LRI Children's Hospital

Faltering Growth: Recognition and Management of Faltering Growth in Children

Staff relevant to:	Nursing & Medical staff working within UHL Children's Hospital
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Contents

1. Introduction and Who Guideline applies to

The term 'faltering growth' (previously called 'failure to thrive') is widely used to refer to a slower rate of weight gain in childhood than expected for age and sex. The term faltering growth is preferred as periods of slow growth may represent temporary variation from the expected pattern.

Infant weight gain monitoring and feeding support in the well term infant is generally managed by Maternity and the Health visitor's services both in primary and secondary care. This guideline provides information for Medical and Nursing staff

working within the Children's Hospital when concerns regarding faltering growth are detected in both the early days after birth and later in infancy and childhood.

Related documents:

- Bottle Feeding UHL Obstetric Guideline UHL C31/2011
- Breast Feeding Support UHL Obstetric Guideline UHL C120/2008
- Infant Feeding Policy UHL LLR and Childrens Centre Services UHL E1/2015
- Weight Measurement UHL Childrens Hospital Guideline UHL C35/2006
- Weighing of Well Term Babies UHL Obstetric Guideline UHL C21/2011

2. Faltering growth

2.1 Causes of faltering Growth

1. Persisting or large weight loss in neonates - ineffective establishment of feeding.
2. In older children, faltering growth can occur when nutritional intake does not meet a child's specific energy requirements.
    - Certain health conditions, e.g. cystic fibrosis, coeliac disease, malabsorption. (see appendix 1 for additional conditions to consider)
    - Persisting problems with appetite and feeding.
    - No specific underlying health condition - likely to be complex and multifactorial. Child neglect, socioeconomic and educational disadvantage can be likely contributors.

The World Health Organization (WHO) has produced growth standards, based on longitudinal studies of healthy breastfed infants. These standards, along with UK term and preterm infant growth data, have been incorporated into UK WHO growth charts for monitoring growth in UK children.

2.2 Weight loss in the early days of life

It is common for infants to lose up to 7% of their birth weight during the early days of life. This weight loss usually stops after 3 - 5 days of life. Most infants have returned to their birth weight by 3 weeks of age.

Infants in the early days of life who lose more than 10% of their birth weight: *(note: often in clinical practice up to 12% loss is acceptable especially in breast fed babies, although the risk of hypernatremia is increased as the percentage weight loss increases)* Most of these babies are hungry but well and will rehydrate easily and safely on milk. **Weighing of Well Term Babies UHL Obstetric Guideline** sets

out a clear plan for supporting mothers with feeding and referral according to the clinical picture.

1. Perform a clinical assessment. Look for evidence of dehydration, an illness or disorder that might account for the weight loss
2. Take a detailed history to assess feeding.
3. Consider direct observation of feeding by a person with appropriate training and expertise (for example, in relation to breastfeeding and bottle feeding)
4. Perform further investigations if they are indicated based on the clinical assessment e.g. blood gas, U&E
5. Provide feeding support - their weight can be measured again at appropriate intervals depending on the level of concern, but no more frequently than daily.

- If supplementation with an infant formula is given to a breastfed infant: reassure the mother and observe a full feed.
- Support the mother to continue breastfeeding
- Advise expressing breast milk to promote milk supply and
- Feed the infant with any available breast milk before giving any infant formula.
- Ensure the mother has understood any feeding plan that is put in place and is able carry it out.

2.3 Faltering growth after the early days of life

The following are the thresholds for concern about faltering growth in infants and children:

- a fall across 1 or more weight centile spaces, if birth weight was below the 9th centile
- a fall across 2 or more weight centile spaces, if birth weight was between the 9th and 91st centiles
- a fall across 3 or more weight centile spaces, if birth weight was above the 91st centile
- When current weight is below the 2nd centile for age, whatever the birth weight - Please also consider clinical assessment findings and judgement /opinion of clinician.

If the infant or child fulfils any of the criteria above:

1. Weigh the infant or child
2. Measure their length (from birth to 2 years old) or height (if aged over 2 years)
3. Plot the above measurements and available previous measurements on the UK WHO growth charts to assess weight change and linear growth over time.
4. If possible obtain the biological parents' heights and work out the mid-parental height centile.

If there is concern about faltering growth or linear growth in a child over 2 years of age, determine the BMI centile:

1. using the UK WHO centiles and the accompanying BMI centile 'look-up chart'

   OR

2. by calculating the BMI (weight in kg/height in metres squared) and plotting this on the BMI centile chart.

Then:

- if the BMI is below the 2nd centile, this may reflect either under nutrition or a small build
- if the BMI is below the 0.4th centile, this suggests probable under nutrition that needs assessment and intervention.

If there is concern about faltering growth:

1. Perform a clinical, developmental and social assessment
2. Take a detailed feeding or eating history
3. Consider direct observation of feeding or meal times
4. consider investigating for:

   - Urinary tract infection
   - Coeliac disease (If on solids)

5. Perform further investigations if they are indicated based on the clinical assessment. Consider investigations looking for Metabolic, Endocrine and GIT cause etc.)

6. Consider the following factors to be associated with faltering growth; this is also relevant to children over 2 years of age.

    - Preterm birth
    - Neurodevelopmental concerns
    - Maternal postnatal depression or anxiety.

Based on the feeding history and any direct observation of feeding, consider whether any of the following are contributing to faltering growth in **milk-fed infants**:

- ineffective suckling in breastfed infants
- ineffective bottle feeding
- feeding pattern or routine
- the feeding environment
- feeding aversion
- parent/carer–infant interactions
- how parents or carers respond to the infant's feeding cues
- physical disorders that affect feeding

Based on the feeding history and any direct observation of mealtimes, consider whether any of the following are contributing to faltering growth in older children:

- mealtime arrangements and practices
- types of foods offered
- food aversion and avoidance
- parent/carer–child interactions, for example responding to the child's mealtime cues
- appetite, for example a lack of interest in eating
- physical disorders that affect feeding

2.4 Referral

If an infant or child with faltering growth has any of the following, Primary care team should discuss with, or refer to an appropriate paediatric specialist care service:

1. symptoms or signs that may indicate an underlying disorder
2. a failure to respond to interventions delivered in a primary care setting
3. slow linear growth or unexplained short stature
4. rapid weight loss or severe under nutrition
5. features that cause safeguarding concerns

Infants or children with faltering growth should not be admitted to hospital unless they are acutely unwell or there is a specific indication requiring inpatient care, such as a plan to begin tube feeding.

2.5 Management

Consider asking the parents or carers of infants and children with faltering growth to keep a diary recording food intake (types and amounts) and mealtime issues (for example, settings, behaviour) to help inform management strategies and assess progress.

Together with parents and carers, establish a management plan with specific goals for every infant or child where there are concerns about faltering growth.
This plan could include:

- assessments or investigations
- interventions
- clinical and growth monitoring
- When reassessment to review progress and achievement of growth goals should happen.

If supplementation with an infant formula is given to a breastfed infant because of concern about faltering growth after the early days of life:

1. support the mother to continue breastfeeding, observe a full feed
2. advise expressing breast milk to promote milk supply
3. feed the infant with any available breast milk before giving any infant formula.

When there are concerns about faltering growth, discuss the following, as individually appropriate, with the infants or child's parents or carers:

1. encouraging relaxed and enjoyable feeding and mealtimes
2. eating together as a family or with other children
3. encouraging young children to feed themselves
4. allowing young children to be 'messy' with their food
5. making sure feeds and mealtimes are not too brief or too long
6. setting reasonable boundaries for mealtime behaviour while avoiding punitive approaches
7. avoid coercive feeding
8. establishing regular eating schedules (for example 3 meals and 2 snacks in a day).

If necessary, based on the assessment, advise on food choices for infants and children that: are appropriate to the child's developmental stage in terms of quantity, type and food texture and also optimise energy and nutrient density.

In infants or children who need a further increase in the nutrient density of their diet beyond that achieved through advice on food choices, consider:

- Referral to a paediatric dietitian.
- Short-term dietary fortification using energy-dense foods
- Advise the parents or carers of infants or children with faltering growth that drinking too many energy-dense drinks, including milk, can reduce a child's appetite for other foods.
- Consider a trial of an oral liquid nutritional supplement for infants or children with continuing faltering growth despite other interventions.
- Regularly reassess infants and children receiving an oral nutritional supplement for faltering growth to decide if it should be continued.(Follow dietician advice)

Only consider enteral tube feeding for infants and children with faltering growth when:

- there are serious concerns about weight gain

- an appropriate specialist multidisciplinary assessment for possible causes and contributory factors has been completed
- other interventions have been tried without improvement.

If enteral tube feeding is to be used in an infant or child with faltering growth, make a plan with appropriate multidisciplinary involvement for:

- the goals of the treatment (for example, reaching a specific weight target)
- the strategy for its withdrawal once the goal is reached (for example, progressive reduction together with strategies to promote oral intake).

2.6 Monitoring

If there are concerns about faltering growth, measure the weight at appropriate intervals taking account of factors such as age and the level of concern, but usually no more often than:

- 2 to 3 times weekly if less than 1 month old
- weekly between 1–6 months old
- fortnightly between 6–12 months
- monthly from 1 year of age.

If there are concerns about faltering growth monitor length or height at intervals, but no more often than every 3 months.

3. Education and Training

None

4. Monitoring Compliance

None identified at present.

5. Supporting References

1. NICE guideline NG75 – Faltering growth: Recognition and management of faltering growth in children

2. Leng G, Moore V, Abraham S, editors (2014) Achieving high quality care – practicalexperience from NICE. Chichester: Wiley
3. Bottle Feeding UHL Obstetric Guideline UHL C31/2011
4. Breast Feeding Support UHL Obstetric Guideline UHL C120/2008
5. Infant Feeding Policy UHL LLR and Childrens Centre Services UHL E1/2015
6. Weight Measurement UHL Childrens Hospital Guideline UHL C35/2006
7. Weighing of Well Term Babies UHL Obstetric Guideline UHL C21/2011

6. Key Words

Faltering growth, Feeding, Weight loss

The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.
As part of its development, this policy and its impact on equality have been reviewed and no detriment was identified.

CONTACT AND REVIEW DETAILS	
Guideline Lead (Name and Title) **Nadeem Muhammad - Registrar** Suchandra Pande – Paed Consultant	**Executive Lead** Chief Nurse
Details of Changes made during review: **Added** reference to community role in intro **Flow chart removed, index linked to relevant sections** **Added -** *the risk of hypernatremia is increased as the percentage weight loss increases* and added reference to Weighing of Well Term Babies UHL Obstetric Guideline for plan and referral **Added** - blood gas and U&E to investigations if they are indicated **Added** - Ensure the mother has understood any feeding plan that is put in place and is able carry it out Faltering growth after early days of life **Added** - Consider investigations looking for Metabolic, Endocrine and GIT cause etc Removed organisation of care section **Added** list of Medical conditions (and investigations) that may present with faltering growth to appendix	

Appendix 1: Medical conditions (and investigations) that may present with faltering growth

Investigation	Indication	Condition being sought
Full blood count	Persistent weight faltering	Anaemia, Leukaemia
Ferritin	Persistent weight faltering	Iron deficiency
Urea & electrolytes	Persistent weight faltering	Renal failure, electrolyte abnormalities
Thyroid function tests	Persistent weight faltering	Thyroid disorders
Coeliac blood tests	Persistent weight faltering	Coeliac disease
Midstream urine	Persistent weight faltering	Urinary tract infection
Chromosome analysis	Girls	Turner's syndrome
Chest radiograph	<3 months; history of respiratory infection	Cardiac anomalies, cystic fibrosis
Sweat test	History of respiratory infection	Cystic fibrosis
Vitamin D levels	Solid diet is limited, dark skin colour	Rickets