

Back to Basics

Bonding and Attachment
in the Neonatal Unit



Parents are known to be the best buffer against the neonatal setting and can contribute to improved developmental outcomes.

Everything that happens in the neonatal unit has an effect - positive, negative or cumulative.

These effects can influence babies and families for the rest of their lives.

What can we do to support your baby to achieve their maximum potential as an adult?

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Introduction

Globally over 15 million babies are born prematurely every year.

Of these, over 4500 babies are born too soon, too sick and too small in Ireland.

Advances in perinatal and neonatal care have significantly increased the survival rate of premature babies, with greater emphasis on the quality of life in recent years.

Premature birth is recognised as a stressful and emotionally demanding experience that can impede the bonding and attachment processes and have a life-long impact on the family unit. Two factors that influence the quality of parental bonding are the baby's gestational age at birth and the distance between a parent and the baby.

Article 9 of The UN Declaration of The Rights of the Child stipulates that ***"infants should not be separated from their parents"*** yet the majority of premature babies are cared for in Neonatal Intensive Care Units (NICUs) where there are limited facilities for families to be present 24 hours a day.

There is a growing body of evidence of the importance of parents' presence for both the baby's and parents' wellbeing and for the child's development. Infant-parent separation and lack of parental involvement in care can lead to negative outcomes for families and society (1)(2)(3).

This booklet has been developed to help parents and healthcare professionals learn about the bonding and attachment process and as a guide to facilitating them in the Neonatal Intensive Care setting.



Bonding and Attachment

The relationship your baby has with you, their parent or primary carer, has an enormous impact on their future mental, physical, social, and emotional health.

The neonatal period is critical to the development of the parent-child relationship. In fact, the strength of this relationship is the main predictor of how well your child will do both in school and in life.

It is not founded on the quality of your care or parental love, but on the nonverbal emotional communication you develop with your child, known as the attachment bond. While it's easiest to form a secure attachment bond with an infant, it can be formed at any time or at any age - and can ensure your child has the best possible start in life.

The words bond or bonding are commonly used to describe both caregiving and the emotional exchange that forms the attachment process, even though they are very different ways of connecting with your baby.

Bonding is a connection based on the care you provide for your baby, while attachment is based on the quality of nonverbal emotional communication that occurs between you and your baby.

Both types of parent-child interaction can occur simultaneously. While feeding or bathing your baby, for example, you can also build the emotional connection by recognising and responding to your baby's nonverbal cues.

Bonding and Attachment are different.

Bonding is the binding love that a parent may feel for their infant beginning even before he or she is born. This process of bonding refers to the intense emotional connection that the parent feels for the baby. Some parents feel this for the baby immediately and others take time to get to know their baby and this is normal .

Parents of full term babies usually have a special quiet time with their baby immediately after birth in order to promote the process of bonding. The trauma experienced in delivering a baby prematurely is considered a major factor influencing the quality of mother-infant interactive behaviour (4)(5).

As thoughts and feelings shape behaviour, the intense negative emotions after a premature birth may have a negative impact on the quality of parental interactive behaviour. Several additional factors may also negatively influence parental interactive behaviour.



Visually, you are immediately aware of the differences in delivering a premature infant versus a term infant. All newborns are vulnerable but your awareness of this vulnerability is increased due to the size of the infant, which can be quite distressing to some parents.

As the baby lies in an incubator and he/she is connected/attached/hooked up to medical equipment, parents may have limited or no opportunity to hold and nurture their child frequently or spontaneously (especially in the beginning). Moreover, the infant's distinctive physical appearance and behavioural characteristics may also inhibit attuned parental interactive behaviour, as premature babies are described as less alert, less attentive, less active and less responsive than their healthier counterparts (6). Furthermore, even as they grow, premature babies engage in fewer broad smiles (7), can be fussy and irritable (8), are more difficult to soothe (9)(10), show more sensory-defensive behaviours (11), and are regarded as more temperamentally difficult (12) than term babies.

The emotional and psychological stress related to premature birth may inhibit parents from emotionally connecting with their baby at time of discharge and may contribute to more serious parental mental health problems and future child vulnerability (13)(14) (15). Parents of premature babies are, more often than not, particularly confronted with additional difficulties and challenges in the process of bonding with their newborn.

Attachment refers to the enduring tie of affection that the baby develops towards their main carers, usually their parents. The security of the attachment that a baby makes with their parents becomes the foundation for emotional wellbeing.

Right from birth babies begin to build an attachment to familiar carers who respond to their day to day physical and emotional needs, Securely attached babies have pleasurable interactions with their main carers and they can rely on them to be a source of comfort when they are distressed. When a parent comforts their baby they are letting him know that they care about his feelings and promoting his sense of wellbeing. His sense of wellbeing will become a source of later resilience and will help him to develop trusting relationships with others.

The difference between Bonding and a Secure Attachment.

Bonding:

- Refers to your feelings for and sense of connection to your baby that begins before birth and usually develops very quickly in the first weeks after the baby is born.
- Is task-oriented. You plan and attend to your baby's regular needs such as changing nappies, feeding, and bathing.
- You initiate interaction with your baby. For example, you want to get a cute photo of your baby laughing so you initiate play-time.
- You focus on future goals by, for example, trying to do everything you can to have the smartest, happiest baby.
- You concentrate on planning, reading about, and talking about what your baby needs.
- Is a process that can include many people - all those who care for your baby.



Secure Attachment:

- Refers to your baby's emotional connection with you (as primary carer) that begins at birth, develops rapidly in the first two years and continues developing throughout life.
- Requires you to focus on what is happening in the moment between you and your baby. Your baby's cues tell you that he or she feels unhappy, for example, and you respond.
- You follow your baby's slower pace and take the time to decipher and respond to your baby's nonverbal cues.
- Your baby initiates and ends the interaction between you. You pick up on your baby's non-verbal cue that he or she is exhausted and needs to rest, so you postpone taking a photo and stop trying to engage the baby in play.
- You focus solely on the moment-to-moment experience, just enjoying connecting with your baby.
- You concentrate on the emotional interchange that occurs between you and your baby.
- Happens with only one person at a time - namely, the primary carer.

The neonatal care setting can put the beginning of the attachment relationship at risk therefore particular attention needs to be paid to the child's right to have his or her parents present on the unit and to supporting parenting from the beginning of intensive care.

Reducing separation to as minimal as possible will help promote the normal development of attachment between parent and child. From the baby's perspective, having a parent as a primary carer from outset, allows the parent to provide a positive handling experience to enable the baby to be more familiar with their touch, voice and smell. From the parent's perspective, they have the opportunity to transition into their parenting role under the guidance and support of the unit staff and to help with the recovery from the trauma of the premature birth.

By understanding and responding to your baby's cues - their movements, gestures, and sounds - you enable your baby to feel secure enough to develop fully and impact how they will interact, communicate, and form relationships throughout their life.

The attachment process is **interactive and dynamic**. Both you and your baby participate in an exchange of nonverbal emotional cues that make your baby feel understood and safe. Even in the first days of life, your baby picks up on your emotional cues - the tone of your voice, your gestures, and your emotions - and sends you signals by crying, cooing, mimicking facial expressions, and eventually smiling, laughing, pointing, and even yelling, too. In return, you watch and listen to your baby's cries and sounds, and respond to their cues, at the same time as you tend to their need for food, warmth, and affection.

Secure attachment grows out of the success of this nonverbal communication process between you and your baby.



How Preterm Delivery Interrupts the Natural Process.

Bonding is essential for human survival and begins rapidly, shortly after birth, and reflects your feelings towards your new baby. Many parents, mothers in particular, begin bonding with their child before birth. The physical dependency your baby has with you creates a basis for emotional and psychological bonding after birth. When the umbilical cord is cut at birth, your baby's physical attachment to you ceases, and emotional and psychological bonding begins. A firm bond between you and your baby affects all later development, and it influences how well your child will react to new experiences, situations, and stresses.

Preterm birth is increasingly acknowledged as a very emotional, stressful and demanding experience for parents. During the days, weeks or even months of hospitalisation of your baby, you may feel overwhelmed by a range of emotions, from feelings of helplessness, anxiety and depression, to frustration, guilt, and anger. This is normal but it is important to talk to someone and get support.

You may deeply love your baby, but the obstacles posed by a premature birth i.e. separation from your baby, maternal ill-health post delivery, the harsh and alien environment of the Neonatal Intensive Care Unit (NICU), the uncertain prognosis for your baby, the need to care for other siblings at home, can mean that you are ill-equipped to meet the needs of your baby's immature nervous system. Since baby's cannot calm and soothe themselves, they rely on you to do so for them. However, if you are unable to be present on the NICU 24 hours a day due to other family commitments or if your baby is being cared for in a hospital located far from your home or if you are unable to manage your own stress, to quickly regain your calm and focus in the face of life's daily stressors, you may be unable to calm and soothe your baby.

Even an older child will look to you, the parent, as a source of safety and connection and, ultimately, secure attachment. If, however, you are depressed, anxious, angry, grieving, pre-occupied, or otherwise unable to be calm and present for your child, their physical, emotional, and/or intellectual development may suffer. If either the parent or the baby has a health problem, nonverbal communication between the two may be affected, which in turn can affect the secure attachment bond.



Experience shapes the brain and this is especially true for newborns whose nervous systems are largely undeveloped. When a baby experiences difficulty in the womb or in the birth process - during a cesarean birth, for example - their nervous system may be compromised. Babies who spend time in hospital neonatal units away from a parent may have early life experiences that leave them feeling stressed, confused, and unsafe. Babies who never seem to stop crying - whose eyes are always tightly closed, fists clenched, and bodies rigid - may have difficulty experiencing the soothing cues of even a highly attuned carer.

The feelings you experience as a primary carer can shape the developmental process occurring in your child's brain. If you are overly stressed, depressed, traumatised, or unavailable for whatever reason, you may not have the awareness or sensitivity to provide the positive emotional mirroring your child needs for secure attachment.



Tips for Bonding with your Baby in the NICU.

You might worry that you won't be able to bond with your premature baby in the NICU. It's true that you are separated from your baby because he needs to be cared for in the hospital. You might not be able to see and hold him early on, or even visit him as much as you'd like because of distance or older children. The worry about your baby's health might also get you down. But there is a lot you **can** do in the NICU to feel close to your baby and develop a bond.

Even though your baby was born early, your baby 'knows' you - your voice and your smell. Your presence will give your baby a sense of familiarity and comfort. This is a great starting point for bonding. Here are some ideas to help you and your baby bond while he/she is in the NICU.

Watch your baby.

Premature baby body language is different from that of full-term babies but over time, you'll learn how to tune into your baby and know whether he wants closeness, or whether he has had enough stimulation. The medical staff can help you start reading your baby's signs.

The underlying principle involved in learning to read your baby's body language is to observe and understand your baby's developing ability to achieve balance i.e homeostasis. This means that your baby can have the neurological capacity under the right circumstances to move from an unbalanced (disorganized i.e. fussy or crying) state to achieve a more balanced state (organised state i.e calm, alert). Sometimes your baby will require the help of a carer to move from a disorganized to an organised state. Under certain circumstances your baby can achieve this change from disorganised to organised themselves. This developing ability in premature infants is called self-soothing or self-regulation.

When observing your baby's behaviour you should observe the sequence of events more than individual behaviours. There are 5 interconnected levels of baby behaviour and observations at one level will have an effect on one or more of the other levels.

Five Levels Of Infant Behaviour

1. The physiological level.
2. Muscle tone and quality of physical movements.
3. The level of state and alertness.
4. The level of interactive behaviour.
5. The stress level.

Physiological Signs

These are signs which can be observed directly by watching your baby closely.

1. Breathing and Pattern of Breathing

Note the skin colour around your baby's mouth, eyes, hand and feet.

Is your baby experiencing repeated hiccuping or excessive yawning?

2. Motor Tone and Motor Control

Motor tone consists of passive and active muscle tone. Passive muscle tone refers to how your baby resists stretching his limbs during caregiving. Passive muscle tone can be hypertonic (high), normal tone or hypotonic (low or floppy).

Active muscle tone refers to your baby's tendency to keep or bring his limbs flexed or extended when he is alone. Your baby's active muscle tone can be observed in the arms, legs, neck and body. As your baby develops he can more actively flex and extend his limbs with improved neuro-motor control.

Motor control can also be observed in terms of smooth or jittery, tremor like movements. Good motor control is seen as fluent and elegant movements with little or no tension/tremors/startles whereas poor motor control may appear as having little or no smooth movement and moderate levels of tremors or jitteriness.

3. Sleeping and Waking Behavioural States

Babies have six characteristic levels of arousal but it is not always easy to tell which is which in a premature baby as these states are immature and often fleeting.

Deep Sleep

Also referred to as "Quiet Sleep" because your baby does not move apart from occasional small startles and has higher overall muscle tone. Breathing is slower and more regular than other times. This state becomes more noticeable after 32 weeks gestation.

Light Sleep

Also referred to as "Active Sleep" because your baby moves about more. Rapid Eye Movements (REM) may be observed: breathing tends to be faster and more irregular than in quiet sleep with lower overall muscle tone.

Drowsy

This is an important part of the sleep cycle and your baby may appear "half awake" as if in transition from sleep to awake or awake to sleep. Some babies may require your assistance to go to sleep (comforting hold) or to wake up (see if your baby opens his eyes in response to your greeting).

Quietly Alert

It may be some time before you see your baby with his eyes open and in the early days the facial expression may appear strained or glazed. During periods of quiet wakefulness you can watch how your baby responds to you i.e. does he turn his head towards you when you speak? When he needs some time out does he turn away from your voice? It is important to read your baby's cues in particular during moments of stress or when he needs a break and to respond appropriately. Some babies will close their eyes and go to sleep when they are feeling overwhelmed and others get hiccups, yawn or sneeze.



Actively Awake

Premature babies are often quite active with their eyes closed and it can be difficult to know they are awake or not. Fussy behaviour indicates that your baby requires something to change or stop. Over time you will discover methods of settling your own baby.

Crying

Premature babies seldom cry but demonstrate that they are upset with agitated movements, grimaces and a crying facial expression.

4. Interactive Behaviour

Your baby's ability to achieve and maintain an alert state is an important developmental step. Babies can begin to process and learn from interaction when in a quiet alert state. When your baby is able to stay awake or alert for a short time you can begin to observe his interaction with you or objects. If your baby is experiencing discomfort or over-stimulation from the environment he is less able to interact. It is advisable to ascertain if your baby is "available" or "not available" to interact by observing his behaviour.

Opportunities to observe interaction

- Note your baby's reaction when you place your face close to your baby's face and speak softly.
- How does your baby respond to sounds and voices in the surrounding environment?
- How does your baby respond to touch, handling and soothing?

Cues that your baby is ready to interact:

- Babbling.
- Soft smooth movement with arms and legs.
- Soft slow chewing.
- Relaxed, open facial expression/movements.
- General muscle tone is average or lower.
- Little or no physical movements.
- His breathing is regular and relaxed.
- His limbs are /relaxed/tucked/flexed close to his body.
- His mouth is relaxed and slightly open.
- His eyes are open or open in response to your voice.
- He calms upon hearing your voice.

5. The Stress Level

Cues that your baby requires time to rest:

- He closes his eyes or turns away.
- His breathing becomes irregular.
- He may stretch or wriggle or arch his back.
- His body becomes limp or stiffens or the arms and legs straighten.
- He places his hand over his face (palm outward with fingers splayed).
- He frowns, grimaces, yawns*, grunts or hiccups.
- He falls asleep.
- His skin appears mottled or pale.
- Paroxysmal (at the extremities), circumoral (around the mouth) or periorcular (around the eyes) cyanosis (blue colour) is visible.
- He displays roving eye movements or tight blinking.



* If yawning is the only sign noted it may not be an indicator of stress. Observe the infant to see if there are any other concurrent indicators of stress present.



When your baby is trying to achieve homeostasis (balance or a more organised calm state) he may display the following coping/self-soothing behaviours:

- Brings his hand to his mouth or his touches face.
- Covers his eyes and ears.
- Clasps his hands or press one foot over the other.
- Moves his body, lift or turn his head to get comfortable.
- Sucks his hand.
- Presses his feet against the bedding or cot.
- Grabs or hold onto the bedding, tubes or clothing.
- Brings his hands to the center line of his body.
- Turns away from strong stimuli.



Touching and Holding

Touching, holding and massaging your baby can help your baby to feel cared for and supported.

In the early days your baby may not like being stroked or touched as it can be too stressful for him and he can only tolerate one form of interaction at a time.

Babies protect themselves against stressful overstimulation situations by engaging in frantic activity, stiffening their limbs, appearing drowsy, showing a panicked facial expression, gaze aversion, hand-to-mouth manoeuvres or bracing their feet against the side of the incubator. If your baby shows signs of distress, and is unable to self-soothe, you can use some of the self-soothing behaviours from the previous section to help him to calm himself.

Comfort Holding

Comfort Hold is a form of positive touch and helps your baby to feel secure and relaxed. It is often used after a medical procedure.

Before you start ensure that your hands are clean and warm. Start by offering a finger to your baby to hold, or by cupping your baby's feet, body and head in your hand. Gently open the incubator doors, talk to your baby and let him know that you are present.

- Cup your warm still hand around your baby's head and/or feet.
- Gently rest the other hand around your baby's shoulders or hold his arms across his chest.
- Refrain from using light stroking.
- Breathe slowly and deeply and keep your hands relaxed.
- Comfort hold your baby until he/she feels settled.
- To finish, slowly remove one hand and only remove the remaining hand if your baby continues to remain relaxed.

Skin-to-Skin Care/Kangaroo Care

Modelled in nature by the mother kangaroo and her joey, kangaroo mother care allows newborns to be in skin-to-skin contact with their mothers warmed by conductive and radiant heat transfer, and in close proximity to breast milk.

Kangaroo care (KC) or Skin-To-Skin Care (SCC) was first introduced in Bogota, Columbia in 1978 as a low-cost, safe and effective intervention to maintain a premature baby's temperature due to the unavailability of incubators, and today is employed worldwide (15)(Nagorski Johnson, 2007).





KC is defined as the **“Early, prolonged & continuous skin-to-skin contact between a mother/father & their newborn low birth weight infant (<2500 g) both in hospital and after early discharge, with (ideally) exclusive breastfeeding, & proper follow up”**. It involves a baby dressed only in a nappy and sometimes a cap, being placed in skin-to-skin contact (SSC) with their carer.

KC can be commenced by either parent immediately after birth if your baby’s medical condition permits and can continue up until your baby is 15lbs. The minimum time that should be spent doing SCC with your baby is 1 hour.

Oxytocin is a chemical messenger released in the brain chiefly in response to social contact, but its release is especially pronounced with skin-to-skin contact. In addition to providing health benefits, this hormone promotes bonding patterns and creates desire for further contact with the individuals inciting its release.

When the process is **uninterrupted**, oxytocin is one of nature’s chief tools for creating a mother. Roused by the high levels of estrogen (“female hormone”) during pregnancy, the number of oxytocin receptors in the expecting mother’s brain multiplies dramatically near the end of her pregnancy. This makes the new mother highly responsive to the presence of oxytocin. These receptors increase in the part of her brain that promotes maternal behaviours.

In contrast the premature baby arrives into the world before the end of the normal pregnancy term, is often separated from his mother in the delivery room and in some instances it can be hours, days or weeks before the mother finally gets to initiate that **“social contact”** and hold her baby.

Many medical studies have been performed to establish exactly what the benefits of Kangaroo Care are for both mother and baby. These studies have consistently proven immense benefits and demonstrated exactly what those benefits are and how they happen. They include:-

- Improved cognitive, neurodevelopmental and physical development.
- Encourages healthy sleep.
- Supports breast-feeding.
- Releases oxytocin which reduces stress and reduces cortisol levels.
- Lessens the symptoms of maternal anxiety and depression.
- Enhances bonding and parent/infant interaction.
- Increases parental sensitivity to infant cues.
- Regulates temperature, heart-rate and respiration.
- Limits pain sensations during procedures.
- Develops a strong immune system.
- Reduces mortality.
- Lowers the risk of infection.
- Shortens hospital stay.

Benefits in Detail

Cognitive, Neurodevelopmental and Physical Development

- Higher scores on the Mental Development Index and Psychomotor Development Index of the Bayleys Scales of Infant Development at 6 months and 1 year were noted in babies who had had skin-to-skin care (16).
- KC has been noted to accelerate brain maturation in premature babies (17).
- KC has been observed to positively influence the premature brain networks and synaptic efficacy up to adolescence (18).
- Babies cared for with KC grow more quickly and establish physiological self-regulation more quickly.
- KC babies gain more weight per day (19).
- KC has a positive influence on the motor activity of newborns (20).



Healthy Sleep

- KC increases sleep time, including time spent in quiet sleep. At term, babies who have received KC in the NICU demonstrate longer periods of quiet sleep and alert wakefulness, shorter periods of active sleep and more organised sleep-wake cyclicality suggesting more rapid improvement in state organisation. Infants are also more alert and responsive, and less irritable and fussy (21).

Breastfeeding Support

- KC is associated with longer duration of breastfeeding, higher volumes of Expressed Breast Milk and higher exclusive breastfeeding rates (22).
- Mothers of KC babies are more likely to be breastfeeding at discharge (23).
- Greater increases in weight gain through reduction of stress, stimulation of the digestive system and warmth provided by the parenting results in the baby not having to burn fat or expend its own energy.
- Stimulation of Mums digestive system which enables her to benefit more from her own nutrition and increases milk production.

Improved Psychological and Emotional Wellbeing for Mother

- KC through sensory stimuli such as touch, warmth and odour is a powerful stimulant, which releases maternal oxytocin.
- KC lowers maternal stress level. Oxytocin antagonises the flight-fight effect, decreasing maternal anxiety and increasing calmness and social responsiveness.
- KC outcomes for mothers suggest improved bonding/attachment, increased sense of mastery and self-enhancement, resulting in increased confidence (24).
- Mothers who provide KC describe feelings of being needed, increased confidence in knowing their babies and a sense of their role as a mother (25).

Enhanced Bonding and Attachment

- Mothers and fathers who practice KC are better able to interpret their baby's cues.
- At discharge parents were observed to look and touch their baby more frequently, show more positive affect and be more adaptive to their baby's signals, provided a better home environment and were more sensitive to their baby (26)(27).
- KC reduces post-natal anxiety and post-natal depression in mothers.
- Using SCC tops allows staff to care for the baby without the need for maternal separation.

Regulates Temperature, Heart Rate and Respiration Rate

- KC regulates baby's temp, heart rate and respiration rate. Mothers automatically provide thermoregulation by changing their own skin temperature to maintain optimum warmth without overheating their baby.
- Baby gains security and warmth by the close contact, familiar scent of mum and the sound of her heartbeat, breathing and voice, which offer gentle stimulation across the auditory, tactile and vestibular sensory systems (which help modulate the perception of pain).

Pain Management

- Reduces behavioural and physiological responses.
- Leads to a better tolerance of pain in the premature baby.

Reduction in Mortality and Morbidity Rates

- When KC is started in the first week of life there is a reduction in neonatal mortality (28).
- Early KC increases the chance of the baby being colonised with maternal flora which boosts the immune system.



Initiating Skin-to-Skin Care

Single-Person Transfer for Skin-to-Skin Holding.

- A comfortable, reclining chair (with a pillow and a foot stool) should be positioned near the incubator. If available use a privacy screen or curtain.
- Ask the parent to expose their chest for positioning the baby.
- Check all leads, lines, tubes and organise them at one point to be held easily during transfer. The baby should only wear a nappy for maximum skin exposure.
- Instruct the parents how they can identify the signs of stress in their baby and how to help their baby to self-sooth to become organised i.e hand to face, sucking opportunities, comfort holding. Parents can also help the baby to become organised by swaddling for transfer to their chest.
- Position the parent at the side of the open incubator. Ask the parent to place the baby, in a side lying position to the side of the incubator. The staff member can take the positioning into account when they do the baby's care prior to kangaroo care, and apply materials for swaddling the baby for transfer. Make sure the swaddling material can be easily opened at the front for skin-to-skin kangaroo care.
- Briefly silence the alarms during the transfer.
- Ask the parent to place their hands under the baby, supporting the head and spine.
- Ask the parent to bow towards the baby, bringing their torso very close to the baby.
- If possible, disconnect the ventilator from the tube.
- Instruct the parent to lift the baby from the bed directly to their chest, and placed in a prone position with the head turned to one side. The baby should be completely contained by the parent's hands and body. If the baby has been swaddled for the transfer remove the swaddling material to optimise skin exposure.
- Support the parent to straighten up and guide them to the chair and to sit down.
- Reattach the ventilator.
- Have the parent get comfortable in the chair (pillow for the neck, foot stool).





- Cover the baby and parent with a (pre-warmed) blanket, parent's clothes OR use a specifically designed kangaroo sweater.
- Use tape to secure tubing to the parent's clothing or the chair or if using a KC sweater ensure that all tubing is fixed as per the sweater instructions for use.
- Provide clear instructions how to contact the staff during kangaroo care, especially when they are behind a curtain, a partition, or in a single room.
- Offer the parent a small mirror to use to see their baby's face or if they are using a KC Sweater instruct the parents how to use the built-in mirrors.
- Make sure they have something cold to drink.

Two-Person Transfer for Skin-to-Skin Holding.

- A comfortable, reclining chair (with a pillow and a foot stool) should be positioned beside the incubator. If available use a privacy screen or curtain.
- Have the parent get comfortable and seated in the chair (pillow in the neck, use the foot stool).
- Ask the parent to expose their chest for positioning the baby.
- Check all leads, lines, tubes and organise them at one point to be held easily during transfer. The baby should only wear a nappy for maximum skin exposure.
- Place the baby in a side lying position to the side of the incubator. In the care prior to kangaroo care the staff can already take into account the positioning of the baby.
- Help the baby become organised: hand to face, offer sucking opportunities, containment with your hands or boundaries.
- Briefly silence the alarms during the transfer.
- If possible, disconnect the vent from the tube and transfer the infant to the parent's chest. If this is not an option, ask the second person to hold the tubing and guide it during transfer.
- Support the baby gently into a flexed and contained position during the transfer. Move the baby very smoothly with minimal change between the horizontal to a vertical position. Use a swaddled blanket or position aid such as a snuggle for transfer.
- Place the baby in a vertical way (chest to chest) and help tuck the baby into the parent's top/KC Sweater with the parent's hand under the baby's bottom and legs to support the flexed position.
- If not using a KC Sweater cover the baby and parent with a (pre heated) blanket or parent's clothes.
- Use tape to secure tubing and respiratory tubing to parent's clothing or the chair or if using a KC Sweater ensure that the tubing is secured as per the sweater instructions for use.
- Give parent(s) instructions how to contact the staff during kangaroo care, when they are behind a curtain, a partition or in a single room.
- Give the parent a small mirror to use to see their baby's face or if using a KC Sweater instruct the parents how to use the built in mirrors in the sleeves.
- Ensure that the parents have a cold drink nearby.

Feeding

Your Breast Milk is important to your baby at any age.

Research shows that giving your premature baby your breast milk benefits their health as well as yours AND can build a strong emotional bond between you and your baby.

Among other things, your breast milk:

- Helps protect your baby from infections, particularly of their gut (premature babies are more prone to these).
- Contains hormones, nutrients and growth factors that help your baby to grow and develop .
- Is easier for your baby to digest than formula milk, because it is human milk specially designed by your body for your baby.



Premature and ill babies are often too weak to suck at the breast or bottle and require specialised methods of feeding e.g. intravenous feeding or tube feeding until they are strong enough to suck efficiently. All babies lose weight after birth (as much as up to 10% of their birth weight) and premature babies can lose more than term babies. In addition they are slow to regain their birth weight.

When Will Your Infant Be Fed?

Premature babies must learn to regulate their breathing and heart rate initially and digesting milk at this early stage may prove too difficult for them. It may take a little time before their stomachs are able to tolerate milk and to establish feeds.

When Will Your Infant Be Fed?

If your baby is unable to breastfeed at your breast, you will need to express (pump) your breast milk (up to 10 times per day including at least once per night) so that it can be given to your infant through a feeding tube. It is advisable to commence expressing breastmilk soon after the birth of your baby (ideally within the first 6 hours).

Initially, it's often easier to express your milk by hand. Your midwife or a lactation consultant can show you how. You'll probably only express a few drops to begin with but, if you hand express often, this will increase. In the early days you can collect your breast milk in a small, sterile cup and store it in a the designated EBM storage area in the NICU. Every drop is beneficial for your baby.

Hand expressing is encouraged in the days immediately after delivery but it is also possible to commence expressing using one of the Hospital Grade Breast Pumps. Many NICUs provide an expressing room and pumps for mothers with infants on the unit however it is also advisable to organise a suitable hospital grade breast pump for use at home (even while your baby is still in the NICU); the NICU staff will provide you with the contact details for the various companies in your locality who offer a breast pump rental service.

Tips for Expressing

- Wash hands thoroughly before you start.
- Massage each breast prior to expressing.
- Always hand express for a couple of minutes at the beginning and end of each session.
- Express 8-12 times per day, including during the night, in order to stimulate your supply.
- Once the supply is established continue to express 6-8 times per day to maintain your supply.
- Use a double-electric pump.
- Always store the breast milk in a sterile container.
- Refrigerate the EBM as soon as possible after pumping.
- Ensure that EBM is kept in a cooler bag during transport to the hospital.
- Ensure that EBM containers are properly marked with identification labels.
- EBM can be stored in the freezer in containers or breast milk storage bags.
- Eat a balanced diet, with regular meals and drink plenty of liquid.
- Advise the NICU staff if you are taking any medication.
- Wash the pump attachments after each use in hot soapy water and sterilise them.
- If you need to combine freshly expressed milk with frozen milk, cool the EBM first. Don't add more than there is of the frozen, to avoid thawing.
- Allow frozen EBM to thaw in the refrigerator for 12 hours or overnight before use. Avoid letting EBM sit out at room temperature to thaw.
- For quicker thawing, hold the container of EBM under running water-start cool and gradually increase the temperature.
- Swirl the bottle of EBM gently before use if the creamier portion has separated do not shake as this can cause some of the proteins to break apart.
- To warm EBM, heat water in a container and place the EBM in the water to warm or use a bottle warmer –never microwave EBM or heat it directly on the stove.
- To avoid waste store EBM in 1-4 oz portions.
- If the baby does not drink all the EBM at one feed, the EBM can be returned to the fridge but must be consumed within 3-4 hours.

Breastmilk Storage Guidelines

Room Temperature: 4/5 Hours

Cooler With Frozen Ice Packs: Up to 24 Hours

Fresh Milk in Refrigerator: Up to 8 Days

Thawed EBM in Refrigerator: Up to 24 Hours

Freezer Unit: Up to 6 Months

Deep Freeze Unit: Up to 12 Months.



Tube feeding your baby

Even after your baby's stomach has matured to enable him to digest milk, it may be some time before he is strong enough to suck from the breast or bottle. The sucking reflex usually matures around weeks 33-35 gestation. In the interim your baby will be fed through a soft fine plastic tube passed through the nose (naso-gastric tube, NG tube) or mouth (oro-gastric, OG tube) and into the stomach. A syringe is attached to the tube and the milk is placed in the syringe. Breast milk fortifiers, which contain a mixture of minerals, vitamins and protein, may be added to your breast milk.

All feeding into the gut is referred to as **'enteral nutrition'**.

Gravity gradually pulls the milk down into your baby's stomach. Initial feeds will be as little as one or two mls every 3 hours. Occasionally your baby may not tolerate even these small amounts of milk and this feeding method will be stopped for a day or two before being tried again.

After 32 weeks of gestation breast or teat feeds will be introduced in tandem with tube feeds which will gradually be phased out as your baby grows stronger.

Tube feeding your baby is a unique opportunity to connect with or bond with your baby and you should let the staff on the unit know that you will be present for and wish to give the tube feed to your baby

Nursing

As your baby grows and learns to co-ordinate sucking, breathing and swallowing, he may show signs that he is ready to commence feeding by mouth (oral feeds). Oral feeding requires more effort than tube-feeding and the transition can take some time. Babies under 35 weeks of gestation are not expected to be able to manage full oral feeds and may have their oral feeds complimented by tube-feeds to ensure that the baby receives all of his nutrition requirements. Regardless of how you choose to feed your baby, the feeding process is an opportunity to foster the bonding and attachment.



Whilst the challenges of managing a new baby is likely to bring some level of stress and anxiety from time to time, generally this will be transient and feelings will pass on their own with time.

If however you have ongoing disturbing thoughts and/or feelings of worry and tension that are hard to live with and/or affect your ability to manage from day to day, then you may be experiencing **Postnatal Anxiety**.

Anxiety is the broad term used to refer to a range of conditions that have a number of common symptoms including:

- Constant worry
 - Feeling that something bad is going to happen
 - Racing thoughts
 - Disturbances of sleep and appetite
 - Inability to sit still
 - Dizziness
 - Hot flushes
 - Nausea



Many people with postnatal anxiety disorders often describe feeling like they are 'going crazy' or 'losing their mind' as racing thoughts keep coming back and causing them to feel the range of physical and emotional symptoms. This can be also exacerbated by a lack of sleep that can come not only with anxiety but also with a new baby.

In response to the feeling of losing control, you may find yourself wanting to make sure that everything is perfectly in order and under control for fear that you are not doing things 'the right way' or that 'something bad' will happen. For example, women experiencing postnatal anxiety may find themselves checking on the baby continually (even when asleep) for fear that they will stop breathing, or have visions of something terrible happening to the baby that would harm them.

Post Natal Depression

Postnatal depression is a common, but debilitating condition that affects one in seven women following the birth of their baby. Unlike the baby blues which passes on its own, postnatal depression can be long-lasting, and affect your ability to cope with a new baby.

Depression makes coping and managing from day to day difficult - at any time of life. When considering therefore the additional demands of caring for a baby and/or others, the impacts can be greater. These other demands on you can also make it hard to find the energy and strength to get on top of postnatal depression on your own sometimes.

Symptoms of depression include:

- Feelings of anger or irritability
- Lack of interest in the baby
- Appetite and sleep disturbance
- Crying and sadness
- Difficulty concentrating
- No energy
- Feeling isolated or disconnected
- Feelings of guilt, shame or hopelessness
- Loss of interest, joy or pleasure in things you used to enjoy
- Thoughts of harming yourself or your baby



If you are experiencing a number of these symptoms, and these are lasting for two weeks or more in the first year of having your baby, you may be experiencing postnatal depression.

These symptoms of postnatal depression can develop gradually or within a short period of time. In some women, depression may develop during pregnancy (antenatal depression) and continue through to the postnatal period (postnatal depression), whilst for others postnatal depression will develop for the first time in the weeks or months after the baby is born.

Whilst you may feel like you are the only one going through this at the time - you are not alone. Having a baby increases the likelihood of developing depression at this time more than at any other time of her life.

Men are also at risk of experiencing distress following the birth of a baby. This is particularly the case if their partner is experiencing postnatal depression.

Whilst common, postnatal depression can be **serious**. If postnatal depression is not recognised or treated, the condition can become more severe, and affect your ability to care for yourself and your baby. If you get to a point where you feel that your partner or baby would be better off without you, or you are having thoughts of suicide or harming yourself or your baby, you need to seek professional help immediately.

Postnatal depression can be **long-lasting**. Although technically postnatal depression develops from the first month up to twelve months after birth, often it can go on for much longer (months or even years) if not identified and treated early. It may also re-emerge in a later pregnancy or following the birth of another child if not identified and effectively treated.

Finally, postnatal depression can have **widespread impacts** on other members of the family. It may have a negative affect not only on the mother, but also the father, baby (and their development) - as well as other children.

For all these reasons, it is important to **seek help early**, so that you can reduce these negative impacts of postnatal depression on you, your life and your family. Postnatal depression can be treated and managed. The faster you seek effective help, the faster you can recover

It is also very common to experience postnatal anxiety and postnatal depression at the same time. In fact, in up to 50% of cases these two conditions co-occur.

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Useful Resources

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<https://psychology-tools.com/epds/>

<http://www.postpartum.net/>

<https://www.hse.ie/eng/health/az/p/postnatal-depression/symptoms-of-postnatal-depression.html>

<http://www.yourmentalhealth.ie>

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www.babycentre.co.uk

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