

BREAST MILK EXPRESSION

RATIONALE

- Breast milk feeding, even partial, reduces risk of necrotising enterocolitis (NEC), retinopathy of prematurity (ROP) and sudden infant death (SIDS) and improves cognitive outcomes in preterm babies
- Human milk is important in establishing enteral nutrition
- Any amount of mother's breast milk is valuable

GENERAL

- Early initiation (within 2 hr of birth) is associated with adequate milk supply at 2 weeks
- Recognise that building a milk supply is a challenge for mothers who are separated from their babies and they will require consistent face-to-face support
- All mothers should have access to an electric hospital grade breast pump with the following characteristics:
 - easy to assemble and disassemble with all parts able to withstand sterilisation methods
 - fully automatic, with a cyclic suction rhythm that mimics baby suckling
 - vacuum strength ≤ 250 mmHg, and easily regulated
 - separate drive and suction system to ensure no contamination from milk spillage can enter pump
 - collection system enabling milk to be pumped directly into storage container with universal thread, to avoid need to transfer milk to another container for storage or administration
- Advise mothers to:
 - bath or shower daily
 - wash hands thoroughly with soap and running water before expressing
 - gently massage breast and stimulate nipple to trigger milk ejection reflex before milk expression
 - have regular prolonged skin-to-skin contact with their baby
 - stimulate oxytocin release by expressing next to baby where possible
 - complete expressing log and seek help if concerned about milk supply

MILK COLLECTION

- Sterilise milk collection kit before use
- Commence hand expression as soon as possible following delivery (preferably within 2 hr)
- Frequency of expression: 8–10 times/24 hr (not leaving a gap >6 hr overnight) with at least one between 2 and 5am.
- Teach all mothers hand expression
- Use hand expression to express colostrum and collect milk obtained via a syringe (see [Nutrition and enteral feeding guideline](#) for advice on colostrum collection and administration)
- When milk obtained is sufficient to flow easily into storage container or by day 3 of life, teach mother to use electric breast pump
 - continue to hand express after using pump to help release higher fat milk and maximise supply
- Encourage simultaneous (double) pumping of both breasts. Mothers may wish to use a modified bra or dedicated expression bra.
- Ensure mother has a properly fitting breast shield (funnel); nipple should fit comfortably in shield
 - may require different shield sizes as lactation progresses and to prevent nipple trauma caused by ill-fitting shield

TECHNIQUE

- Ensure mother seated in a comfortable chair and keep clothing away from breast while expressing milk

- Discuss massaging of breasts and use of warmth prior to expressing.
- Position breast pump shield (funnel) centrally over nipple with gentle pressure to obtain seal
 - if nipple rubs on walls of shield it is too small
 - if breast tissue drawn into shield it is too large
- measuring tools available from some manufacturers
- Adjust suction control to increase vacuum slowly until slightly uncomfortable (not painful), then reduce until comfortable
- Use gentle pressure to obtain patent seal between breast and shield. Firm pressure will inhibit milk flow by compressing ducts
- Use gentle breast compression during expressing to increase efficacy of electric pump
- Express breasts as thoroughly as possible since fat content increases as breast is drained. Express until milk stops flowing
- If using a single pump, switch to second breast when milk stops flowing
- Use a new bottle for each expression
- Leave a space of 1–2 cm at the top of each bottle to allow for expansion during freezing
- After expression, wash equipment in hot soapy water with a bottle brush and rinse under cold running water, dry thoroughly with paper towels. ~~Sterilise before next use~~ use dry storage and refer to storage guidelines.
- Encourage mothers to practice 'kangaroo care' also known as skin-to-skin holding (see **Kangaroo care** guideline)
- Encourage mothers to express where they feel most comfortable; either close to baby or with baby picture/memento
- Complete expressing assessments at least once within the first 12 hr following delivery and ≥4 formal expressing assessments in the first 2 weeks (optimise milk production and address any issues related to expressing) See www.unicef.org.uk/babyfriendly/assessment-of-breastmilk-expression-checklist

Problems related to milk expression

Sore nipples

- Centre milk expression shield
- Try a variety of shield sizes
- Check pump vacuum and expressing technique
- Stop pump before removing shields
- Do not use plastic-backed breast pads
- Change breast pads frequently
- Consider infection

Improving milk supply

- **Complete BFI or unit expressing assessment**
- Increase kangaroo care (skin-to-skin)
- Express close to baby
- Check frequency of pumping, ensure including night-time expression
- Hand express after using the breast pump
- Check shield (funnel) size
- Encourage breast compression during expression
- Increase frequency of expression sessions
- Consider cluster expressing – mother expresses 2 or 3 times in a 4 hr period for 3–4 consecutive days
- Refer to infant feeding team for support
- Consider enhancing prolactin secretion using domperidone
- Praise provision of expressed milk, no matter how small

PARENT AND STAFF INFORMATION

- See www.unicef.org.uk/babyfriendly or www.bestbeginnings.org.uk/watch-small-wonders-online