NHS Highland
Guidelines for

Prevention of Excessive Weight Loss in the Breastfed Neonate

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PREVENTION OF EXCESSIVE WEIGHT LOSS IN THE BREASTFED NEONATE

Evidence to support management guidelines for weight loss

1. SUMMARY

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

Contributing factors to excessive weight loss are:

- At-risk babies not being identified and commenced on the NHS Highland At-Risk Hypoglycaemic Policy
- Mother's being discharged prior to gaining appropriate skills and knowledge to successfully position and attach her baby effectively
- Staff not having the essential skills and knowledge to teach and demonstrate positioning and attachment to mothers
- Insufficient breastfeeding support when discharged home

Prevention and Treatment of excessive weight loss:

- Education of mother to optimise their milk production
- Ensure the mother can effectively breastfeed prior to discharge home
- Identify the neonate who is at-risk and closely monitor using the at-risk protocol
- Unlike Keeping Childbirth Natural and Dynamic (NHS Q.I.S 2009) recommendations, in NHS Highland weigh all breastfed babies after a full 72 hours from birth or weigh prior to discharge if less than 72 hours old if there is a problem with positioning and attachment or urine/stool output
- Ascertain likely cause of weight loss quickly
- Plan management by the likely cause and severity of weight loss
- Within 48 hours of discharge from hospital or home delivery, ensure the mother is offered contact with a local volunteer breastfeeding peer supporter.

AIMS

1. To support maternity staff in their ability to care for a baby who has had an excessive weight loss, giving them the knowledge and evidence base to be confident in their practice
2. To enable staff to detect excessive weight loss early and plan proactive management with the mother and paediatric staff
3. All staff will be aware that excessive weight loss may or may not be due to dehydration.

2. BACKGROUND

Neonatal weight loss in the first few days of life is part of a **normal** physiological process where excess extra-cellular fluid is excreted. This weight loss has been expected to be up to 10% of the birth weight, although this expectation was never evidence based. In fact this belief came from a time when breastfeeding practices were entirely different from today where feeds were timed and mothers were routinely separated from their babies. Recent studies have indicated that normal weight loss in the majority of babies is more likely to be between 5 and 7% of birth weight, however a small group of babies may be vulnerable to greater loss.

Median weight loss in neonates was found to be at 2.7 days with re-admission to hospital for feeding problems found between days 4 and 7. (Dewey et al 2005, Macdonald 2003).

Excessive weight loss occurs when:

- Ineffective milk transfer to the baby occurs, caused mainly by poor positioning and attachment. It can also be caused by infrequent feeds ie when a baby is given a complementary feed or a dummy, these are the most common causes of excessive weight loss and unless corrected, this problem will inevitably lead to a reduction in breastmilk production.
- Breastmilk production is reduced due to the feedback inhibitor of lactation (FIL). As the volumes of FIL increase in the breast due to poor milk transfer to the baby, future milk production is greatly compromised (Neifert 2004).
- The let down or milk ejection reflex may be delayed by factors such as stress or pain in the early period resulting in the baby being unable to effectively remove milk, resulting in a build up of milk within the breast and ultimately suppression of lactation.

Excessive weight loss may also be anticipated in specific instances such as:

- Some primigravid women especially those with a short postnatal stay, history of infertility, polycystic ovarian disease, nipple abnormalities.
- Following Caesarean section
- Large ante or post-natal haemorrhage
- Retained placenta
- Epidural
- Long labour
- Large volumes of I.V fluids in labour which causes a shift of fluid from mother to fetus
- Severe illness of the mother or mental health illness
  http://intranet.nhsh.scot.nhs.uk/PoliciesLibrary/Documents/Perinatal%20Mental%20Health%20Good%20Practice%20Guidelines.pdf
- Congenital abnormalities
- Babies born prior to 37 weeks gestation
- Twins
- Intra-uterine growth restriction
- Infection in the neonate
- Jaw/mouth abnormalities

- Polycythaemia of the neonate

In these cases it is important to reassure mothers regarding reasons behind an excessive weight loss and ensuring support and encouragement to increase milk supply and confidence in their abilities.

It is important to note that in cases of maternal gestational diabetes, I.D.D.M or women who have received high levels of I.V fluids in labour that birth weight may be inflated by excessive fluid stores in the infant.

In rare situations insufficient milk supply is inevitable:

- Sheehan's syndrome following massive post-partum haemorrhage
- Breast surgery which involves periareolar incision ie breast reduction
- Hypoplasia of the breasts – where the breasts are an abnormal shape and underdeveloped. Women will often report no breast changes during pregnancy.

There are increasing numbers of cases being published describing the phenomenon of excessive weight loss being associated with raised sodium levels indicating dehydration (hypernatraemia) and marked jaundice. This leads us to believe that this is an increasing problem. The incidence, however, which is cited is low 7.1/10,000 breastfed babies (Oddie et al 2001) and there is no evidence to suggest that this is in fact increasing (Sachs and Oddie 2002). However the following factors together would indicate that the baby is already dehydrated and the necessity of a proactive management plan is crucial:

- Serum sodium level in excess of 150 mmols.
- Weight loss in excess of 12%.
- Diminished urine output and stools.
- Dehydrated babies are at increased risk of jaundice.

(Macdonald et al 2002)

Kudamala V et al 2009 found that initiating early and frequent weighing of babies, identifying at risk babies and supporting breastfeeding mothers in the community lowered both mean weight loss and hypernatraemic dehydration.

Iyer NP et al 2008 also found that introducing early weighing from 72 hours old found earlier recognition of problems, lower percentage of weight loss, smaller increases in sodium and higher rates of breastfeeding at discharge.

Both of these suggest that NHS Highland guidelines of weighing at 72 hours meet optimal care standards and weighing neonates later may not identify neonates who are at greater risk of weight loss

Evidence regarding the optimum frequency of weighing the neonate is scarce and varies dramatically across the country. The accuracy of the scales and the time of day in which the babies are weighed also raise concerns. (Sachs and Oddie 2002). Although midwives have frequently voiced concerns that weighing undermines the mother's confidence, this has never been supported by research. (Panpanich and Garner 2002). Infant weight is a late indicator of poor breastfeeding and close monitoring of the following would indicate poor breastmilk intake prior to a weight loss occurring:

- Observing for effective positioning and attachment.
- Observation of the sucking pattern of the baby throughout a feed.
- Frequent assessment of urine output and stool frequency.

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3. BREASTFEEDING MANAGEMENT PRACTICES WHICH OPTIMISE MILK PRODUCTION

- Skin to skin contact at birth.
- Help with a second breastfeed within 6 hours of birth. For home deliveries contact details of labour suite must be given to new mums to allow for continuity and advice. Clear communication between community and labour suite staff is paramount in ensuring breastfeeding is off to a good start.
- Ensuring the mother is taught the skills of positioning and attachment and has the help required to learn these skills – PRIOR TO DISCHARGE HOME FROM HOSPITAL OR SHORTLY AFTER HOME DELIVERY
- Rooming-in.
- Baby led feeding and observation of feeding cues.
- Frequent access to the breast – again skin to skin contact to encourage breastfeeding.
- If baby is reluctant or sleepy – ensure breast milk is expressed and given by syringe or cup
- Ensure babies are fed a minimum of 6 to 8 times in 24 hours. If the baby is not feeding well, staff should follow the NHS Highland sleepy, reluctant hypoglycaemic Policy and document clearly in the maternal notes the reasons for this.
  http://intranet.nhsh.scot.nhs.uk/Org/DHS/ChildrensServices/HospitalPaediatrics/Documents/Neonatal%20Unit/Hypoglycaemia%20guidelines/Hypoglycaemia%20in%20the%20wards.pdf
- Expressing needs to be carried out, if necessary 6 to 8 times in 24 hours also. Expressing can be done to suit the mother ie after a feed, in-between feeds.
- Avoid use of formula feeds, teats and dummies. Use of the NHS Highland teats and dummies leaflet to support reasons behind avoidance is useful for the mother and again clear documentation in maternal notes if supplementary feeds are given, including method of administration.

4. ASSESSMNENT OF NEONATAL WELLBEING

(Any of these would indicate further action is required)

BABY

- Jaundiced and sleepy
- Sleepy babies who feed less than 6 to 8 times in 24 hours
- Very frequent feeds ie feeding more than 12 times a day and not appearing settled between feeds
- Feeds which regularly take longer than 45 minutes
- Baby unsettled after feeding.

BREASTS

- Engorgement or mastitis.
- Trauma to nipples, misshapen, "pinched" nipples when the baby finished the feed.

BREASTFEEDING

- Difficulty with attachment
- No change in sucking pattern
- No pauses or audible swallows
- Baby is "fussy" at the breast – on and off a lot during the feed
- Breast refusal

Nappies – the normal pattern (Refer to the colour chart in *'Off to a good start' p19)*

Day 1 to 2

- 1 - 2 or more wet nappies per day
- 1 or more meconium nappy

Day 3 to 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
- 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 stool movement.

Urates

These are normal bladder discharges in the first few days but persistent urates may indicate insufficient milk intake

5. EQUALITY AND DIVERSITY

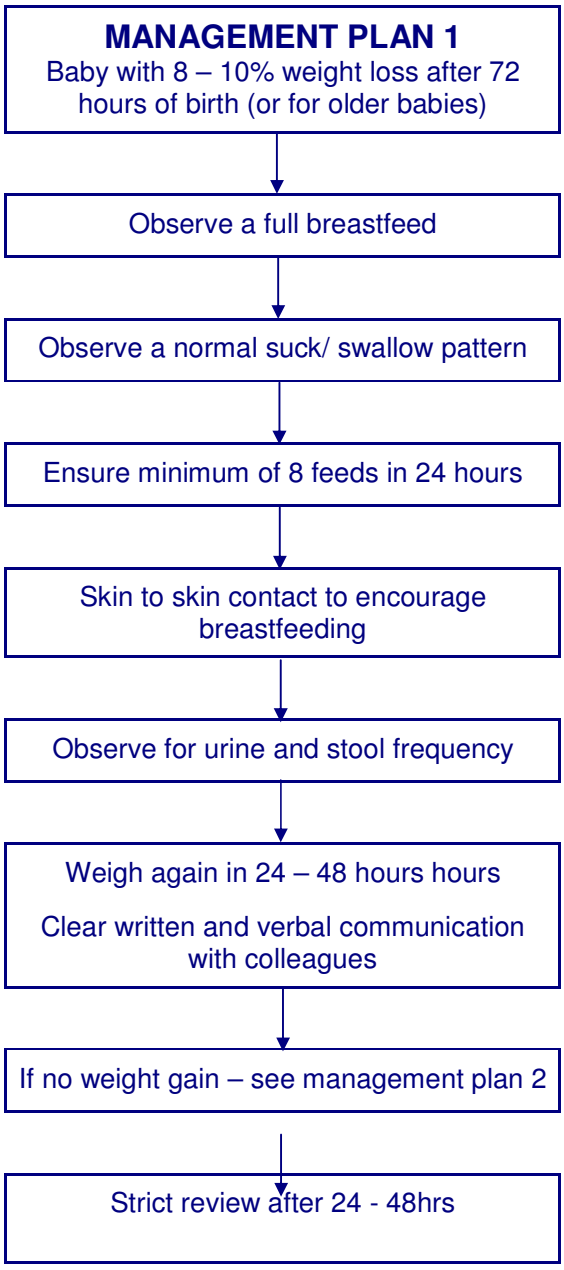
It is the aim of this Policy to ensure that the individual needs of mothers and their babies are given due consideration. In order to understand individual need staff also need to be aware of the impact of any barriers that we may inadvertently have in place in how we provide services.

Staff are advised to:

- Check whether mothers require any kind of communication support including an interpreter to ensure that they understand any decisions being made.
- Ensure that they are aware of any concerns a mother may have about coping with breast feeding and any decisions made.
- Ensure that any mother who has a disability that may require individualised planning re breastfeeding practice is appropriately supported.

6. MANAGEMENT PLAN 1 GUIDELINES

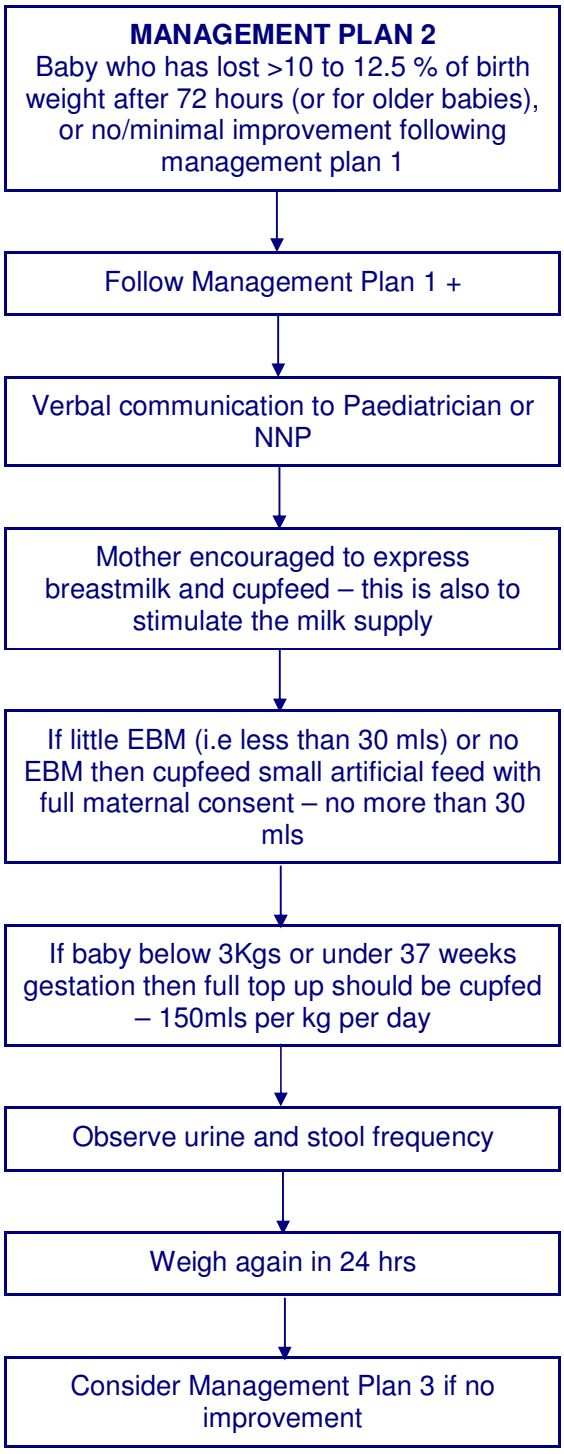
- Observe a full breastfeed, if the wards are very busy ensuring that the baby is effectively positioned and attached is the main priority.
- Use of the NHS Highland leaflet *"Important Points You Need to Know When Breastfeeding Your Baby"*
- Observe sucking pattern – short initial sucks followed by deep slow rhythmic sucks with pauses and audible swallows. Ratio of sucks to swallows should be one or two sucks then swallow. Again if the wards are too busy, education of the mother regarding normal sucking pattern will ensure that she is aware of what to look for during a feed, thus being able to inform staff of patterns outwith the normal.
- Ensure minimum of 8 feeds in 24 hours
- Skin to skin contact to encourage breastfeeding
- Observe for urine and stool frequency
- Weigh again in 24 – 48 hours to ensure no more weight has been lost. Clear instruction to colleagues written in notes to inform of importance of re-weighing.
- If no weight gain – see management plan 2
- This baby would be reviewed after 24 - 48 hours. Women should be encouraged to stay in hospital for the extra support and encouragement to enable them to effectively position and attach their babies.
- ENSURE THAT COMMUNICATION SUPPORT IS AVAILABLE IF REQUIRED - This can be accessed via Interpretation and Translation Guidance for NHS Highland staff.
- Reassurance is vital. Ensure that verbal and non-verbal communication is positive and non-judgemental at all times – remember that this is usually a very stressful and anxious time for all concerned.
- Involve everyone when implementing the appropriate management plan. This includes parents, wider family and staff.
- Ensure that you are aware of any issues specific to the individual mother and have considered any potential impact on that individual situation.


MANAGEMENT PLAN 1
Baby with 8 – 10% weight loss after 72 hours of birth (or for older babies)
Observe a full breastfeed
Observe a normal suck/ swallow pattern
Ensure minimum of 8 feeds in 24 hours
Skin to skin contact to encourage breastfeeding
Observe for urine and stool frequency
Weigh again in 24 – 48 hours hours
Clear written and verbal communication with colleagues
If no weight gain – see management plan 2
Strict review after 24 - 48hrs

7. MANAGEMENT PLAN 2 GUIDELINES

Baby who has lost >10 to 12.5 % of birth weigh at 72 hours or beyond, or no/minimal improvement following management plan 1

- Follow management plan 1 plus
- Inform paediatricians or Neontal Nurse Practitioner with a view to following the guidance of this plan if no signs of infection or dehydration noted and the baby is clinically well.
- Mother encouraged to express breast milk (E.B.M) after each feed and the baby should be cup fed in addition to breastfeeds. Use of the NHS Highland leaflet *"The Problem With Supplementary Feeds and Dummies"* will highlight the potential problems of introducing teats and dummies to a breast fed baby and will enable the mother to make a fully informed choice re method of feeding.
- If little or no milk is expressed, then it would be medically indicated due to the excessive weight loss, to cup feed **a small** artificial milk feed with full maternal consent.
- A small artificial milk feed for a healthy, term neonate should be no more than 30 mls.
- Observe urine and stool frequency
- Weigh again in 24 hours – consider management plan 3 if no improvement
- Communication with the paediatric staff would be strongly recommended here.
- Ensure that you are aware of any issues specific to the individual mother and have considered any potential impact on that individual situation.
- For small babies, < 3.0 Kg, or premature babies, < 37 weeks, then a full top- up feed should be given if little is expressed
- Full feed if required will be calculated using the following formula – 150mls/per kg/per day
- **Always remember to deduct the amount of expressed breast milk obtained from the amount required of formula**

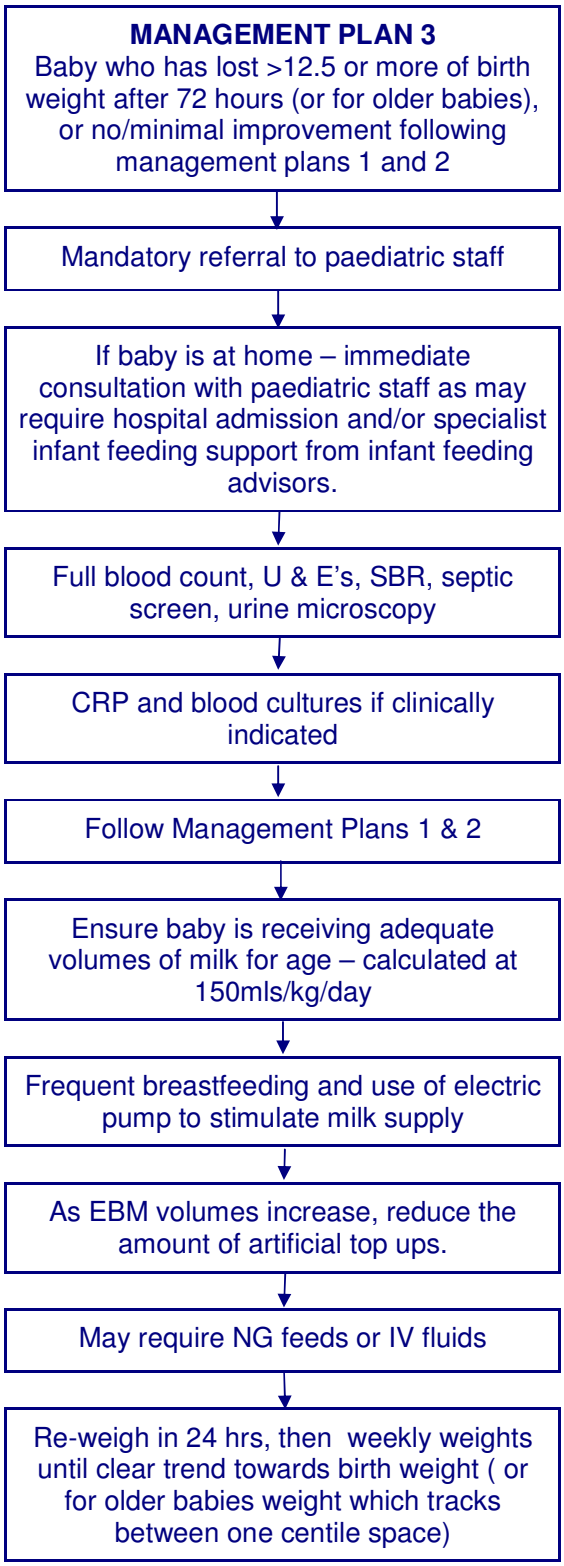

MANAGEMENT PLAN 2
Baby who has lost >10 to 12.5 % of birth weight after 72 hours (or for older babies), or no/minimal improvement following management plan 1
Follow Management Plan 1 +
Verbal communication to Paediatrician or NNP
Mother encouraged to express breastmilk and cupfeed – this is also to stimulate the milk supply
If little EBM (i.e less than 30 mls) or no EBM then cupfeed small artificial feed with full maternal consent – no more than 30 mls
If baby below 3Kgs or under 37 weeks gestation then full top up should be cupfed – 150mls per kg per day
Observe urine and stool frequency
Weigh again in 24 hrs
Consider Management Plan 3 if no improvement

8. MANAGEMENT PLAN 3 GUIDELINES

Baby who has lost >12.5 – 15% of birth weight at 72 hours or beyond, or no/minimal improvement following management plans 1 and 2

- Refer immediately to paediatric staff – **this is mandatory**
- Blood tests for FBC, U&E's, SBR, septic screen and urine microscopy.
- CRP and blood cultures if clinically indicated.
- Breastfeeding management as per plans 1 and 2.
- Supplement with formula via cup ***only if*** breast feeds are ineffective and EBM volumes poor.
- If EBM volumes are good give EBM via cup. Top-ups may be instructed by paediatric staff for all feeds.
- Ensure this baby is receiving adequate volumes of milk intake for age.
- Frequent breastfeeding and use of electric pump to further increase milk supply. As the breastmilk supply increases; decrease the volume of artificial milk. Use of the y-connector on the pump will enable double pumping
- May require naso gastric feeds or I.V fluids, but continue frequent breastfeeds and expressing even when baby is in SCBU or childrens ward
- Observe urine and stool frequency.
- Re-weigh in 24 hours, then weekly weights, until clear trend towards birth weight is demonstrated.

- Ensure that you are aware of any issues specific to the individual mother and have considered any potential impact on that individual situation.


MANAGEMENT PLAN 3
Baby who has lost >12.5 or more of birth weight after 72 hours (or for older babies), or no/minimal improvement following management plans 1 and 2
Mandatory referral to paediatric staff
If baby is at home – immediate consultation with paediatric staff as may require hospital admission and/or specialist infant feeding support from infant feeding advisors.
Full blood count, U & E's, SBR, septic screen, urine microscopy
CRP and blood cultures if clinically indicated
Follow Management Plans 1 & 2
Ensure baby is receiving adequate volumes of milk for age – calculated at 150mls/kg/day
Frequent breastfeeding and use of electric pump to stimulate milk supply
As EBM volumes increase, reduce the amount of artificial top ups.
May require NG feeds or IV fluids
Re-weigh in 24 hrs, then weekly weights until clear trend towards birth weight (or for older babies weight which tracks between one centile space)

9. REFERENCES

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NHS Highland Leaflets

Important Points you need to know when breastfeeding your baby

Breastfeeding your baby – the problems with supplementary feeds and dummies

Skin to skin

Contacts

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There are 37 Breastfeeding Management Trainers, as at June 2008. Please get in touch with either Janet or Karen who can find a trainer near you.