

**Developmental Care for Babies on the Neonatal Unit**  
Neonatal Developmental Therapy Service



## **Therapy input on the neonatal unit**

The aims of this service are to support families and babies that are at high risk of neurodevelopmental complications. We aim to help their physical and sensory development whilst on the neonatal unit by trying to ensure their environment and positioning is as close as possible to being in the womb.

## **Why is this important?**

Premature babies miss out on the last stages of their development within the womb. We aim to recreate a womb-like environment in the incubators and cots to promote their developmental needs. Your baby's medical needs will always be the priority; however, in the long-term it is important to protect their brain development as much as possible. As well as protecting your baby's brain, we are also improving their physical development to help them to be able to achieve their developmental milestones (e.g. gross motor skills - sitting, crawling, walking, etc and in turn, some of their fine motor skills).

# How can we help?

## Environment

Life on the neonatal unit is very different to the dark, quiet and snug environment of the womb.



There are several ways we can try and make this medical environment of the neonatal unit more womb-like including:

- **Boundaries** – a deep nest or boundary will surround your baby. This helps them to feel safe, contained and comforted. It also provides something for them to press their hands, feet and top of their head against, which helps start to build up their muscle tone and proprioception. This can also help with their coordination and bone density, helping to develop their musculoskeletal system.
- **Sound levels** – we try to keep the unit as quiet as possible and have ‘quiet times’.
- **Lighting levels** – where possible it is important to keep it dark in the incubator by putting a cot cover over the top. You can also bring your own blankets in for this. There may be occasions where it may not be possible to use a cot cover if the nursing staff need to observe your baby closely, but in this situation lighting levels around the incubator should be as low as possible.

## Position

It is important that your baby changes position regularly throughout the day. Different positions have different benefits. They will lie on their back, right side, stomach and left side. The boundary acts to try and maintain a curled up (fetal) position, like they would be in the womb.

Some babies (i.e. premature or babies with low tone) can struggle to move against gravity and position changes within the boundaries can help to counteract this. An example of this is lying on their side which enables them to get both their hands together and to their mouth. This allows babies to calm themselves down and it is important for good shoulder and hip positioning.

Regular position changes within the boundaries helps to prevent shortening of the muscles around their hips and shoulders. Because babies have softer ribcages it can be more difficult for them to expand as efficiently against gravity. Regular position changes can help different areas of the ribs and lungs to expand, improving their breathing by improving their lung volumes and clearance of secretions.

Newborn babies have softer skulls, so are more prone to head shape moulding.

Regular position changes will help to prevent head flattening. Encouraging them to spend time with their head in the middle (midline) as well as to the left and right will allow the weight of their head to be distributed evenly which promotes good head shapes. We also encourage skin-to-skin (see later in leaflet) to take pressure off your baby's head.



***If you notice your baby is developing a long thin head or a flat area on their head, then please ask the nursing staff to inform the physiotherapist and further assessment and advice will be given.***



Ensuring that your baby's position is changed regularly, and that they are in a symmetrical position with their head, shoulders, hands, hips and feet towards midline in the boundaries helps to promote a more natural posture for them to enable improved temperature control, improved breathing, feeding, digestion, movement patterns, sensory experience, self-soothing/self-regulation and reduced stress. Regular position changes also help to maintain skin integrity. This all helps to improve their physiological stability and function and promotes their neurodevelopment.

## **Parent involvement**

When your baby is on the neonatal unit it is a scary time for parents and the baby's family. There are many ways in which you can help your baby and encourage their development as much as possible.

## **Learn how your baby talks to you**

Your baby may seem very small and helpless, but they are very clever at showing their feelings through body language/reactions.

When your baby is happy and soothing themselves, they may show the following signs:

- Curled up, tucked position
- Feet together
- Hand to mouth
- Hand to face
- Holding onto things e.g. fingers, blanket, etc.
- Relaxed facial expression
- Can look you in the eyes briefly

If your baby is having a difficult time and stressed you may see your baby:

- Become floppy
- Thrusting arms and legs rigidly into the air
- Arching back
- Spreading fingers and toes
- Grimacing or scowling
- Crying
- Looking away or closing eyes
- Yawning or hiccups
- Heart rate and/or oxygen levels may decrease

## **How you can help your baby**

If you notice that your baby is showing signs of stress there are a number of things you can do to help them.

- Ensure the environment is appropriate for them:
  - If it is too noisy then speak in quieter voices, reduce activity around the incubator
  - If it is too light then lower lighting levels and ensure a cot cover is in place.

- Encourage a curled up position in a boundary that will support them firmly - surrounding your baby from their head to their toes and is lower at the top of the nest to enable access to their airways, but high enough at the bottom of the boundary to rest their feet in it. The boundary should encourage their shoulders to be rounded to assist your baby in bringing their hand to their face. It should also prevent their knees from falling out to the side.
- Encourage sleep. This is extremely important for premature babies for growth and brain development so try not to disturb periods of deep sleep.
- If your baby is due to have any medical procedures or cares done and you are there you can help your baby stay calm by:
  - Holding their legs in a curled position
  - Placing your hand on their head to help them feel secure
  - Placing your hand gently on their chest
  - Bringing their hands to their face
  - Giving them a dummy
  - Letting them hold your finger
  - Giving them sucrose

Talk gently to your baby to let them know you are there.

Try to follow your baby's cues and slow down or pause interventions, pacing them according to how your baby is responding.

## **Skin-to-skin**

Having your baby out of their incubator or cot provides a great opportunity for you and your baby to get to know each other. True 'skin-to-skin contact' means that the baby's skin is touching the mother or father's skin over the greater part of their body. This can be done with the assistance of the nursing staff when your baby is well enough.

This is the closest thing your baby can get to being back in the womb. Your baby can smell you, hear your heartbeat and breathing, feel your warmth and touch. It has been shown to stabilize baby's breathing, heartbeat and temperature, as well as support successful breastfeeding.

Please see the Bliss "Skin-to skin with your premature baby" leaflet for further information.

## **Positive touch**

Touch is a basic human need which is important for healthy development and parent-baby attachment. During a baby's time on the neonatal unit, their parents touch is the only constant positive input they get. It is important you are able to give your baby this positive experience of touch to balance out all the negative touch they receive (e.g. heel pricks, blood tests, etc).

Light "tickly" touch may be too stimulating for a premature baby, so try a still resting hand to help calm your baby or to just say hello.

Babies born prematurely can be at risk of brittle bones. Therefore, when handling your baby, try to use wide, splayed hands to support your baby's body/limbs instead of pulling/holding with a pincer grip which could lead to a point of fracture.



## References:

Unicef, 2012- Skin-to-skin contact - How to implement Baby Friendly standards – A guide for maternity settings

Warren I, Bond C 2010 - A Guide to Infant Development in the Newborn Nursery

Bliss, 2014 - Look at me – I'm talking to you: Watching and understanding your premature baby

Bliss - Skin-to-skin with your premature baby leaflet

NWNODN. (2023). *Positioning and Handling Guideline 2023*. Retrieved from North West Neonatal Operational Delivery Network: <https://www.neonatalnetwork.co.uk/nwnodn/wp-content/uploads/2023/11/Positioning-and-Handling-Guideline-2023-Final-1.pdf>

## Useful websites:

Bliss The Premature Baby Charity - [www.bliss.org.uk/](http://www.bliss.org.uk/)

Best Beginnings - [www.bestbeginnings.org.uk/](http://www.bestbeginnings.org.uk/)

Spoons Charity - [www.spoons.org.uk](http://www.spoons.org.uk)

EiSMART - <https://eismart.co.uk/>

**If you have any concerns or for further information, please ask to speak to your neonatal physiotherapist.**