Large Weight Loss in the Community

Introduction

It is usual for babies to lose weight after birth. A lot of this is water weight and can result in up to 10% weight loss from birth weight. Sometimes babies lose more than this, particularly if they are breastfed. Midwives in NHS Lothian support families of babies with weight loss of up to 13% providing the baby is well but ≥13% weight loss is referred in to Royal Infirmary Edinburgh (RIE) Neonatal Unit (NNU) or neonatal team at St John's Hospital (SJH). When large weight loss is due to feeding issues, these babies will benefit greatly from being seen in their homes by experienced community midwives or Neonatal Community Outreach Team (NCOT) nurses. Where possible these babies may be managed at home following discussion with a neonatal consultant and provided weight loss is <15%. It is important, however, to detect babies who have large weight loss due to other factors and to identify any unwell baby who needs prompt assessment in hospital.

It is important to consider why the large weight loss has happened. There are 3 broad categories for a baby to have a large weight loss:

1. Establishing breast-feeding
   Weight loss is common in babies establishing breast feeding as mothers' milk can take a few days to come in. In that time the baby may have been receiving very small volumes of milk. It is important to increase the volume of milk in this situation until weight improves. This can be done with top ups of either expressed breast milk or formula milk. Babies should be offered top ups following each breast feed of up to 100ml/kg/day split between the number of feeds the baby is taking, usually by bottle.

2. Increased metabolic demands
   This is rare but an important consideration. If the baby is burning excess calories (for example due to congenital heart disease, metabolic disorder, intercurrent illness etc.) this can cause weight loss. In this situation the baby will usually appear unwell. The observations may be abnormal. These babies require urgent hospital assessment.

3. Increased losses
   This may occur if the baby has an intercurrent gastrointestinal illness or is not absorbing milk properly. This is uncommon in newborn infants but should be considered if the baby is stooling excessively or has very watery/bloody stools. These babies also require hospital assessment.

Nursing/Midwife Assessment:

Weight monitoring	Initially daily until baby is gaining weight and then at least twice weekly **Any weight loss ≥15% requires same day assessment. This should be discussed with the post natal ward (PNW) or on-call neonatal consultant who will decide whether this occurs in NNU or Emergency Department (ED) at Royal Hospital of Children and Young People (RHCYP).** Calculate % of weight loss up to 2 weeks of age *Babies in West Lothian should be discussed with the neonatal team at SJH on bleep 3593/ 3565
Feeding assessment	How often does baby wake for feeds? - Frequency of feeds - Length of feeds – feeds which regularly take longer than 45mins to an hour - Feeding diary - Is baby settled following a feed Is the baby sleepy? Sleepy babies may feed less than 8 times in 24 hours Very frequent feeds? (Feeding more than 12 times a day and not appearing settled between feeds) Is the baby settled after feeding? Nutritive / non-nutritive sucks? Is there correct attachment? Advice given to mum on expressing / hand expressing If bottle feeding, duration, volume, and frequency of feed Type of teat used
Hydration status	Does the baby have: - Dry mouth/mucous membranes - Sunken fontanelle - Dry skin - Weak cry - Urates in the nappy – persistent urates indicate insufficient milk intake Number of wet nappies / when was the last wet nappy observed Is the baby passing changed stools? **Nappies – normal pattern** Day 1 to 2 • 1 or more wet nappies per day • 1 or more meconium nappy Day 3-4

	• 3 or more wet nappies – feel heavier • 2 or more – changing in colour and consistency – brown/green/yellow which are looser Day 5 to 6 • 5 or more wet nappies • At least 2 or more yellow stools which may be watery Day 7 to 28 • 6 or more heavy, wet nappies • 2 or more stools at least the size of a £2 coin, yellow/watery/seedy appearance After Day 28 – baby will establish own pattern of stooling – may pass several a day or have several days' gap between stools movements
Observations	Respiratory rate Heart rate Temperature
Jaundice	Is the baby clinically jaundiced?

Calculating weight loss

(Birth Weight – Current Weight) x 100 = Total weight loss percentage %

Birth Weight

Management plan

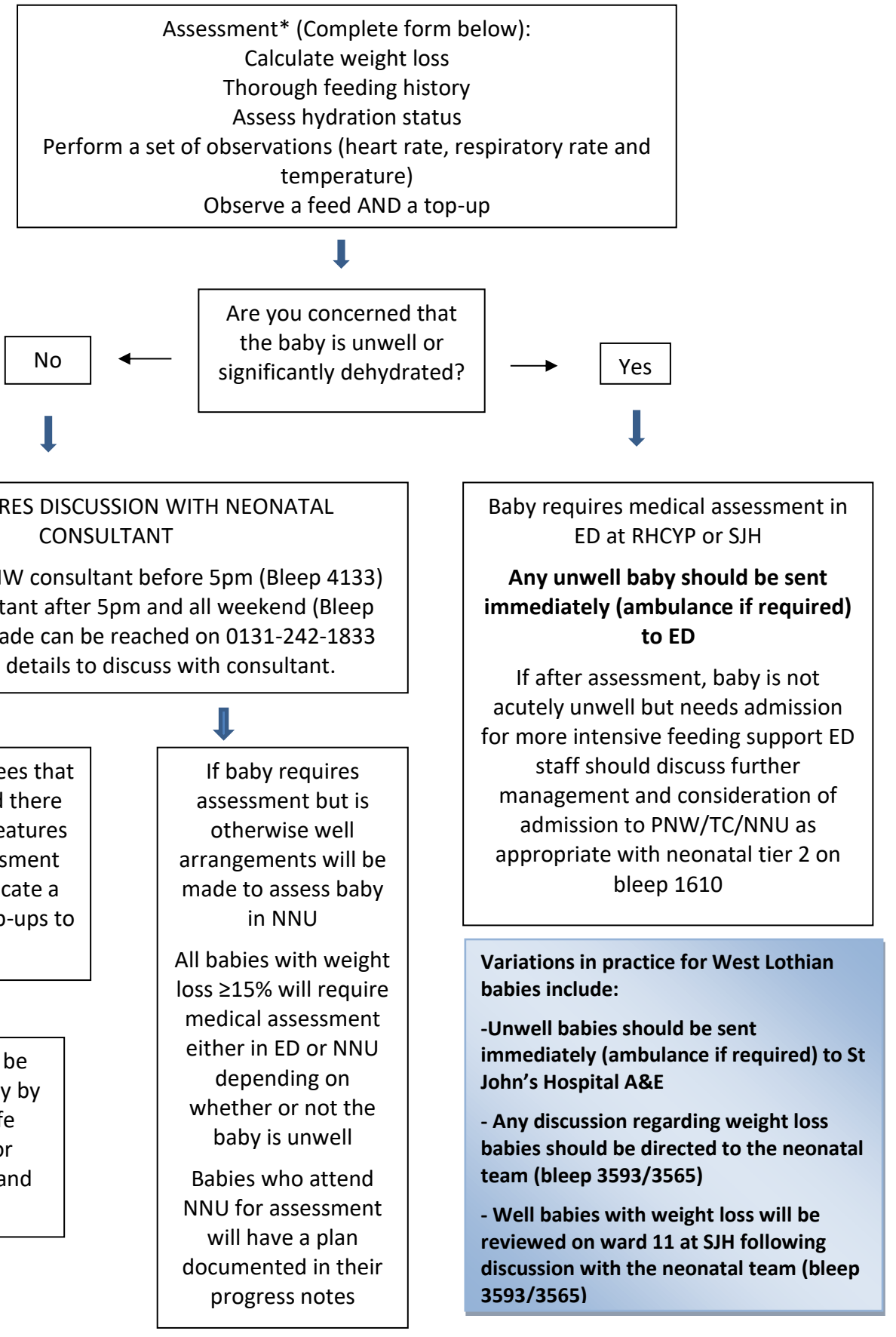
NCOT nurses and community midwives are very experienced to give good advice about feeding, technique etc. Following a detailed feeding history and examination of the baby, a feed should be observed **followed by an appropriate top up volume** (see reference tool, appendix 1). Top-ups of Mothers Expressed Breast Milk (MEBM) or formula of 60 - 100ml/kg/day are recommended until weight gain is reassuring. Ensuring observations are normal is important.

Remember, if a baby is taking good volumes and is formula fed, weight loss >13% is very unusual and would usually warrant medical review.

Any baby with a weight loss of ≥15% needs medical assessment and consideration of admission. Any un-well baby should be sent to ED at RHCYP or SJH immediately. Otherwise well babies should be discussed with the PNW or on-call consultant and an appropriate plan made for assessment. Once in hospital these babies will likely require minimum of U&Es/blood glucose/blood gas plus any other investigations as indicated by the assessment.

Each large weight loss baby who does not require urgent assessment at ED should be discussed with a neonatal consultant **that day**. In RIE the PNW consultant is available until 5pm and the on-call consultant until at least 8.30pm. If you are concerned that the baby is unwell, please direct them to ED (ambulance if required). If you feel that more intensive feeding support is warranted and that the baby looks 'dry' readmitting them to the PNW or transitional care (TC) on the NNU may be appropriate.

Flowchart


Assessment* (Complete form below):
Calculate weight loss
Thorough feeding history
Assess hydration status
Perform a set of observations (heart rate, respiratory rate and temperature)
Observe a feed AND a top-up
Are you concerned that the baby is unwell or significantly dehydrated?
No
Yes
BABY REQUIRES DISCUSSION WITH NEONATAL CONSULTANT
This should be PNW consultant before 5pm (Bleep 4133) or on-call consultant after 5pm and all weekend (Bleep 1615). Middle grade can be reached on 0131-242-1833 and can take details to discuss with consultant.
Baby requires medical assessment in ED at RHCYP or SJH
Any unwell baby should be sent immediately (ambulance if required) to ED
If after assessment, baby is not acutely unwell but needs admission for more intensive feeding support ED staff should discuss further management and consideration of admission to PNW/TC/NNU as appropriate with neonatal tier 2 on bleep 1610
If the consultant agrees that the baby is well and there are no concerning features following the assessment checklist, communicate a feeding plan with top-ups to parents
If baby requires assessment but is otherwise well arrangements will be made to assess baby in NNU
All babies with weight loss ≥15% will require medical assessment either in ED or NNU depending on whether or not the baby is unwell
Babies who attend NNU for assessment will have a plan documented in their progress notes
Arrange for baby to be reviewed the next day by community midwife (CMW) or NCOT for further assessment and weight
Variations in practice for West Lothian babies include:
-Unwell babies should be sent immediately (ambulance if required) to St John's Hospital A&E
- Any discussion regarding weight loss babies should be directed to the neonatal team (bleep 3593/3565)
- Well babies with weight loss will be reviewed on ward 11 at SJH following discussion with the neonatal team (bleep 3593/3565)

*Assessment Checklist for discussion with neonatal consultant

Weight Monitoring	**Birth weight**	
	Current weight	
	Percentage weight loss	
Feeding Assessment	**Frequency of feeds**	
	Length of feeds	
	Does baby wake for feeds?	
	Is baby settled after feeds?	
	Have you observed baby having an adequate feed?	
	Have you observed baby taking an appropriate top up volume?	
	If bottle feeding what is the volume and frequency of feeds?	
Hydration Status	**Does baby have any of the following?** - **Dry mouth/mucous membranes** - **Sunken fontanelle** - **Dry skin** - **Weak cry** - **Urates in the nappy**	
	Number of wet nappies in last 24 hours and when was the last wet nappy?	
	When was the last dirty nappy and what colour was the stool?	
Observations	**Respiratory Rate**	
	Heart Rate	
	Temperature	
Jaundice	**Is the baby jaundiced and if so what is the Minolta/SBR?**	

Reference Tool (appendix 1)

Large weight loss guideline: Community midwives reference tool

<table>
<tr><td>Assessment (day 5)</td><td colspan="3">Complete the assessment form overleaf.</td></tr>
<tr><td>Weight loss
10-12.9%:
Midwife-led management of feeding if no other concerns

Contact neonatal middle-grade on bleep 1610 if any concerns about baby or weight loss

*SJH contact neonatal middle grade on bleep 3565 if any concerns about baby or weight loss</td><td>Breastfeeding (day 5):
Carry out breastfeeding assessment, Support parents with positioning and attaching baby to ensure effective breastfeeding and commence active management plan
Advise parents to breastfeed baby responsively at least 3 hourly, then offer supplements of breast milk or formula 60-100mls/kg/day
NB. Feeds should be at least every 3 hours start-to-start, i.e. 9am, 12pm, 3pm…
<table><tr><th>Birthweight</th><th>Suggested 3-hourly supplement if breastfeeding</th></tr><tr><td>2.5kg</td><td>19-31mls</td></tr><tr><td>2.75kg</td><td>21-34mls</td></tr><tr><td>3kg</td><td>23-38mls</td></tr><tr><td>3.25kg</td><td>24-41mls</td></tr><tr><td>3.5kg</td><td>26-44mls</td></tr><tr><td>3.75kg</td><td>28-47mls</td></tr><tr><td>4kg</td><td>30-50mls</td></tr><tr><td>4.25kg</td><td>32-53mls</td></tr><tr><td>4.5kg</td><td>34-56mls</td></tr></table></td><td>Artificial feeding (day 5):
Support parents with appropriate artificial feeding technique
Advise parents to feed baby 3 hourly volumes of 150mls/kg/day.
<table><tr><th>Birthweight</th><th>Suggested 3-hourly volumes if artificial feeding</th></tr><tr><td>2.5kg</td><td>47mls</td></tr><tr><td>2.75kg</td><td>52mls</td></tr><tr><td>3kg</td><td>57mls</td></tr><tr><td>3.25kg</td><td>61mls</td></tr><tr><td>3.5kg</td><td>66mls</td></tr><tr><td>3.75kg</td><td>70mls</td></tr><tr><td>4kg</td><td>75mls</td></tr><tr><td>4.25kg</td><td>80mls</td></tr><tr><td>4.5kg</td><td>84mls</td></tr></table></td><td rowspan="3">All pathways:

Reassess and reweigh baby after 24 hours:

If weight gain >20g, reweigh in another 48 hours

If weight gain <20g, contact neonatal tier 2 to discuss</td></tr>
<tr><td>Weight loss ≥13%: Discuss with neonatal consultant, aim to manage at home

*SJH paediatric consultant</td><td colspan="2">Baby requires discussion with a neonatal consultant to assess and establish feeding plan.
Weekdays before 5pm:
Postnatal ward consultant – Bleep 4133
Weekdays after 5pm or weekends:
On-call consultant – Bleep 1615
*SJH consultant bleep 3593/3565</td></tr>
<tr><td>Weight loss ≥15%, or concerns baby is unwell or dehydrated: For same day medical review</td><td colspan="2">Any unwell baby should be sent immediately (ambulance if required) to ED at RHCYP. If baby is not acutely unwell but has weight loss ≥15% the NNU consultant will decide where the baby should be assessed (ED or NNU).
Any baby seen on NNU will have a plan documented in their Trak progress notes which should be read by CMW the following day.
*West Lothian babies should be sent to A+E SJH</td></tr>
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Authors

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