

Guideline for the Management of Weight Loss in Breast and Formula Fed Infants

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Guideline Statement

Hywel Dda University Health Board is committed to providing the highest standard of care to support new mothers to feed their baby and build strong and loving parent-infant relationships. This is in recognition of the profound importance of early relationships to future health and wellbeing, and the significant contribution that breastfeeding makes to good physical and emotional health outcomes for children and parents.

The health board is committed to ensuring that all care is person and family centred, non-judgemental and that all mothers' or parent's decisions are supported and respected.

The health board will work together across all disciplines and organisations to improve mother's and parent's experiences of care and their care outcomes.

Scope

The guideline applies to all maternity, neonatal and paediatric staff.

Aim

The aim of this document is to:

- Support staff to provide consistent care to both formula and breastfed babies where weight loss has been identified in the neonatal period

Objectives

The purpose of this document is to detail a framework for prevention and management of excessive new-born weight loss.

Implementation of this guidance will ensure that:

- Appropriate feeding assessments are carried out accurately and in a consistent manner
- Relevant weight loss management plans are implemented in a timely manner
- Breastfeeding is supported, including optimising the amount of breastmilk baby receives and ensuring lactation is protected if supplementation is needed

Introduction

Excessive weight loss in breastfed babies causes great anxiety to parents, carers, families and staff. It can lead to cessation of breastfeeding and possible readmission to hospital.

Neonatal weight loss in the first few days of life is part of a normal physiological process where excess extra cellular fluid is excreted. Recent studies have indicated that the normal weight loss in most babies is between 5 – 7% of birth weight. (Dewey et al 2005, McDonald 2003). Neonatal weight loss should be assessed as part of the whole clinical picture.

Evidence regarding the optimum frequency of weighing the neonate is scarce and varies dramatically nationwide. The **accuracy of scales** and the **time of day** in which babies are weighed also raise concerns (Sachs & Oddie 2002). Although midwives often voice concerns that weighing undermines the mother's confidence, this has never been supported by research (Iyer et al, 2008).

Infant weight loss is a **late** indicator of poor breastfeeding, close monitoring of the following would indicate poor breast milk intake prior to a significant weight loss occurring:

- Observing for effective positioning and attachment
- Observation of the sucking pattern of the baby throughout a feed
- Frequent assessment of urine and bowel output
- Breastfeeding assessment form (appendix 2)
- Signs of effective feeding (appendix 1)

Nappies – The Normal Pattern

Age	Day 1 – 2	Day 3 – 4	Day 5 – 6	Day 7 – 28**
Urine – number of wet nappies per day	2 or more wet nappies: urates* may be present	3 or more wet nappies, feeling heavier	5 or more wet nappies	6 or more heavy wet nappies
Stools – number per day, colour consistency	1 or more dark green/black ‘tar like’ (meconium)	2 or more changing colour/consistency – brown, green, yellow and softer	2 or more yellow/watery stools	2 or more stools at least the size of a £2. Yellow and watery ‘seedy’ appearance

*Urates – these are normal bladder discharges in first few days, but persistent urates after day 4-5 may indicate insufficient milk intake.

** After 28 days each baby establishes its own pattern of stooling – babies may pass several stools per day or have several days gap in between

Health babies should be weighed on day 4-5

Routine weighing of healthy babies should be weighed at this time, whether they are at home or in the hospital.

Babies who are at more risk of increased weight loss – Babies with these risk factors should be weighed at day 3 and reweighed on day 5 to more accurately assess weight loss.

These mothers should be encouraged to commence “antenatal expressing” Morton 2019 firstdroplets.com

- Babies born at < 37 completed weeks gestation
- Babies born with birth weight below 9th centile
- Jaundiced and sleepy babies
- Clinically unwell babies
- History of poor feeding
- Decreased urine/bowel output
- Babies of diabetic mothers
- Babies born to mothers who are on Beta Blockers (e.g Labetalol)

This list is not exhausted please use clinical judgement to include other babies at potential risk.

Breastfed babies should be having 500 MLS/day by day 5

Healthy Term babies 1 - Calculate of % weight loss = $\text{weight loss (g)} \div \text{Birth weight (g)} \times 100$

2 - When calculating high risk babies use the lowest weight instead of the birth weight.
 Calculate of % weight loss = $\text{weight loss (g)} \div \text{lowest weight (g)} \times 100$

Weight at 5 Days. A Weight Loss of 7% or more Triggers Further Action

% WEIGHT LOSS	MANAGEMENT PLAN INDICATED
7 – 10% OF BIRTH WEIGHT	A
10 – 12% OF BIRTH WEIGHT	A + B
> 12% OF BIRTH WEIGHT	C

Full feed if required will be calculated using the following formula for appropriate age and weight. Please look at appendix 2 and take this into account when supplementing breastfed babies. Calculations below worked out on a formula fed baby.

Day 1	Feeds calculated @ 60ml/kg/day
Day 2	Feeds calculated @ 75ml/kg/day (baby < 9 th centile start @ 75 ml/kg)
Day 3	Feeds calculated @ 90ml/kg/day
Day 4	Feeds calculated @ 120ml/kg/day
Day 5	Feeds calculated @ 150ml/kg/day

e.g. Baby 3 days old birth weight 2.5 kg feeds would be calculated as below:

$$2.500 \times 90 \div 8 = 28 \text{ ml after 8 feeds in 24 hours}$$

Always remember to deduct the amount of EBM collected from the amount of required formula

Failure to Regain Birth Weight by Day 10-14

At 14 days observe feed and discuss with *Infant Feeding Co-ordinator. The average baby will gain around 125-200g per week in the first 4 months. Continued slow weight gain may be associated with poor breastfeeding technique or lactation problems. Immediate paediatric review is indicated at this

point even if the baby does not look unwell, as some babies may have an underlying medication condition. In these situations, the situation may deteriorate with time. **Continuing to weigh a baby without intervention is inappropriate.**

* Rhian Walters – Witherbybush General Hospital/Bronglais General Hospital
Chris Phelan O-Riordan – Glangwili General Hospital

Intervention for Breast / Formula Fed Infants

A weight loss of > 10% at any time or failure to regain birth weight by day 14 should be considered abnormal. A Paediatrician should review the infant to exclude any underlying illness and a referral made to an experienced team member. Please take a detailed history, antenatal, birth and postnatal and then make a plan.

PLAN	WEIGHT LOSS	MANAGEMENT
A	7 – 10%	<ul style="list-style-type: none"> ▪ Observe a full breastfeed ▪ The breast should be offered at each feed ▪ Observe for an effective feeding pattern (suck/swallow pattern) See Breastfeeding assessment form ▪ Ensure a minimum of 8 feeds in 24 hours (+1 at night) ▪ Encourage frequent periods of prolonged skin contact to encourage breastfeeding ▪ Observe urine and bowel output (as per breastfeeding assessment form) ▪ Visit by Midwife during the next 24 hours to check feeding output and general condition of baby ▪ Re-weigh again in 48 hours (sooner if any clinical concerns). If weight increases continue providing support and monitor closely. If no or minimal weight increase, see management Plan B
B	10 – 12%	<p><u>Follow management plan A plus:</u></p> <ul style="list-style-type: none"> ▪ A discussion must take place with a speciality paediatric doctor and an agreement reached on the ongoing management. This must be recorded in the postnatal notes. ▪ Express breast milk after each feed and give to baby via a cup. If none or minimal EBM, then small artificial feed with full maternal consent Page 4 Postnatal book needs to be signed. (Level of supplement dependant on quality of breastfeed and whole clinical picture). EBM should also be given. ▪ If baby <9th centile of <37 weeks gestation, then full supplement calculated may be appropriate ▪ Observe bowel and urine output (noting volume of latter – as per breastfeeding assessment form)

		<ul style="list-style-type: none"> ▪ Weigh again in 24 hours. If no or minimal weight increase, see management plan C ▪ Ensure all parents are shown how to cup feed
C	> 12%	<p>Mandatory referral for immediate paediatric review</p> <p><u>Follow management plan B, plus:</u></p> <ul style="list-style-type: none"> ▪ Carry out investigation*to determine ongoing care ▪ Ensure baby receiving adequate volume milk for age. Formula milk may be required if breastfeeding ineffective or no EBM available. Expressing should have already been commenced. ▪ Frequent breastfeeding and use of electric pump to stimulate milk supply. Ensure a minimum of 8 - 10 feeds in 24 hours. (Breastfeeding and expressing) ▪ Re-weigh in 24 hours, then twice weekly/ more frequent if appropriate until clear trend in weight gain. ▪ Gradually reduce level of supplementation offered as breast milk supply increases and quality of breastfeeding improves. ▪ Ensure good discussion and clear plan for parents, aim to get baby back totally breast feeding as soon as possible. ▪ Mother and baby need to be closely supported until clear trend upwards in weight gain. Please do not discharge from midwifery care until this has been reached.

Any additional supplementation to be given via cup in hospital. On discharge home any additional supplementation to be given via cup once parents educated or from bottle and teat via paced feeding.

*As determined by Paediatrician

Double pump expressing (after day 3) should be recommended 8 times in 24 hours once at night. Hand expressing should also be recommended as more tactile and will increase mother's milk supply.

Correct pump flange size is important as this influences the amount of milk expressed.



Appendix 1 – Milk Intake by Age for Breastfed Babies

Babies should increase their weight by 28g pr day after day 4.

Baby's Age	Average Milk Volume per Feeding	Average Milk Intake Per Day
First week (After Day 4)	1-2 oz. (30-59mL)	10-20 oz. (300-600mL)
Weeks 2 and 3	2-3 oz. (59-89 mL)	15-25 oz. (450-750 mL)
Months 1-6	3-5 oz. (89-148 mL)	25-35 oz. (750-1035 mL)

Mohrbacher & Kendall- Tackett, 2005. (Breastfeeding Answers A Guide for helping Families Nancy Mohrbacher IBCLC FILCA)

Average weight gain in the first four months is 4-7 ounces (125/200g) per week.

Signs of effective/ineffective feeding is the Breastfeeding Assessment form (Postnatal book page 12/ UNICEF Baby Friendly Initiative)

Appendix 2 – Breastfeeding Assessment Form

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	√	√	√	√	
Your baby: has at least 8 -12 feeds in 24 hours*					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
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*					Stools/dirty nappies: Day 1-2 = 1 or more in 24 hours, meconium Day 3-4 = 2 (preferably more) in 24 hours changing stools
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					Sucking pattern: Swallows may be less audible until milk comes in day 3-4 Feed frequency: Day 1 at least 3-4 feeds After day 1 young babies will feed often and the pattern and number of feeds will vary from day to day. Being responsive to your baby's need to breastfeed for food, drink, comfort and security will ensure you have a good milk supply and a secure happy baby.
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:

Appendix 3 – Approximate Supplement Volume needed per day to Increase Weight Gain for Breastfed Babies

These supplementation volumes are to be used if the baby has inadequate weight gain for age. Any plan should be started with the expectation that it may need adjusting. Close monitoring of mother and baby is essential.

Any Weight deficit please review chart below for supplementation volume guidance

Weekly Weight Gain	170g 6oz	142g 5oz	113g 4oz	85g 3oz	57g 2oz	28g 1oz	0g 0oz
Weekly Weight Deficit	28g 1oz	57g 2oz	85g 3oz	113g 4oz	142g 5oz	170g 6oz	198g 7oz
Daily Supplement Needed	60ml 2oz	120ml 4oz	180ml 6oz	240ml 8oz	300ml 10oz	360ml 12oz	420ml 14oz

Adapted from Genna, C. W. (2016) Selecting and using breastfeeding tools: improving care and outcome. Armarillo, Tx: Praeclarus Press (Breastfeeding Answers A Guide for helping Families Nancy Mohrbacher IBCLC FILCA)

Relevant questions to ask the mother to help diagnose the potential issue:

1. Any pain, discomfort or misshapen nipple during or after a breastfeeding.
If the mother replies YES to any of the above. Refer to Midwife, Health Visitor or Lactation Consultant Clinic as positioning and attachment is part of / or the cause of the problem.
2. Expressing needs to be commenced immediately (if not already commenced). Double pump 8 times in 24 hours with once at night.
Expressed Breast Milk (EBM) will be available for baby until Positioning and attachment has been corrected.
This will also protect the mother's supply.

Normal Increase in weight gain in breast fed babies is 4-7 oz per week. Baby will need to be weighed twice weekly until breastfeeding is established, and top ups are no longer needed.

For example –

Baby's weight 3000g,

Baby's weight increases by 2 ounces (60g) 3060g in one week.

Baby's weight is in a deficit of **5oz (142gs)** that week.

Following the normal increase in weight gain of 4-7oz per week. **Therefore, a supplement of 10oz (300mls) will be needed in 24 hours.**

300mls divided by 8 feeds minimum = 37.5mls top up (can be divided over 10-12 feeds – normal with responsive breastfeeding)

key factors to look at before adjusting any supplementation.

1. Is baby breastfeeding well on both sides (Rhythmical suckling and swallowing)
2. Baby passing relevant number of wet and especially stooling nappies (“What goes in must come out”).
Please look at appendix 2. Baby's usually will have anywhere between 5-6 poo nappies per day for the first 2 weeks and then settling into their own stooling pattern after 5 weeks.
3. Appropriate weight gain
4. Baby is content after a feed.