

Local  
Guideline

John Hunter  
Children's Hospital  
CHILDREN, YOUNG PEOPLE AND FAMILIES



Health  
Hunter New England  
Local Health District

## Kangaroo Care in NICU

<b>Sites where Local Guideline applies</b>	Neonatal Intensive care Unit JHCH, including SCN
<b>This Local Guideline applies to:</b>	
1. Adults	No
2. Children up to 16 years	No
3. Neonates – less than 29 days	Yes Approval gained from the Children Young People and Families Network on 26/09/2017
<b>Target audience</b>	Clinicians caring for infants in NICU and SCN
<b>Description</b>	To provide information to clinicians about the benefits of kangaroo care for the infant and parent and the safe procedure to undertake kangaroo care

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<b>Keywords</b>	breastfeeding, bonding, kangaroo care, lactation, neonate, skin to skin
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<b>Replaces existing document?</b>	Yes
<b>Registration number and dates of superseded documents</b>	JHCH_NICU_06.04 may 2011
<b>Related Legislation, Australian Standard, NSW Ministry of Health Policy Directive or Guideline, National Safety and Quality Health Service Standard (NSQHSS) and/or other, HNE Health Document, Professional Guideline, Code of Practice or Ethics:</b>	
<ul style="list-style-type: none"> <li>NSW Health Policy Directive 2014_036 Clinical Procedure Safety <a href="http://www0.health.nsw.gov.au/policies/pd/2014/pdf/PD2014_036.pdf">http://www0.health.nsw.gov.au/policies/pd/2014/pdf/PD2014_036.pdf</a></li> <li>NSW Health Policy Directive 2010_058 Hand Hygiene Policy <a href="http://www0.health.nsw.gov.au/policies/pd/2010/pdf/PD2010_058.pdf">http://www0.health.nsw.gov.au/policies/pd/2010/pdf/PD2010_058.pdf</a></li> </ul>	
<b>Prerequisites (if required)</b>	N/A
<b>Local Guideline note</b>	This document reflects what is currently regarded as safe and appropriate practice. The guideline section does not replace the need for the application of clinical judgment in respect to each individual patient but the procedure/s <b>require mandatory compliance</b> . If staff believe that the procedure/s should not apply in a particular clinical situation they must seek advice from their unit manager/delegate and document the variance in the patient's health record.
<b>Position responsible for the Local Guideline and authorised by</b>	Pat Marks. General Manager / Director of Nursing CYPFS
<b>Contact person</b>	Jenny Ormsby Guideline Development Coordinator NICU JHCH
<b>Contact details</b>	Jennifer.Ormsby@hnehealth.nsw.gov.au
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## PURPOSE AND RISKS

*This local clinical procedure has been developed to provide instruction to the health clinician and to ensure that the risks of harm to the infant associated with kangaroo care procedure are prevented, identified and managed.*

*The risks are:*

- Dislodgement of Endotracheal tubes, CPAP prong, vascular lines
- Temperature instability

Fear by staff and parents that they will harm the infant *The risks are minimised by:*

- *Clinicians having knowledge of Kangaroo care implementation and management*
- *Clinicians seeking assistance if attending to kangaroo care is outside their scope of practice*
- *Following the instructions set out in the clinical procedure*
- *Recognition of deterioration of the infant whilst having kangaroo care*
- *Notification and management of the complications/ risks to the patient*

**Risk Category:** *Clinical Care & Patient Safety*

## GLOSSARY

Acronym or Term	Definition
KC	Kangaroo Care
NICU	Neonatal Intensive Care Unit
CPAP	Continuous Positive Airway Pressure

## GUIDELINE

### Rationale

To provide a guideline to enable NICU nurses to become proficient in the delivery of skin to skin contact, through kangaroo care, to all infants and their families, after a risk assessment is performed.

- To educate staff in the importance of kangaroo care and the best process to perform this type of care (Smith & Lucas 2016).
- To provide positive effects of kangaroo care to the baby and family both in discussion and parent factsheet.

## Outcomes

- Maintain neurobehavioral organisation and physiologic stability (heart rate, oxygenation and thermoregulation) during the transfer and holding of the infant
- Remain free from any adverse effects associated with transfer or skin to skin contact such as extubation and thermal instability,
- Encourage bonding, thus enhancing the infant / parent relationship
- Infants will be held safely against the bare skin of the parents chest,
- Promote sleep and brain development.
- Promote breastfeeding and lactation to optimise growth
- Potentially decrease the length of hospital stay

## Background

The role of parents as caregivers for their preterm born infants is being increasingly recognised. Kangaroo care (KC) initiative underlines the importance of establishing early parent-infant interaction to support infant's optimal development and facilitate early parent-infant bonding. KC involves holding a nappy-clad infant prone and upright, enclosed in parents clothing in skin-to-skin contact on the chest of the parent. It is widely recognised as a safe and beneficial practice and should be provided regularly and consistently to all medically stable infants, irrespective of setting, weight and gestational age.

The benefits for the infant include reduced risk of infection, improved physiological stability and oxygen saturation. It has significantly reduced infant mortality amongst low birth weight infants in limited resource settings. Other infant benefits of KC include early weight gain, longer periods of quiet sleep, improved self-regulation, increased breast feeding, decreased pain perception and reduced stress and crying.

Parental benefits of KC include enhanced parent-infant attachment with a reduction in the negative effects of having a sick or preterm infant, greater parental ability to recognise their infant's cues, increased self-confidence, decreased postnatal depression and increased maternal breast milk supply.



### **Exclusion criteria**

- Surgical infants within 48 hours of major surgery (unless consented by the consultant)
- Medically unstable infants i.e. Muscle relaxed, continuous inotrope infusions, nitric oxide, intercostal catheter in situ
- Any infant having apneas or bradycardic episodes requiring vigorous stimulation
- Any infant who has had an acute or sudden deterioration in condition within the previous 24 hours
- Infants with chest and /or abdominal lesions, wounds or drains
- Parents with unexplained contagious rashes or active upper respiratory viral infections
- Deemed to be clinically unstable by Neonatologist

### **Equipment requirements**

- Comfortable, stable chair
- Soft, warmed cot blanket
- Footstool (optional) depending on the height of the chair and the parent's preference
- Pillow (optional) depending on parent preference
- Mirror for parent to easily view infants face
- Securement of tubes/lines

## Parent preparation

- Ensure that parents are informed on the benefits of skin-to-skin care – verbal discussion and information handout
- Advise appropriate bathroom breaks and maternal breast milk expression prior to commencing skin-to-skin care
- Ensure drinking water is available to the parent
- Advise parent on need for and availability of showering facilities especially if coming straight from work or a smoking environment
- Ensure parent is wearing a front opening shirt, or a shirt with a wide open neck offer front opening hospital gown; ask mothers to remove their bra to ensure maximum skin contact and infant comfort
- Advise parents that it poses an infection risk to the infant when using mobile phones during kangaroo care.

## Procedure

### Non-ventilated infant

- Ensure parental preparation, understanding and readiness for kangaroo care
- Advise the need to allow at least 1 hour per session of kangaroo care with extension up to 3 hours if infant is stable and parent is comfortable
- Ensure all lines and tubes are secured
- Prepare comfortable chair next to the infant's bedside and try to maximize privacy
- Ensure all emergency equipment such as Neopuff®/bag and mask and suction are accessible and operational during kangaroo care.
- Perform all required procedures, where possible, i.e. cares, suction, feeds to prevent interruption of kangaroo care.
- Prepare infant for kangaroo care – maximize skin to skin contact by removing all clothing except for nappy. **Note:** if infant weighs less than 1000gm leave knitted hat on.<sup>7</sup>
- Position infant vertically onto the parent's bare chest and close shirt\gown around the infant placing a warmed blanket across the back. This can be achieved by the nurse transferring the infant from the cot\incubator to the parent if the mother is restricted in her movement (e.g. following a caesarian section). The preferred transfer for the infant is a standing transfer where the

parent lifts the infant directly from the cot/ incubator whilst standing and then is seated in a chair with the assistance of staff<sup>2</sup>.

- Ensure that infant is comfortably positioned once settled with arms and legs in a flexed position and head in a sniffing position to prevent obstruction of the airway. Ask parent to position bottom towards the front of the chair to roughly provide an angle of 40 degrees (optimal position).<sup>13,14</sup>
- Attach any monitoring leads, IV lines and gastric tubes using tape to the parent's clothing or blanket to ensure security during kangaroo care.
- Re-assess parent's comfort levels - offer pillow and footstool if required and ensure water is within arm's reach.
- Offer the use of a mirror in order for the parent to be able to view the infant during kangaroo care.
- Reassure parent that you or another staff member (in your absence) will be nearby at all times during kangaroo care and carrying out regular visual inspections of the infant's position, colour, breathing and movement as well as relevant equipment.



### **Ventilated infants or those on other forms of respiratory support**

- Follow procedure as described above.
- Arrange assistance from another staff member (possibly a third to assist with tubing, lines etc. if excessive) to aid in the transfer of the infant.

- Secure all tubing to ensure that extubation does not occur as a result of kangaroo care. Ensure that CPAP prongs remain well positioned in nares and change expiratory and inspiratory tubing if necessary to minimize condensation collecting in the Hudson prong.

## **Monitoring and Documentation**

- Continue all routine cardio respiratory and pulse oximetry monitoring throughout the duration of kangaroo care.
- Monitor and document any signs of distress.
- Monitor temperature if infant is having kangaroo care with father as temperature control can be more labile.
- Document session times for kangaroo care including start and stop times on nursing flow charts.
- Document in progress notes how session was tolerated by both infant and parent including any comments made by the parent.

## Appendix 1:

### **KCQI group Aim: By the 31<sup>st</sup> of December 2017 60% of infants born at <29 weeks GA will receive Kangaroo care by 72hrs of age**

- For infants born <29 weeks in JHCH NICU, the average time to first KC is 7 days. This is a statistic we should not be proud of.
- As a group our plan is to educate staff on the importance of KC and when it is appropriate to offer KC; empower parents, reduce infant barriers preventing KC and provide support for both parents and staff to facilitate KC.
- Infants who are suitable for KC include: SV infants +/- lines, infants on CPAP +/- lines (including umbilical lines) and stable ventilated babies – speak with the NICU clinical team if unsure of baby's stability.
- Infants who are not suitable for KC include, surgical babies +/- silo, that are unstable and unstable ventilated infants – these may include infants with PPHN, requiring iNO, UAC/UVC, aEEG and +/- inotropes.
- The KCQI group are currently updating our current KC CPG and plan to include a comprehensive flow chart for staff to use to assist them in conducting KC for their patient.
- Studies show that prolonged skin-to-skin contact between the mother and her preterm/LBW infant provides effective thermal control and may be associated with a reduced risk of hypothermia. Fathers can also effectively conserve heat in newborn infants despite an initial report of worse performance of males in thermal control. (Ludington-Hoe SM, et al. Selected physiologic measures and behaviour during paternal skin contact with Colombian preterm infants. *Journal of Developmental Physiology*, 1992, 18:223-232)
- HR, RR, oxygenation, oxygen consumption, blood glucose, sleep patterns and behaviour observed in preterm/LBW infants held skin-to-skin tend to be similar to or better than those observed in infants separated from their mothers. (Acolet D, Sleath K, Whitelaw A. Oxygenation, heart rate and temperature in very low birth weight infants during skin-to-skin contact with their mothers. *Acta Paediatrica Scandinavia*, 1989, 78: 189-193).
- Salivary cortisol (an indicator of possible stress) appears to be lower in those infants who are held skin-to-skin (Anderson GC, Wood CE, Chang HP. Self-regulatory mothering vs. nursery routine care post birth: effect on salivary cortisol and interactions with gender, feeding and smoking. *Infant Behavior and Development*, 1998, 21:264)

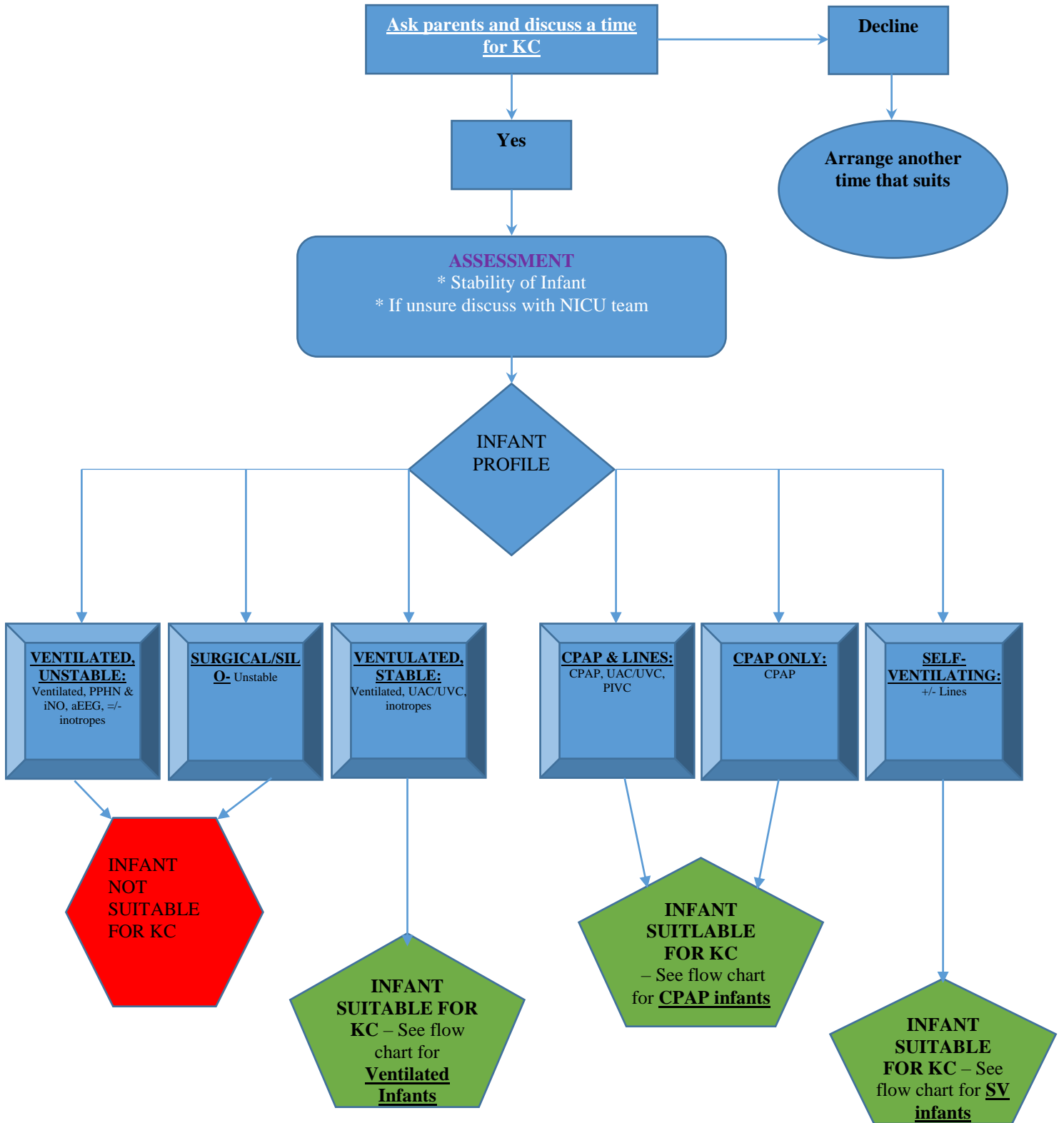


- Mothers report feeling less stressed during KC than when the baby is receiving conventional care, mothers prefer skin-to-skin care and report increased confidence, self-esteem and feeling of fulfilment. Fathers also report feeling more content when able to provide KC for their infants. (Cattaneo A, et al. Kangaroo mother care for low birth weight infants: a randomised controlled trial in different settings. *Acta Paediatrica*, 1998, 87:976-985)
- KC has shown increased prevalence and duration of breastfeeding opposed to those infants who did not receive KC (Charpak N, et al. Kangaroo mother versus traditional care for newborn infants <2000grams: a randomized controlled trial. *Pediatrics*, 1997, 100:682-688).
- KC should be no less than 60 minutes – frequent changes can be too stressful for the baby.

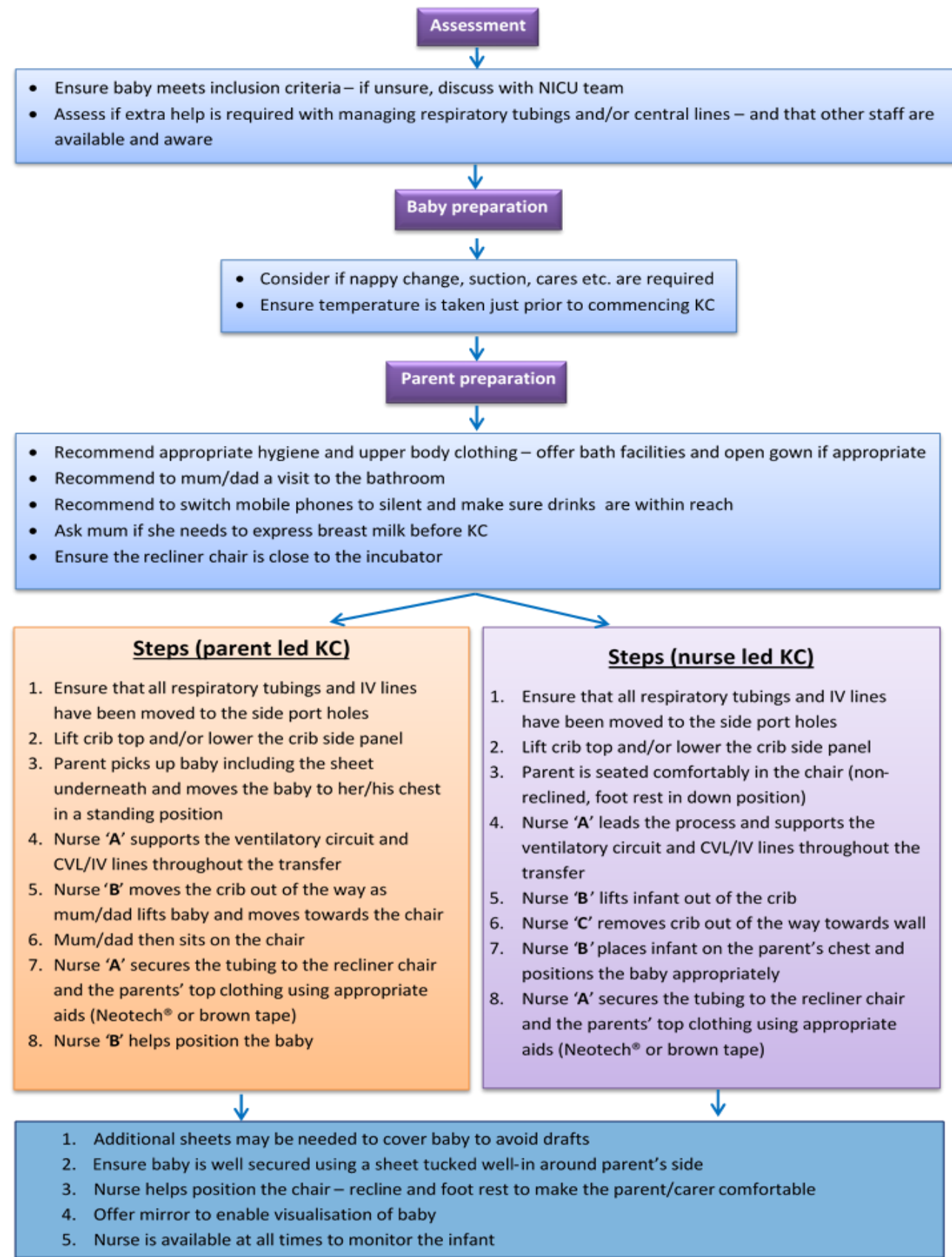


**Appendix 2:**

**Kangaroo-Care for Infants in NICU-which baby is suitable**



## Appendix 3: KC QI Group – Nursing Handover Cheat Sheet



## Appendix 4: Guide to Twin Kangaroo Cuddles for Infants on CPAP or High Flow Nasal Cannula in NICU

For the purpose of the guide Twin A refers to the infant whose bedspace the cuddle is occurring and Twin B refers to the other infant. **Follow the description of the procedure by looking out of the bay i.e. as the parent sitting in the chair**

This guide only refers to CPAP but the principle remains the same for High Flow Nasal Cannula.

**This is a guide only. Please assess clinical suitability before attempting twin cuddles.**



### Equipment required prior to the cuddle

1. Extra blender if available
2. Cot
3. Air cylinder with metal cradle. Will also need oxygen cylinder with metal cradle and Y connector if Twin B has oxygen requirement
4. Philips monitor holder
5. 2 Velcro clips
6. White micropore tape
7. Warm blankets
8. Clean suction canister insert and tubing x 1

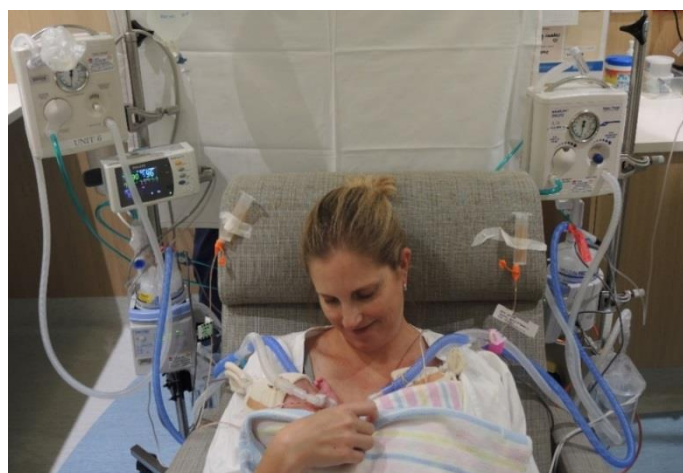


### Twin A's bedspace

Place extra blender next to Twin A's blender. If not available use twin B's blender once Twin B is on CPAP via air/oxygen cylinders.

Attach Twin A's Neopuff to the CPAP pole

- Move the crib to the left
- Place the recliner chair next to the bed. Ensure that there is a 1 meter gap between the recliner chair and the nurses bench
- Twin A's CPAP circuit is to remain on the left side of the recliner
- Place clean suction canister insert and suction tubing on nurses' bench. This is for Twin B if suctioning required during cuddles.
- Place Twin A on parent's chest and cover with warm blanket



### Twin B's bedspace

- Place Neopuff and Phillips monitor holder on Twin B's CPAP pole
- Place Phillips monitor in the holder
- **Consider the oxygen needs for Twin B**  
Place Air cylinder with metal cradle on the side of the cot. If Twin B has an oxygen requirement then a Y connector and oxygen cylinder are also required
- Transfer Twin B into the cot with head at the end of cot and wrap in warm blanket
- Turn on Air / oxygen cylinders as required and attach CPAP to cylinder.
- Transfer Twin B into Twin A's bedspace.

*If the additional blender was unavailable then transfer Twin B's blender into Twin A's bedspace here*

### Transferring Twin B for cuddle

- Transfer cot to the right side of the recliner.
- Attach CPAP and Neopuff to the extra blender
- Turn on Twin B's CPAP base
- Turn off air (or oxygen) cylinder
- Transfer Twin B onto parents chest
- Twin B's CPAP/Neopuff/monitor to remain on the right side of the recliner
- Move cot back to Twin B's bedspace.
- Ensure there is adequate room on right side of recliner chair to access blenders and suctioning.
- Attach Velcro to CPAP tubing and attach to parent gown
- Secure feeding syringes with micropore tape

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**Developed by:** Megan Young RN NICU (2011)

**Updated (2017):** Jenny Ormsby, CNE NICU JHCH  
Nilkant Phad, Neonatologist NICU JHCH  
Melanie-Bree Watts, RN NICU  
Javeed Travadi, Neonatologist NICU JHCH  
Stacey Leonard CNS NICU JHCH

**Reviewed by:** Justine Parsons, NE NICU  
Laura Street, NNP  
Larissa Korostenski, Neonatologist  
Bryony Ross, Parent  
Louise Williamson CNS NICU

**Approved:** Operational, Planning & Management Committee NICU  
21/09/17  
  
Clinical Quality & Patient Care Committee 26/09/2017

## **Appendix**

- 1. Kangaroo Care Quality Improvement Project-Group Aims**
- 2. Kangaroo-Care for Infants in NICU**
- 3. KC QI Group – Nursing Handover Cheat Sheet**
- 4. Guide to Twin Kangaroo Cuddles for Infants on CPAP or High Flow Nasal Cannula in NICU**

## **IMPLEMENTATION, MONITORING COMPLIANCE AND AUDIT**

1. The document will be communicated via emails and notification on the Neonatal HUB and will be uploaded to the PPG
2. Training is being provided to clinicians by regular PowerPoint in-service
3. The document will be monitored for effectiveness and compliance with audits evaluating pre and post skin temperatures and long term outcomes such as commencement of breast feeding.

## **FEEDBACK**

Any feedback on this document should be sent to the Contact Officer listed on the front page.