



Norfolk and Norwich
University Hospitals
NHS Foundation Trust

Infant feeding on the Neonatal Unit

SHORT STAY ADMISSION GUIDE



Welcome to NICU.

Congratulations on the birth of your baby. We are here to support you and provide you with the information you need to feed your baby on Neonatal Intensive Care Unit. (NICU)

It is an exciting time at NNUH as of June 2023, we have made our commitment to begin the process of becoming accredited according to the UNICEF Baby Friendly Neonatal Standards. This means that as a unit we are improving our practice to better support families with feeding and developing close, loving parent-infant relationships, ensuring that all families get the best possible start. We strive to provide sensitive and effective care and support for families, enabling them to make an informed choice about feeding, get breastfeeding off to a good start and overcome any challenges they may face.

All nursing and medical staff have infant feeding training. We want you and your baby to enjoy a responsive, positive and rewarding feeding experience whether you choose to go on to breastfeed, continue to express or choose to stop. We take pride as a unit, in supporting all parents however they choose to feed their babies. We have a small specialist infant feeding team to support staff and parents and are available should any complex issues arise. Please ask your cot side nurse if you would like to see a member of this team. We work closely with Speech and Language Therapy (SALT) to ensure safe feeding and introduce oral feeds at the right time, in the right way for all within our care.

If you choose not to breastfeed your baby or provide them with expressed milk, we have additional resources available to support you in the safe preparation of formula milk and paced bottle feeding practices.

Having a baby who is early or ill can be a very emotional time. As parents you may feel overwhelmed and unsure of what to expect or what your role is. This is all very normal. This document has been designed to support you through your feeding journey with your baby throughout your entire stay on the NICU and beyond.

We know that every drop of expressed milk you can give your baby has value. If your baby is born prematurely or is sick, human milk is like a **medicine**.

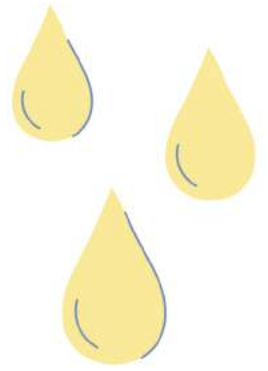
Expressed milk protects babies against gastrointestinal and respiratory infections. Feeding expressed milk results in reduced risk of necrotising enterocolitis (NEC), an acute inflammatory disease of the intestines and the most common gastrointestinal medical emergency occurring in preterm babies.

Colostrum is the early milk that your body makes during pregnancy and in the first few days after giving birth.



This is baby Emily. We would like to thank her parents for allowing us to use these images and hope that you find them helpful as you move through your own NICU journey.

Colostrum, is rich in immunologic components and contributes crucially to the maturation of the baby's intestines. It is produced in very small quantities but every little drop is precious. It can be collected in a syringe and given straight in to your babies mouth as soon as possible after birth.



Expressed breast milk (EBM) is well tolerated and digested in preterm babies. Lipids and fatty acids are important for neurological and visual development. Protective enzymes, hormones, and growth factors are important for intestinal growth and maturation. Oligosaccharides (non-digestible carbohydrates) within expressed milk support the establishment of a healthy gut microbiome.

Every drop of EBM your baby receives will give them the best possible start in life. You can decide at a later date if you would like to carry on expressing long term or move towards direct nursing at the breast. If you need help making this decision, the infant feeding team will support you with this.



Expressed colostrum stored in syringes.

Frequency of expressing:

Research shows that the earlier you start and the more often you express, the more milk you will produce for your baby. This is really important especially in the first few weeks.

- Start expressing within **1 to 2 hours** of giving birth.
- Even if your baby is not feeding, aim to express at least 8 - 10 times in 24 hours including overnight with no long gaps.
- Times between expressing don't need to be regular. It is the number of times you express that make the difference.
- Expressing overnight can help increase your supply for the next 24 hours.
- The more often you express, the more milk you will make. If you are worried at any time, please ask your cot side nurse for support.

You will need:

- A space where you feel comfortable. Some parents like to express next to their baby with or without a screen. The expressing room is also available.

- Clean hands.
- Colostrum syringes.
- Some parents prefer to express into a sterile pot.
- ID Labels.
- Number labels and a pen.



Expressed colostrum stored in bottles.

How to hand express:

Step 1

Start off by encouraging your milk to flow – being near your baby or looking at pictures and videos of your baby will help. To express by hand, start by gently massaging your breast and nipple to stimulate the hormones needed to release milk.

Step 2

Position your thumb and fingers in a 'C' shape 2 to 3 cm back from the base of the nipple.

Step 3

Gently press and release, press and release, and keep repeating until your milk starts to flow. This may take a few minutes. Collect your milk in a colostrum syringe.

Step 4

When the flow slows down, move your fingers round to a different part of your breast and start again. Change breasts and start again. Label any milk with your name, the date and the time.

You may find combining hand expressing and using the breast pump helps you to make more milk for your baby.

There are many different types of breast pump. Within the maternity department and on NICU at NNUH we use the Medela Hospital grade 'Symphony' double pump.

When using the breast pump it is recommended to express both breasts at the same time (double pumping). This helps to save time and can also stimulate your hormones which can increase your milk supply. You can use a modified bra to help hold the funnels in place.

Staff will ask regularly how you are getting on over these first few weeks. If you experience any discomfort when hand or pump expressing, ask your cot side nurse for support.



Measured feeds ready to be given stored in syringes in incubator with Emily.

Early Expressing Checklist:

	✓
Start hand expressing both breasts within 2 hours or as soon as you can after delivery.	
Try to express regularly at least 8x in 24 hours.	
Wake at least once overnight to express.	
Don't worry if you don't get anything, or only drops when you express - keep going!	
Ask your midwife / NICU cot side nurse to set up the hospital grade double pump.	
Speak with the NICU Infant Feeding Team.	



How to use the Medela 'Symphony' double pump:

All parts of the pump set need to be sterilised **BEFORE** first use except the tubing with cap. It is recommended to double pump so you will need two sets.

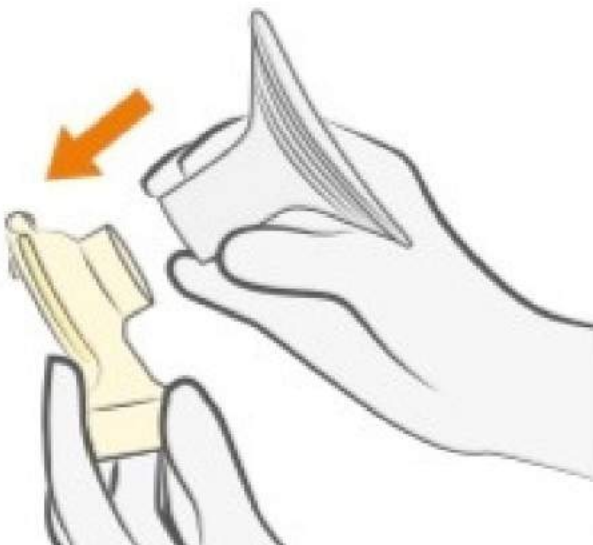
1. Carefully place the membrane into the connector with the flap into the opening of the connector. Make sure that the membrane forms a seal around the edge of the connector.



2. Close the connector lid until it audibly clicks.



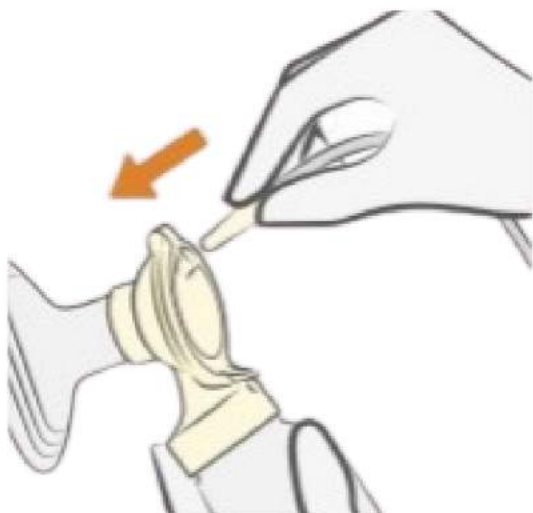
3. Carefully push the breast funnel onto the connector.



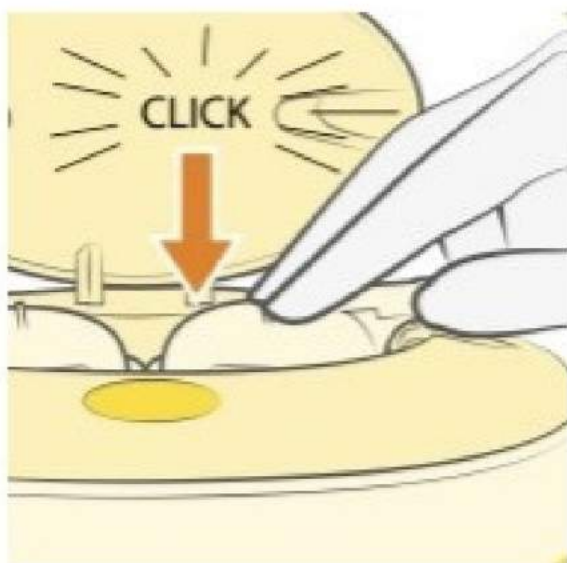
4. Screw the connector onto the bottle.



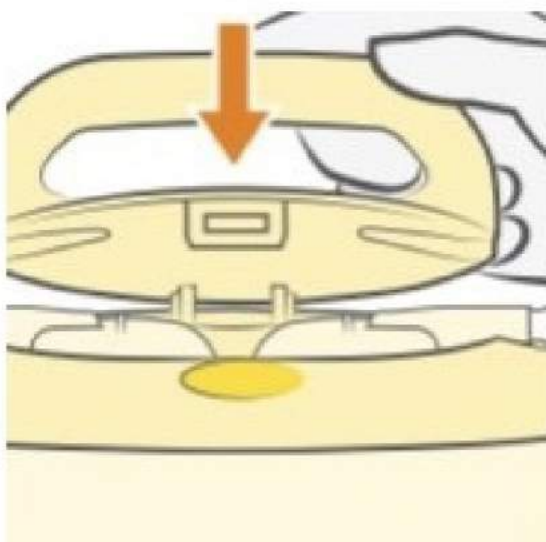
5. Insert the tubing adapter into the opening in the Symphony cap.



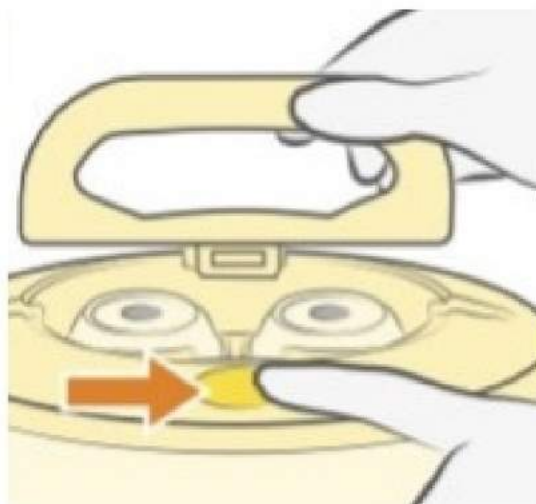
7. Place the cap over one part in the top of the pump.



9. Close the lid.



6. Open the lid of the breast pump. Press the oval button on the top of the Symphony pump and lift the handle.



8. Centre the tubing connector in the recess in the pump housing.



10. Plug the pump in. It is ready for use.

Pump settings:

1. The **INITIATE** setting initiates milk production. The program mimicks the irregular and more rapid sucking and pausing pattern of a term born infant in the first days of lactation.

- Use the INITIATE setting until you have pumped at least 20ml in total in each of your last three pumping sessions.
- The INITIATE setting **runs automatically for 15 minutes with several pauses.**
- Turn on by pressing the on button and then the INITIATE let down button within 10 seconds. It is important to complete the full program.
- Set comfort vacuum by rotating the dial to the right to increase vacuum until there is slight discomfort then rotate to the left to reduce the vacuum to your maximum comfortable vacuum.
- At the end of the program the display shows. 'Program Complete.' The pump switches off automatically.

2. Use the **MAINTAIN** program once you have pumped at least 20mls in total in each of your last three pumping sessions OR at the beginning of Day 6, whichever comes first.

- Turn on by pressing the on button. The pump will display MAINTAIN running. A stimulation phase runs for 2 minutes before switching to the expression phase.
- Set comfort vacuum by rotating the dial to the right to increase vacuum until there is slight discomfort then rotate to the left to reduce the vacuum to your maximum comfortable vacuum.
- Pump **for at least 15-20 minutes** as a guide. Some may need to express for slightly longer, some for a slightly shorter period. Continue until the breast feels well drained and soft all over.
- The pump program must be switched off manually.

Tips:

The funnel is oval and can be rotated and placed in the position that is most comfortable. Move this position for each expressing session so that all the milk ducts in the breast are regularly stimulated.

We have different sizes of funnels available. Only your nipple should be pulled into the tunnel of the funnel. The sides of your nipples should touch the sides of the funnel. Your nipple should move a little bit back and forth in the tunnel. Milk should spray during pumping. You should feel nothing or at most, a gentle tug.

See the QR code opposite for a funnel fit guide.
If you experience pain or swelling, seek support from the feeding team. Sometimes you may require a different size funnel for each breast.

We will support you to find the best fit for you.



Cleaning and sterilising:

(The tubing and cap do not need sterilising.)

- Wash and dry your hands.
- Remove bottle from expressing set and place lid on top. Label bottle with your baby's hospital sticker and write on date and time of expressing.
- From the numbered stickers found in your pack, place the lowest number available on the bottle - this enables your baby to receive breast milk in the order that you have expressed it.
- Place your labelled EBM in the fridge.
- Unclip connector lid and remove membrane. Remove breast funnel from connector and wash the breast funnel, connector and membrane in hot soapy water then rinse.
- Place the rinsed parts in the microwavable bag.
- Add 60mls cold tap water and seal bag.
- Place in microwave. Check wattage of microwave and then check for the time interval that the bag needs to be placed in the microwave for.



Expressed milk stored in bottles and microwave sterilising bag.

- When timer is finished remove bag using the safe grip part of the bag and tip out any water left in the bag. Mark the bag each time it is used on the grid - this is found on the front of the bag.
- The parts are then ready to use. If they are not used immediately they can be kept in the **sealed bag for up to a maximum of 4 hours**.

Pump set parts that require sterilising:



Breastmilk storage in **HOSPITAL**:

Fresh EBM at room temperature can be stored for 4 hours.

Fresh EBM in the refrigerator can be stored for 72 hours.

It can be frozen if not required for up to 3 months.

Frozen EBM should be thawed in the refrigerator and can be stored in the refrigerator for 24 hours once thawed.

We have two hospital grade freezers locked in our equipment room.

When freezing your EBM, it may be useful to think about freezing some in smaller quantities, eg, 50ml bottles. This is to reduce any wastage if slowly building feeds up.

We will freeze your EBM if your baby is nil by mouth or on small volume feeds.

We will defrost and use your 'numbered' EBM in the order that it was expressed until your baby reaches 'full enteral feeds' and no longer requires a 'intravenous drip.' At this point, we will use your fresh EBM as you express it.

For information about breastmilk storage at **HOME** please see the QR code linked to:

The Breastfeeding Network: Expressing and Storing Breastmilk.



Some days may be harder than others. On these days do what you can to relax and look after yourself.

Sometimes, despite regular expressing using double pumping, your milk supply may start to fall. Please talk to us if you are concerned or ask to speak with the Neonatal Feeding Team. We have a leaflet available: (Patient Information Leaflet: Tips for increasing your milk supply when expressing.) Here are some things we recommend you do to help increase your breast milk supply whilst awaiting review:

- Increasing the amount of contact and skin to skin you have with your baby, see below. (Staff will support you with this).
- Expressing near your baby, thinking about your baby, and looking at photos of your baby while you express.
- Cover up the bottles as you express so you don't focus on how much you are getting.
- Exchanging a muslin cloth or item of clothing with your baby that has been near you. They will be comforted by your smell and you can touch and smell something that your baby has been close to when you are expressing.
- Looking after yourself by drinking plenty so that you stay hydrated, eating well and getting rest when you can.
- Read about and consider taking a Vitamin D supplement, see QR code below.
- Increasing the frequency of expressing attempts: try hand expressing and using the pump.
- Check you have a good fit with the pump.
- See page 11 for a funnel fit guide.
- You could also look at the expressing checklist (see page 21) of this booklet.





Skin to skin

As soon as your baby is stable, staff will support you to have skin to skin care with your baby. It helps you produce hormones which can help with your milk supply, regulates baby's heart rate and breathing, keeps them warm and helps calm you both. Whilst in skin contact your baby will sleep more deeply which helps them grow and nurture their growing brain. It can help to comfort your baby after blood tests or a medical procedure.



Emily skin to skin with her parents.

At times, your baby may be more comfortable lying in the incubator than being held. In this case, the staff may suggest that you try comfort holding if they think your baby is well enough. Comfort holding is one of many ways for you and your baby to get to know each other. Comfort holding is 'still touch'. Cradling your baby with still, resting hands can be more comforting than stroking or massage, which are more stimulating.

Comfort holding can:

- Soothe your baby during uncomfortable procedures.
- Settle a restless baby.
- Help your baby to get back to sleep after feeds and care.
- Encourage your baby to be quietly awake and responsive.

Comfort holding is a way to experience loving touch when your baby is not ready to be held.



Emily being comfort held whilst in intensive care.

WEEK 1

You may find it helpful to record the number of times you are expressing and the amount you express. You can use the chart below to do this. Remember, in the early days **it is normal to make small amounts of colostrum but every drop is important to your baby.**

In the next few days you should see a gradual increase in the amount of milk you make.

In the early days it is really important that you express your breasts as much as you can to help you make as much milk as possible.

If you are concerned please speak to your nurse or midwife.

Exp No:	Date	Date	Date	Date	Date	Date	Date
1	ml						
2							
3							
4							
5							
6							
7							
8							
9							
10							

WEEK 2



You have been expressing for a whole week - well done! Every drop makes a big difference for your baby.

Comfort holding, skin to skin and massaging your breasts before you start expressing will help stimulate hormones that help you and your baby relax and also help you make more milk for your baby.

You may be feeling a rollercoaster of emotions at this stage. It can be normal to feel tearful and stressed. We can help you deal with these emotions. Do not be worried about asking for help. We have a specialist infant feeding and family care teams to support you.

Exp No:	Date	Date	Date	Date	Date	Date	Date
1	ml						
2							
3							
4							
5							
6							
7							
8							
9							
10							

Use this form to check how you are getting on, please let us know if you require any further support or if something doesn't feel right.

			Top Tip
Are you expressing at least 8-10 times per day?			Expressing two or three times within a few hours can help you to express more each day.
Are you expressing at least once during the night?			Expressing at night increases the hormones that make milk and can be really helpful in maintaining or increasing your supply.
Are you double pumping?			Expressing both breasts at the same time can help supply and save you time.
Are you massaging your breasts before using the pump?			Massage releases oxytocin and helps your milk to flow.
Is the pump working well? i.e. The suction seems less than before.			Ask staff to check if you are not sure.
Are you having any pain or discomfort when expressing?			If you are having pain or discomfort, please ask staff for support.
Are your breasts feeling sore, heavy or red?			Ask the staff to check your breasts.
Are you having kangaroo care/cuddles/positive touch with your baby?			Ask staff to help you to have more skin contact and cuddles.
Are you able to express by your baby's cot?			Ask staff if you need help with this.
Is the amount of milk you are expressing increasing?			This is a good sign but check with staff if you are worried.
Is the amount of milk you are expressing decreasing?			This happens to lots of mum's so please ask staff for support and advice to increase your milk supply.
Are you happy with storing and transporting your breast milk?			Ask the staff for advice.

Patient Information Leaflets available: Engorgement, Blocked Ducts, Top Tips for Increasing Milk Supply. The Neonatal Infant Feeding Team, will provide you with these should you require them. Please do not hesitate to ask us if you need help.

Feeding cues

Early (I'm ready to feed)	Mild (I'm really hungry)	Late (Calm me first then feed me)
Stirring, eyes open.	Stretching.	Crying.
Mouth opening, tongue moving.	Increased movement.	Agitated, cross.
Turning head, seeking, rooting.	Hand to mouth.	Turning red.

Stress cues

These are the signs that your baby may show when they want to pause or stop feeding. Any remaining feed can be given by tube once baby is calmed and it is safe to proceed:

- Grimacing
- Arching
- Finger splaying
- Crying
- Dribbling
- Colour changes around the face
- Drop in Oxygen levels ("sats")
- Loss of alertness, falls asleep
- Hiccups or sneezing.

It is important to respond to these signs to make sure feeding is a safe and positive experience for your baby.

THINK CHINS:

CLOSE - (Hold baby skin to skin, or close with no gaps)

HEAD FREE - (So they can tip it back)

IN - LINE - (Head, shoulders, hips, feet not twisting)

NOSE TO NIPPLE - (So that the chin comes in first)

SUSTAINABLE - (Are you comfortable? - Do you need a cushion to support your arms, do you need a foot rest?)

Breastfeeding your baby

1. Hold your baby's whole body close with their nose level with your nipple. Make sure their head and body are in a line and facing you, so they are not twisting their head or body awkwardly. Support your baby along their back and shoulders rather than their head so they can move their head freely to attach to your breast.

2. Let your baby's head tip back a little so that their top lip can brush against your nipple. This should help your baby to make a wide open mouth.

3. When your baby's mouth opens wide, their chin should be able to touch your breast first, with their head tipped back so that their tongue can reach as much breast as possible.

4. With their chin touching your breast and their nose clear, their mouth should be wide open. You will see much more of the darker skin of your nipple above your baby's top lip than below their bottom lip. Your baby's cheeks will look full and rounded as they feed.



Emily practicing breastfeeding.

Signs of effective latch*

- Latches within a few seconds of trying with a wide open mouth.
- No nipple discomfort after first 10 -20 seconds.
- Baby's chin is pressed against the breast.
- Baby's head is tipped back so their nose is free / only lightly touching the breast.
- Some areola seen above baby's top lip but not below the bottom lip.
- Baby has rounded cheeks (not sucked in.)
- Remains attached throughout the feed.
- Nipple looks rounded, not pinched, at end of the feed.

Rhythmic sucking & swallowing**

- Rapid sucks (more than 2 sucks/second) at first, slowing down then to regular bursts of rhythmic, deep jaw drops (1 suck/second) before a brief pause, for most of the feed.
- Baby's eyes open at the start of the feed and baby remains calm and relaxed as the feed progresses.
- Baby removes himself when he no longer wants milk, looking relaxed & sleepy.

Signs of ineffective breastfeeding and when to seek support:

- Baby is sleepy and has had less than 6 feeds in 24 hours.
- Your baby consistently feeds for 5 minutes or less at each feed. Your baby consistently feeds for longer than 40 minutes at each feed.
- Your baby always falls asleep on the breast and/or never finishes the feed himself.
- Your baby comes on and off the breast frequently during the feed or refuses to breastfeed.
- You are having pain in your breasts or nipples, which doesn't disappear after the baby's first few sucks. Your nipple comes out of the baby's mouth looking pinched or flattened on one side.
- You cannot tell if your baby is swallowing any milk when your baby is 3-4 days old or has been responsively breastfeeding for 3-4 days and beyond.
- Your baby appears jaundiced (yellow discolouration of the skin)

Most jaundice in babies is not harmful, however, it is important to check your baby for any signs of yellow colouring particularly during the first week of life. The yellow colour will usually appear around the face and forehead first and then spread to the body, arms and legs. A good time to check is when you are changing a nappy or clothes. From time to time press your baby's skin gently to see if you can see a yellow tinge developing. Also check the whites of your baby's eyes when they are open and the inside of his/her mouth when open to see if the sides, gums or roof of the mouth look yellow.

[illegible]

- Information for Breast Milk Fortifier (BMF)
- Probiotics - Information for parents 'Getting the right gut bacteria from the start.'
- Tips for increasing your milk supply when expressing.
- Blocked Ducts.
- Engorgement.
- Nipple Shields - A Patient Guide.
- Breast Compressions.

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How you and your midwife can recognise that your baby is feeding well							*This assessment tool was developed for use on or around day 5. If used at other times:
What to look for/ask about		✓	✓	✓	✓	✓	Wet nappies: Day 1-2 = 1-2 or more in 24 hours Day 3-4 = 3-4 or more in 24 hours, heavier Day 6 plus = 6 or more in 24 hours, heavy
Your baby: has at least 8 -12 feeds in 24 hours*							
is generally calm and relaxed when feeding and content after most feeds							
will take deep rhythmic sucks and you will hear swallowing*							
will generally feed for between 5 and 40 minutes and will come off the breast spontaneously							
has a normal skin colour and is alert and waking for feeds							
has not lost more than 10% weight							
Your baby's nappies: At least 5-6 heavy, wet nappies in 24 hours*							
At least 2 dirty nappies in 24 hours, at least £2 coin size, yellow and runny and usually more*							
Your breasts:							
Breasts and nipples are comfortable							
Nipples are the same shape at the end of the feed as the start							
How using a dummy/nipple shields/infant formula can impact on breastfeeding							
Date							
Midwife's initials							
Midwife: if any responses not ticked: watch a full breastfeed, develop a care plan including revisiting positioning and attachment and/or refer for additional support. Consider specialist support if needed.							
Care plan commenced: Yes/No:							

Feeding chart

For use when you begin to responsively feed baby, you may find it helpful to keep a record of feeds, to help transfer to medical charts. Additional sheets are available, please ask.



Follow the above QR codes to watch UNICEF videos about positioning your baby and signs of ineffective latch.



There are many breastfeeding support groups available in the community. Follow the QR code above to find one that is local to you.

