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Management of Weight Loss in the Neonate

Summary statement: How does the document support patient care?	By providing evidence-based guidance to support and assist the management of weight loss in neonates in accordance with NICE guidelines and UNICEF Baby Friendly Initiation standards.
Staff/stakeholders involved in development:	Midwives, maternity support workers, neonatal nurses, consultant paediatricians, consultant obstetricians.
Division:	Women and Children's
Department:	Maternity
Responsible Person:	Chief of Service
Author:	Infant Feeding Lead
For use by:	All Obstetric and Midwifery staff
Purpose:	To provide clear evidence-based guidance on managing weight loss in neonates
This document supports: Standards and legislation	NICE Jaundice in newborn babies under 28 days. Clinical guideline NG98; NICE Postnatal Care. Clinical guideline NG194; NICE Faltering growth: recognition and management of faltering growth in children. Clinical guideline NG75.
Key related documents:	**UH Sussex (SRH & WH) Maternity Guidelines** Postnatal Care Guideline, Management of Neonatal Jaundice Guideline; Newborn Feeding Guideline.
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Version	Date	Author	Status	Comment
1.0	May 2022	F. Humberstone (Infant Feeding Lead)	Archived	New guideline
1.1	November 2022	F. Humberstone (Infant feeding Lead)	LIVE	7.0 Volumes required per kg in 24 hours New appendix 1- Feeding plans for weight loss stickers
2.0				

The interpretation and application of clinical guidelines will remain the responsibility of the individual clinician.
If in doubt contact a senior colleague or expert.

Contents

Management of weight loss in the neonate

1.0 Rationale

Fewer than 5% of babies lose more than 10% of their weight at any stage and only 1 in 50 loses 10% or more at 2 weeks. Recovery of birth weight is a sign that feeding is effective and that the baby is thriving.

This guideline aims to standardise care of babies who are experiencing weight loss in the postnatal period. It is an aim of this guideline to support and maximise breastfeeding and the use of breast milk, with appropriate guidance on supplementation.

2.0 Scope

This guideline applies to all babies under midwifery care in the post-natal period and for any health professionals involved in the care of these babies, including midwives, doctors maternity support workers and nursery nurses.

3.0 Abbreviations used in this guideline

PCOS - Polycystic ovarian syndrome	**RPOC -** Retained products of conception
BMI - Body Mass Index	**EBM -** Expressed Breast Milk

4.0 Postnatal weight management

4.1 At Birth

- All babies should be weighed at birth *after* optimum skin-to-skin has taken place (at least an hour or until first feed has taken place).
- The birth weight should be checked and documented by 2 members of staff or with a parent (to ensure accuracy of documentation).
- If an early weight is required for medical/clinical reasons, then this should occur close to birth and skin-to-skin commenced immediately afterwards. It is important to remember however, that Low birth weight babies require early feeding, so separation for weighing is more appropriate after the first feed.

4.2 Subsequent weights

For well, term infants further weight checks should occur on Day 5 and 10 as part of a full feeding assessment. If there are concerns prior to this, then a weight can be performed to assess the clinical picture fully, i.e. day 3 or 4.

Please check the weighing requirements for late preterm babies in CG21010 Care of the late preterm newborn and babies with jaundice in CG12035 Neonatal jaundice.

Further guidance on weighing babies will be covered in the management plans to follow.

Excessive weight loss generally results from:

1. Ineffective milk transfer
2. Poor positioning and attachment at the breast
3. Infrequent feeds.

On a rare occasion, weight loss may be due to a medical condition or physical abnormality in the mother or baby. With this mind, in the majority of cases, excessive weight loss can be avoided with effective feeding support alongside full breastfeeding assessments and early intervention if any issues are identified.

Factors relating to breastfeeding	Psychological factors	Maternal medical factors	Neonatal factors
• Delayed initiation • Interrupted skin to skin prior to first feed • Inefficient suckling • Poor positioning and attachment • Scheduled or infrequent feeds • Inappropriate use of supplementary feeds • Inappropriate use of dummies/nipple-shields/teats	• Lack of confidence • Tiredness, anxiety • Reluctance to feed (Sore nipples/exhaustion) Rare: • Dislike of breast feeding • Rejection of baby • Separation of mother and baby	• Endocrine disorders (PCOS/diabetes/ thyroid) • Breast surgery • Inadequate breast tissue • Previous Gastric bypass surgery • RPOC • Alcohol/smoking • Postpartum haemorrhage • Extended artificial oxytocin use in labour	• Prematurity • Infection in baby • Congenital abnormality e.g. cleft palate • Neurological conditions • Missed early feeding cues • Not rooming in with baby

4.3 Mothers/birthing parents requiring additional support:

The following table identifies mothers/birthing parents who may require further assistance and closer monitoring/support with feeding.

Pregnancy	Birth related	Postnatal factors
• Primigravida • Raised BMI • Medications that can affect milk supply	• Caesarean section • Instrumental birth • Haemorrhage • Breech birth • 3rd/4th degree tears • Extended artificial oxytocin use in labour • Long labour • Epidural / Spinal	• Pre-term and SGA babies • Babies of diabetic mothers/birthing parents • Babies requiring phototherapy • Unwell babies • Tongue tie or other abnormalities affecting feeding i.e. cleft palate/chromosomal abnormality Separation of mother and baby Excessive pain or unmanaged pain

5.0 Feeding plans for weight loss

A breastfeeding assessment should be carried out at least twice within the first week but can be undertaken more regularly if required and should be completed if the mother/feeding parent expresses concerns with feeding. Please use the stickers for these plans in the notes.

5.1 Weight loss less than 8%

- Confirm findings with parents.
- If the baby has lost up to 8% of the birth weight this is considered normal. The mother/birthing parent should be reassured through a feeding assessment, pointing out good milk transfer and signs of good intake. NB weighing should not replace breastfeeding assessment. If the mother or healthcare professional has concerns with feeding, a full assessment should be completed. A feeding plan may still be required even if weight loss is <8%. Early plans can help prevent larger weight losses later on.
- Direct mother/birthing parent to 'How do I know breast feeding is going well' in the baby postnatal notes and ensure she has contact numbers should any concerns arise. Ask parents to continue monitoring output on a daily basis.
- Baby should be weighed again prior to discharge from midwifery care. Discharge to the health visitor should only occur at this time if weight gain is at a minimum of 20-30g/day.
- Discuss local Milk! groups breastfeeding parents can attend for peer support and advice.
- If formula feeding, observe a feed and encourage 8 feeds in 24 hours, discuss responsive and paced bottle feeding.

5.2 Plan A: 8-9.9% weight loss

- Confirm findings with parents
- Complete formal feeding assessment in the baby postnatal notes.
- Midwife/MSW to observe a full breastfeed, observe positioning and attachment and look for effective milk transfer.
- Take a breastfeeding history. Ensure a minimum of 8-10 feeds in 24 hours.
- Ensure both breasts are offered at each feed – baby finishing one breast before offering the second.
- Teach breast-compression and breast switching to increase milk transfer if signs that baby tires at the breast.
- Encourage skin to skin contact. This would be good for laid back feeding which takes up less energy for the baby who may be tiring early.
- Monitor nappy output ensuring adequate urine and bowel movements, ask parents to monitor feeds and output by using 'How I Can Tell Feeding Is Going Well and nappy output' chart on page 4 of baby postnatal notes.
- Review and weigh baby in 48 hours unless additional concerns arise (such as reduced output or stools changing back to green/brown). If weight increasing, continue to monitor (minimum 20-30g/day).
- If no weight-gain after 48 hours or further weight loss after 24 hours, commence Plan B.
- If formula feeding, observe a feed and encourage 8 feeds in 24 hours, discuss responsive and paced feeding.

5.3 Plan B: 10-11.5% weight loss (or static weight from Day 5 = 8%-9.9%)

- Confirm findings with parents.
- The midwife must strip baby and perform a full set of observations: Temp, Resps, Heart Rate, Colour, Tone (poor feeding can be a sign of sepsis especially after a period of feeding well).

Take into account any of the following:

- Dehydration
- Reduced nappy output

(NB. It is not normal for a breastfed baby to not open their bowels every day)

- Jaundice
- Lethargy
- Pyrexia
- Hypothermia

- Complete formal feeding assessment in baby postnatal notes and take a full feeding history – consider slow start to breastfeeding, fluid load during labour or delayed lactation.
- Consider examining for tongue tie if there are concerns with possible tongue mobility when performing feeding assessment. Refer to the Infant Feeding Clinic if appropriate.
- Liaise with on-call neonatal registrar on Bleep: SRH 6276 / Worthing 1358 to confirm plan is satisfactory.
- Document a clear plan in the baby's notes.
- Ensure a minimum of 8 feeds in 24 hours. Consider encouraging using a feed chart.
- Ensure both breasts are offered at each feed.
- Encourage switch feeding: Support mother/birthing parent to notice when suck/swallow rhythm has slowed down, then switch baby to the other breast a total of 2 times each breast. This helps increase milk supply and let down.
- Teach breast compression to increase milk transfer**.**
- Monitor nappy output and direct towards 'How I Can Tell Feeding Is going well' in baby postnatal notes and ask parent to monitor daily**.**
- Express from both breasts and ensure that baby receives additional feeds of EBM (or formula if necessary). Use table and calculations as per below as a guide. Teach parents responsive paced bottle feeding, emphasise that baby may not take the entire top-up if there has been a good feed from both breasts**.**
- Midwife to review and reweigh baby in 24 hours. Reassess using formal feeding assessment in the baby postnatal notes.
- If adequate weight gain (20-30 grams per 24hrs):
  Continue with support – this may be in the form of additional visits, telephone follow ups, referral to Infant Feeding Team. Once breastfeeding has improved, Encourage parents to reduce top-ups in a slow and phased way, to avoid further weight-loss, and encourage parents to continue to monitor nappy output while reducing top-ups and until confident.
- Repeat feeding assessment at day 10 or discharge.
- Weigh again prior to discharge to Health Visitor and ensure plan of care is handed over.
- If no weight-gain after 24 hours refer to "Plan C".

5.4 Plan C: more than 11.5% weight loss (or static weight loss = 10-11.5%)

- Confirm findings with parents
- These babies will be admitted to an appropriate clinical area for further monitoring, assessment and support. Inform on-call paediatric registrar on bleep SRH 6276 / Worthing 1358.
- Follow feeding management plan B.
- Inform parents regarding a possible admission to hospital.
- Baby to be assessed for hypernatremia /dehydration.
- Confirm % of weight loss on admission to ward.
- Perform Blood gas, SBR, Glucose, U and E
- If concerns with condition of baby following paediatric assessment, consider:-
- Septic screen: FBC, Cultures, CRP and reassess if baby is in the correct clinical environment
- Emphasise and protect breastfeeding by promoting breast milk first, and discuss EBM as first line top-up with formula being a back-up, if required, following a discussion with parents.
- Use table below to estimate amounts.
- Once in hospital highlight need for Infant Feeding Team support at earliest opportunity.
- Continue to support and assess breastfeeding /reduce top-up feeds as breast milk increases.
- Ensure regular follow-up and support in community.
- Weigh prior to discharge to Health Visitor. Weight gain must exceed 20g per day in order to discharge from midwifery care.

5.5 How to calculate weight loss (%)

Birth weight minus weight loss divided by birth weight x 100

E.g. A baby born at 3500g is 3200g on day 5

3500-3200 =300
300 / 3500 x 100 = 8.5%

6.0 Guideline for volumes required where top-ups are needed

The following amounts are for both breast milk and formula.

TIME (hours)	INTAKE (mls per feed)
First 24 hours (DAY 0)	2-10
24-48 (DAY 1)	5-15
48-72 (DAY 2)	15-30
72-96 (DAY 3)	30-60

Boss et al (2018) found that mean milk production of lactating women by 8 days postpartum is 650mls/24 hours.

7.0 Guideline for volumes required per kg (in 24 hours)

Day 3	120mls/kg
Day 4	140mls/kg
Day 5 onwards	150mls/kg

This would equate to approximately 45mls of milk per feed for a 3kg baby on day 3, if feeding 3 hourly (120mls/kg). In cases of excessive weight loss, the feeds should be offered at the higher quantity in the table, but feed responsively/pace bottle feed, to allow the baby to take what it needs.

This supplement may also be given as 1 feed of 90mls or more, approximately 6 hourly, along with support of lactation and feeding. Larger supplements given less frequently may be more protective for breastfeeding and lactation.

All feeds should be clearly documented on the feeding chart.

Feeds should not be more than 6 hours apart in this group of babies, and breastfeeding and/or breastmilk should be given in between formula feeds as frequently as possible.

Breastmilk removal at night is important for lactation production.

Supplementation should reduce once breast milk yield increases, baby's weight has increased, and blood profile has normalised.

If the mother is continuing to use a breast-pump to express milk, consider an assessment to ensure this is as optimal as possible i.e. flange size, discomfort, volume, frequency etc

8.0 Audit

Maternity notes are audited following Datix reports, following re-admissions for weight-loss and/or feeding support.

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NICE Faltering growth: recognition and management of faltering growth in children. Clinical guideline NG75. https://www.nice.org.uk/guidance/ng75

Appendix 1 – Feeding plan stickers

Plan A: 8-9.9% weight loss

- ☐ Read "Plan A" info on pg 7 in guideline.
- ☐ Midwife/MSW to observe a full breastfeed, observe positioning and attachment and look for effective milk transfer.
- ☐ Complete feeding assessment tool and take full feeding history.
- ☐ Ensure both breasts are offered at each feed
- ☐ Teach breast-compression and breast switching to increase milk transfer if signs that baby tires at the breast.
- ☐ Encourage skin to skin contact.
- ☐ Monitor nappy output— ensure parents are aware to do this at home and contact Infant Feeding Line if any concerns.
- ☐ If formula feeding, observe a feed and encourage 8 feeds in 24 hours. Discuss responsive and paced feeding.
- ☐ Arrange 48 hour review.

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Plan B: 10-11.5% weight loss (or static from Day 5 = 8%-9.9%)

- ☐ Read "Plan B" info. on pg 8 in guideline.
- ☐ Strip baby & perform a full set of observations.
- ☐ Observe a full feed & look for effective milk transfer.
- ☐ Complete feeding assessment tool and take full feeding history.
- ☐ Ensure both breasts are offered at each feed.
- ☐ Teach breast-compression and breast switching.
- ☐ Encourage skin to skin contact.
- ☐ Consider Infant Feeding Clinic referral if concerns with tongue movement.
- ☐ Ensure a min. of 8 feeds/ 24 hrs - suggest feeding diary.
- ☐ Offer top-up of EBM after each breastfeed (or AF if declines expressing/low supply). See guideline for amounts.
- ☐ Teach parents responsive paced bottle feeding (for top-ups).
- ☐ Liaise with on-call neonatal registrar to confirm plan.
- ☐ Arrange review 24 hours later.

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Plan C: more than 11.5% weight loss (or static = 10-11.5%)

- ☐ Bleep on-call paed. registrar (SRH 6276 / WH 1358).
- ☐ Admit to an appropriate clinical area for Paed review & bloods.
- ☐ Read "Plan C" info. on pg 9 in guideline.
- ☐ Observe a full feed and look for effective milk transfer.
- ☐ Complete feeding assessment tool and take full feeding history.
- ☐ Confirm % of weight loss on admission to ward.
- ☐ Strip baby & perform a full set of observations
- ☐ Ensure both breasts are offered at each feed.
- ☐ Teach breast-compression and breast switching.
- ☐ Encourage skin to skin contact.
- ☐ Infant Feeding referral if concerns with tongue movement.
- ☐ Ensure a min. of 8 feeds/ 24 hrs - provide with feeding chart.
- ☐ Offer top-up of EBM after each breastfeed (or AF if declines expressing/low supply). See guideline for amounts.
- ☐ Teach parents responsive paced bottle feeding (for top-ups) or use of tube feed at the breast.
- ☐ Re-weigh in 24 hours.

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