



ESTABLISHING FEEDING

Babies need food to grow, and breast is best...

Feed all babies preferably within 30 minutes of birth, unless contraindicated (see below)

1. Babies who should NOT be fed

Do not start feeds on day 1 if the answer to any of the following is 'YES':

- Perinatal asphyxia
- Low Apgars
- No passage of meconium or other GIT problems
- Protein in urine
- Severe respiratory distress

These babies still need fluids, thus:

- Commence IV maintenance fluids (neonatolyte) at the appropriate rate (see "[Feeding and Fluid Management](#)" guideline)
- Keep on IV fluids only
- Gradually add feeds from Day 2 (refer to above guideline)
- Increase the feeds if there is no vomiting, apnoea or abdominal distension
- If the baby is unable to tolerate feeds at all, IV fluids can be continued alone for a maximum of 3 days. Thereafter, if still unable to feed, arrange for transfer.

2. Babies who should be fed – ALL the rest

Encourage **exclusive** breast feeding

Babies who are **able to suckle** and for whom breast feeding is not contra-indicated, should be put to the breast within 30 minutes of birth.

Some babies are **unable to suckle**, and these babies need to be fed expressed breast milk (EBM) via nasogastric tube or cup until they are able to suck fully from breast.

All babies need **gut priming** with breast milk.

a. Establishing feeding in babies **ABLE** to suck

NB: BREASTFEEDING AND BREAST MILK MUST BE ACTIVELY SUPPORTED AND PROMOTED AT ALL TIMES

Advantages of breast feeding

- Psychological (e.g. placid prems)
- Labour saving
- Non-allergenic
- Correct constituents, thus reduces obesity
- Involution of the uterus
- Digestibility
- Protection (reduces infectious diseases)
- Correct temperature
- Economical
- Mortality reduction e.g. cot deaths, gastro deaths
- Sterile

Setting the scene

- Education in hygiene – washing of hands before commencing feeds
- Provide privacy
- Encourage mother to relax completely, support back
- Make sure patient is comfortable

Position for feeding (depending on type of confinement)

- Mother lies on her side, baby next to her
- Mother sits upright in bed or on a chair with baby across her lap
- Mother sits with baby's head in hand and body tucked under her arm at her side
- During feeding the baby should be wrapped in a blanket with his hands and arms free, held in a semi-upright position with the head supported and the neck in a neutral position
- Ensure the mother is comfortable and her arm is supported

Putting baby to breast

Put baby to breast immediately after delivery if the mother's condition permits.

Stay with the mother and assist until the baby has sucked well.

- Baby must be awake and alert. Unwrap baby and stimulate by rubbing the soles of the feet
- Encourage rooting by placing the nipple near the baby's cheek or mouth. This usually stimulates the baby to open its mouth, seek the nipple and to latch on
- Baby must be comfortable i.e. clean nappy
- The baby must open its mouth wide to ensure that as much as possible of areola and the nipple is taken into the mouth
- Tongue must be in the downward position
- Allow baby to suck the required amount of time on the breast, i.e. 5 – 10 mins on each side
- The baby must have been fed within 6 hours of birth
- Feed on demand - no less than every hour and no more than 6 hrs between feeds
- Burping can be achieved sitting baby up or gently holding over shoulder and rubbing baby's back. Do not be too vigorous or pat as this may lead to regurgitation

Difficulties encountered in latching

- Congenital defects – e.g. cleft lip/palate
- Baby – drowsy or irritable, e.g. hypoglycaemia/ jaundice/hypothermia
- Ill baby – brain damage, e.g. HIE
- Mental defect – Down's syndrome, poor sucking reflex
- Prematurity
- Respiratory distress
- Cardiac conditions, e.g. cyanosis particularly during effort such as sucking or crying

Removing baby from breast

- Advise mother never to pull baby off the breast as this may cause sore, cracked nipples
- The suction must be released before taking baby off breast, either:
 - depress chin, or
 - gently pinch cheeks, or
 - put a finger into the corner of the mouth and depress slightly

Choice of formula (N.B. Only if breast feeding is impossible)

- Premature infants < 1500g – PRENAN
- Term infants > 1500g – NAN
- PMTCT Program – PELARGON
- Any other specialized feeds to be discussed with dietician and consultant

Use cup and formula feeds if:

- The baby is abandoned
- The mother has died
- The mother has no milk (after 3 days) despite Maxalon, regular expressing and a good fluid intake on doctor's orders
- The mother is on the PMTCT programme and has decided to formula feed (must be an informed decision based on her social and economic circumstances)
- The mother is returning to work / school and will not be able to breastfeed. She should however be encouraged to express her milk and cup feed

b. Establishing feeding in babies UNABLE to suck

Nasogastric feeding (see Technique section)

If baby is totally stable and not requiring IV antibiotics commence on full feeds as per daily fluid requirements. Babies should be fed via nasogastric tube until able to progress to cup and/or breast feeding.

Daily fluid requirements (see "[Feeding and Fluid Management](#)" guideline and "[Cornerstones of Neonatal Care](#)" poster)

Day 1	60 ml/kg/day
Day 2	90 ml/kg/day
Day 3	120 ml/kg/day
Day 4	150 ml/kg/day

- Extremely premature babies under radiant warmers may need double this in the first few days. Watch fluid balance closely
- Calculate fluids according to birth weight until baby passes this weight again
- Babies under phototherapy should be given an extra 30ml/kg/day
- Feeds may be increased by 20 - 30ml/kg/day as tolerated
- Premature babies must only be fed on their stomachs. This assists digestion, decreases reflux and helps prevent aspiration
- The nasogastric tube must be aspirated prior to each feed to check tube placement and gastric residuals. Any blood/ bile stained aspirates should be reported to the doctor and feeds discontinued. If the residual is greater than 50% of the feed this should be returned and the feed decreased by the same amount
- Any signs of abdominal distention and/or vomiting should be investigated for sepsis, NEC or obstruction.
- Nasogastric tubes must be changed every 3 days to prevent infection and the risk of gastric perforation
- Any problems with feeds or nutrition should be discussed with the dietician/paediatrician at the referral hospital

Commencing breast / cup feeding following NGT feeds

This should be commenced at:

- 32 - 34 weeks gestation
- ± 1700 - 1800g

Do not attempt to breast feed prior to this as the baby's suck/swallow is not co-ordinated and he/she may not tolerate orally, may aspirate, may tire and lose weight.

The baby should have:

- intact suck and gag reflexes
- be on full volume NGT feeds
- good periods of quiet sleep
- good sleep/wake cycles
- easy waking
- be able to maintain a quiet alert state

N.B. Ensure mother has sufficient milk – give Maxalon and Ensure if necessary

Tips for feeding transition (NGT to cup/breast)

- During feeding the baby should be wrapped in a blanket with hands and arms free, held in a semi-upright position with the head supported and the neck in a neutral position
- If baby makes no attempt at sucking continue full NGT feed
- Introduce one breast feed per day if baby sucks well. Increase by one feed each day replacing the equivalent NGT feed. So by day 8, baby should be on full breast feeds. If baby is sucking well and gaining weight, may introduce more rapidly

c. Gut priming

N.B. This is not feeding, but simply preparing and colonising the bowel using EBM (expressed breast milk) in preparation for full feeds. It has been shown to greatly decrease the incidence of NEC in premature neonates.

Gut priming should be commenced on all premature babies on day 1 or as soon as clinically possible.

Regimen

- < 1000g - 0.5ml EBM 12hrly on day 1; 6hrly on day 2; 3hrly on day 3; then gradually increase
- 1000 – 1200g - 1ml EBM 6hrly
- 1200 – 1500g - 1ml EBM 3hrly
- > 1500g - commence feeding, as tolerated, e.g. 5-10ml EBM 3 hrly

3. Techniques

a. Nasogastric tube (NGT) feeding

Insertion of NGT

1) Purpose

- to facilitate feeding when the baby is unable to suck
- to enable accurate monitoring of the fluid intake and absorption of the feed
- to ensure weight gain
- to provide gastric drainage / decompression when indicated / NPO

2) Indications for insertion of NGT

- Infants who are too ill to suck and yet need to be fed
- To feed mechanically ventilated infants or infants nursed on CPAP
- Cases of distended abdomen
- Infants with poor sucking reflexes due to, e.g. asphyxia, low birth weight and babies with congenital abnormalities

3) Inserting a NGT

Preparation

- Explain the procedure and reasons for it to the mother
- Prepare the following items:
 - Size 5 NGT for infants weighing < 1000g
 - Size 6 NGT for infants weighing between 1500g-3500g
 - Size 8 NGT for infants weighing > 3500g
 - 2ml syringe to aspirate (5/10/20ml depending on the amount of feed)
 - Litmus paper
 - Granuflex (extra thin)
 - Strapping - tegaderm
 - Sticker with the date of insertion and due date for changing the tube
 - Stethoscope
 - Emergency equipment – suction and oxygen. **N.B. Ensure it is functional**
 - Chlohexidine hand lotion
- Identify the baby – check name bands and name on the cot or incubator
- Change nappy if necessary. Ensure baby is wrapped securely
- Wash both hands under running water before removing the tube from the package

Procedure

- Measure tube length required by holding the tip of the tube against the baby's nose and measuring the distance from the nose to the ear lobe, then down to the lower end of the sternum (xiphisternum). Mark the tube at this point (For orogastric tube start measurement from the mouth)
- Lubricate tube by wetting in baby's mouth
- Flex the infant's neck slightly and gently pass the tube through the nostril until you get to your measured point N.B. The nasal passages are fairly anterior so curve the tube down quite sharply. If you cannot pass a tube down either nostril, choanal atresia must be excluded
- If the tube does not slide easily, re-lubricate using KY jelly or sterile water and try the other nostril
- Prepare the skin with skinprep and (extra thin) granuflex before securing the tube by strapping it onto the side of the baby's face. Use a 1cm wide strip of transparent dressing (eg tegaderm)
- Ensure that the nostril is patent

Check position of NGT

- Aspirate stomach contents with the syringe and place a drop on the strip of blue litmus paper (should turn blue litmus paper pink if the tube is in the stomach) OR
- Instill 2ml air rapidly down the tube and listen with a stethoscope. You should hear a woosh as it enters the stomach
- If there is any doubt about the location of the tube, withdraw it and start again
- Attach the date sticker to the end of the tube

Feeding

- Change nappy prior to feeds
- Aspirate gastric contents and record volume before each feed. If aspirate volume > 50% of feed volume return aspirated contents to stomach and subtract this volume from feed to be delivered
- Attach a sterile syringe containing required feed to the end of the tube
- Remove plunger and allow gravity to move feed, allowing for a feeding duration of 10-15 minutes
- Keep the baby in a prone position or right lateral to decrease the chance of regurgitation and aspiration
- Observe the infant closely for intolerance, gagging vomiting and other complications N.B. a staff member should always be present during tube feeding
- The syringe used must be changed 3 hourly together with the feed

- If feeding intolerance is suspected, continuous feeds can be considered
- Change the NGT tube every third day and record on the NGT feed chart ([Form Paed/21](#))
- Do not reposition or change nappy following feeds as this can lead to vomiting

Complications

- Vagal stimulation – leading to apnoea and bradycardia
- Trauma – mucosal damage
- Incorrect placement, e.g. into the lungs
- Infection
- Gagging and vomiting resulting in aspiration

b. Stomach washout

A stomach washout is performed on babies in order to cleanse the stomach of any irritants and consequently assist with establishment and toleration of feeds

Indications

- Meconium stained liquor III, i.e. thick meconium – in formula fed babies (as breast milk contains phagocytes which help remove meconium). Sodium bicarbonate helps neutralize any acid, in particular the corrosive effects of meconium.

Equipment

- Utility pack
- Nasogastric tube size 8 (blue)
- 10 ml syringe
- Blue litmus paper
- Stethoscope
- Suction machine – clean, connected and in good working order
- Oxygen – connected and working
- First baby pack
- Solution of 50 ml of 4% soda bicarbonate and 50 ml sterile water (warmed)

Procedure

- Wrap baby and place on right side
- Pass the lubricated nasogastric tube and secure it
- Inject 10 ml solution down tube. Check placement of NG tube. Gently turn baby from side to side to ensure fluid reaches all of stomach and then aspirate the same 10 ml out
- Observe colour, consistency, amount and odour of the aspirate
- Eject it into bowl. Continue until return is clear
- Observe baby closely throughout the procedure
- Record on progress notes and feeding chart – time washout was done and the result ([Form Paed/21](#))
- Place the baby in the right lateral position to prevent aspiration
- Wait for 1 hour before feeding baby again
- Put to breast. Breast milk contains phagocytes that absorb the remainder of meconium
- If baby continues vomiting after two stomach washouts, refer to doctor

ALWAYS KEEP THE DOCTOR INFORMED