GUIDELINE FOR THE MANAGEMENT OF FALTERING GROWTH

Reference: Faltering Growth

Applicable to Children from birth to 2 years (may have wider relevance)

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Area for Circulation: Children’s Hospital for Wales
Author: Dr K Smith (Paediatric ST2)
Dr J Van der Voort (Consultant)
Group Consulted: Practitioners within the Children’s Hospital for Wales
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Disclaimer

These have been ratified at the Child Health Guideline Meeting, however clinical guidelines are guidelines only. The interpretation and application of clinical guidelines will remain the responsibility of the individual clinician. If in doubt contact a senior colleague or expert. Caution is advised when using guidelines after the review date.

Guideline for the management of Faltering Growth:
Faltering Growth Guidance

This guidance is primarily aimed at children from birth to 2 years (excluding the newborn having difficulties establishing adequate feeding). It is not evidence based guidance but based on the opinion of experts.

Faltering growth is the failure to gain weight and/or height at a satisfactory rate
- Occurs in about 5% of children\textsuperscript{1,2}
- A primary organic cause is found in only 5% of cases \textsuperscript{1,2}
- Only a very small proportion have a background of neglect/chid abuse\textsuperscript{3,4}

Causes of faltering growth include (this list is not comprehensive)\textsuperscript{5,6}

- **UNDERNUTRITION**
- **INADEQUATE CALORIE INTAKE**
  - Feeding problem- e.g. behavioural, physical
  - Social problems- e.g. poverty, parenting ability, neglect, fabricated and induced illness
- **INCREASED LOSSES**
  - Vomiting
    - Pyloric stenosis
    - Severe gastro-oesophageal reflux
    - UTI
  - Poor gastrointestinal absorption
    - Coeliac disease
    - Cystic fibrosis
    - Cows’ milk protein intolerance
    - Post gastroenteritis lactose intolerance
    - Immune deficiency (IgA)
    - Chronic GI infection
- **INCREASED DEMAND**
  - Chronic illness
    - Respiratory disease
    - Chronic kidney disease
    - Cancer
- **INABILITY TO USE NUTRIENTS FOR GROWTH**
  - Hormonal abnormalities- e.g. hypothyroidism, growth hormone deficiency
  - Biochemical abnormalities- e.g. metabolic disorders
  - Chromosomal abnormalities

Guideline for the management of Faltering Growth:
**Guidance for General Practitioners and Health Visitors**

Recommended weighing intervals in healthy growing children up to the age of 2 years:

- At immunisation,
  - 2 months, 3 months and 4 months
- Child health surveillance review - 8 months
- At MMR immunisation - 12 months
- Child health surveillance review - 15 months
- Child health surveillance review - 2 years

**NOTE** - In healthy children who are growing, more frequent weights are not desirable as short term fluctuations in weight are common and likely to cause anxiety.

If the health visitor has assessed the family/and/or/child as having additional needs, their growth may be monitored more closely.

In cases where there is concern about a child’s growth, the recommended weighing intervals are:

- 1-3 months - Fortnightly
- 3-12 months - Monthly
- 1-2 years - 3 Monthly

In these children height/length and head circumference measurements should also be taken.

**ALL MEASUREMENTS SHOULD BE RECORDED ACCURATELY IN THE RED BOOK**

**When to refer for urgent paediatric assessment?**

- If severe malnutrition or serious organic disease is suspected, arrange for admission to hospital.
- If child thought to be at risk of serious harm and child protection measures are thought to be necessary, please contact Children’s social services.

**When to refer for outpatient assessment?**

- If weight previously between the 9th and 90th centile
  - A fall through > 2 channel widths based on > 1 weight (recommended weighing intervals)
- If weight previously > 90th centile
  - A fall through > 3 channel widths based on > 1 weight
- If weight previously <9th centile
  - A fall through >1 channel width based on > 1 weight

**When to monitor growth more closely?**

- If a child has fallen through > 1 channel widths on 1 measurement only
  - Has the child had a recent illness e.g. bronchiolitis, gastroenteritis etc?
  - Has there been a recent family upset?
  - Is the child receiving adequate calories? Referral to a community dietician may be indicated.

*Guideline for the management of Faltering Growth:*
These children will require growth monitoring at the **recommended increased intervals** to ensure growth recovery.

The above is for guidance only. If you have any other concerns regarding a child’s growth, please discuss with a GP/Paediatrician.

**Guideline for the management of Faltering Growth:**

An example of a child with a sustained fall in weight over 2 growth centiles

An example of a child with a fall in weight over 1 growth centile who then demonstrates some growth recovery
Guidance for the Paediatric Assessment of the Child with Faltering Growth

- Recheck weight, length and head circumference
- Measure parental heights and establish mid parental height potential
- Ask for Red Book and birth weight
- Review and plot all previous weight and height measurements
- Check Guthrie result
- Calculate dietary requirements

History
- Obstetric and neonatal history
- Early feeding and weaning history
- Detailed dietary assessment- are they meeting their requirements?
- Symptoms of gastrointestinal disease
  - Stools- Frequency, colour and consistency
  - Vomiting- How often? Projectile? Relation to feeds/posture
- Symptoms of chronic illness/recurrent infections
- Previous hypoglycaemic episodes?
- Developmental history
- Family and social history (economic factors, family support, recent family upset, history of growth faltering/child abuse in other children/parents , foreign travel)
- Parental concerns and understandings

Examination
- General physical examination (cardiovascular, respiratory, abdominal, neurological)
- Blood pressure
- Dysmorphic features
- Interactions of child/carer
- Developmental assessment

Further considerations
- Trial of feeding- admit child and feed to required volume (for at least 2 weeks) to determine if child can gain weight in hospital. If so concentrate on psychosocial aspects
- SALT assessment
  - If structural feeding problems- e.g. cleft palate or suck/swallow incoordination
  - If food aversion suspected
    - Dietician assessment
- Clinical psychologist assessment
  - If behavioural issues affecting feeding
- Social services assessment
  - If child protection issues or other psychosocial concerns

Basic Investigations (investigations are not always indicated)
- FBC (exclude iron deficiency anaemia and eosinophilia)
- U+E/LFT/ Ca/ Phosphate/ALP
- Urinalysis and urine culture- exclude UTI and renal dysfunction

Guideline for the management of Faltering Growth:
Further investigation should depend on history and the presence of symptoms/signs and may not always be indicated.

If any specific area of concern, please discuss with the relevant speciality doctors prior to requesting investigations.

The following may be indicated (not a comprehensive list)

- **Gastrointestinal assessment**
  - Stool MC+S
  - Faecal elastase and alpha-1-antitrypsin
  - Faecal calprotectin (please discuss with gastroenterology team)
  - Coeliac screen + IgA levels
    - *Note - In children with IgA deficiency anti-IgA tissue transgluaminase levels may give a false negative result*
  - Barium meal +/- follow through
  - pH study
  - Endoscopy +/- biopsies

- **Endocrine assessment**
  - Thyroid function tests
  - If you have concern that there may be a pituitary/adrenal cause for faltering growth, please discuss with an endocrinologist prior to ordering investigations

- **Metabolic assessment**
  - Blood gas + anion gap
  - Plasma amino acids
  - Urinary organic acids
  - Acylcarnitine
  - Creatinine kinase
  - Cholesterol
  - Uric acid

- **Respiratory assessment**
  - CXR
  - Video fluoroscopy
  - Sweat test

- **Immunology assessment**
  - Igs (including IgA)
  - Vaccine responses

- **Cardiac assessment**

- **Renal assessment**
  - Renal ultrasound
  - Urine MC + S and dip

- **Genetics assessment**

If diarrhoea is the major problem, a trial of an exclusion diet (usually cows’ milk and egg free) may be warranted. Other suggestive factors are:

- Blood in the stool
- Strong personal/family history of atopy
- Peripheral blood eosinophilia (may not be present in cows’ milk intolerance)
- Suggestive small bowel biopsy

*Guideline for the management of Faltering Growth:*
References


2) Identification and management of failure to thrive: a community perspective- Charlotte M Wright- Arch Dis Child 2000;82:5-9 doi:10.1136/adc.82.1.5


7) Coventry Consensus 1998- http://www.healthforallchildren.co.uk/?DO=IMAGE&ID=coventry_concensus


8) Faltering Growth- A Dieticians perspective- http://hciglobal.fatcow.com/library/articles/CMM026Barra.PDF-