and lines – prevent by optimal attachment of equipment to baby, correct positioning of equipment prior to, during and after transfer, having a 2 person transfer
- Disrupted/occluded airway patency – prevent by correct positioning of baby on parent's chest

References

Begum EA, Bonno M, Ohtani N, Yamashita S, Tanaka S, Yamamoto H, Kawai M, Komada Y (2008) Cerebral oxygenation responses during kangaroo care in low birth weight infants. *BMC Pediatrics*; open access from <http://www.biomedcentral.com/1471-2431/8/51>

Black K (2005) Kangaroo care and the ventilated neonate. *Infant* 1(4): 127, 128, 130-32.

Conde-Agudelo A, Díaz-Rossello JL. Kangaroo mother care to reduce morbidity and mortality in low birthweight infants. *Cochrane Database of Systematic Reviews* 2014, Issue 4. Art. No.: CD002771. DOI: 10.1002/14651858.CD002771.pub3.

Cong X, Cusson RM, Walsh S, Hussain N, Ludington-Hoe S, Zhang D (2012) Effects of Skin-to-Skin Contact on Autonomic Pain Responses in Preterm Infants. *The Journal of Pain*, 13(7): 636-645

Karlsson V, Heinemann AB, Sjöors G, Hedberg Nykvist K, Agren J (2012) Early Skin-to-Skin Care in Extremely Preterm Infants: Thermal Balance and Care Environment. *Journal of Pediatrics* 161(3):422-6

Ludington-Hoe SM, Morgan K, Abouelfetoh A (2008) A Clinical Guideline for Implementation of Kangaroo Care With Premature Infants of 30 or More Weeks' Postmenstrual Age. *Advances in Neonatal Care* 8(3S): S3-S23

Ludington-Hoe LM, Ferreira C, Swinth J, Ceccardi JJ (2003) Safe Criteria and Procedure for Kangaroo Care With Intubated Preterm Infants. *Journal of Obstetric, Gynecologic and Neonatal Nursing* 32(5): 579-588

Miles R, Cowan F, Glover V, Stevenson J, Modi N (2006) A controlled trial of skin-to-skin contact in extremely preterm infants. *Early Human Development* 82(7): 447-455

Guidelines for Skin-to-Skin Holding, Women's and Children's Division, Neonatal Unit, Imperial College – unpublished manuscript

Kangaroo Care Protocol, ADHB New Zealand accessed February 2015 from: <http://www.adhb.govt.nz/newborn/guidelines/developmental/KangarooCare.htm>