

Feeding Issues Affecting Toddlers: An Expert Overview

An expert guide to toddler nutrition for healthcare professionals

Healthcare professionals play an important part in helping parents of toddlers (1-3 years) manage feeding issues that can arise.

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Key Learnings

- 1. Iron Deficiency Anaemia:** the common cause of iron deficiency anaemia in toddlers is a poor dietary intake of foods containing iron.
- 2. Food Refusal:** When dealing with cases of extreme food refusal, include parental and behavioural factors in your assessment.
- 3. Failure to Thrive:** The term failure to thrive (FTT) is used when weight gain is less than expected. Both illness and fussy or restrictive eating may restrict growth.

Understanding Iron Deficiency Anaemia

Iron is required for the development of haemoglobin in red blood cells, which transport oxygen from the lungs to tissues. Iron is also a part of many enzyme systems that release energy from cells, and is required for the synthesis of neurotransmitters in the brain.

Iron deficiency anaemia occurs when there is insufficient iron in the diet. Anaemia is defined as a blood concentration of haemoglobin of less than 110 g/l (11g/dl). Toddlers are growing rapidly and so have a high requirement for iron.

Toddlers require 8mg of iron daily. In toddlers, the most common cause of this type of anaemia is from diet. It's important to remember low haemoglobin can be caused by conditions other than dietary iron deficiency (e.g. coeliac disease, or an infection that may affect haemoglobin). If very severe pica - where the toddler may eat soil or other inedibles - can develop.

1. Signs and symptoms

The following can be associated with iron deficiency anaemia:

- Paleness
- Irritability
- Reduced energy
- Frequent colds or viral infections

Iron deficiency anaemia has also been associated with delays in cognitive and motor development. Studies suggest that iron deficiency during a critical phase of early brain development may have an impact on neurocognitive function. A diagnosis is often clear from these signs and symptoms, and can be confirmed by a simple blood count test.

2. Iron deficiency anaemia in relation to food refusal or fussy eating

In cases of food refusal or fussy eating, often the diet is poor in iron-rich foods and then the toddler develops iron deficiency anaemia. This is worsened if the toddler consumes large volumes of milk or tea in their daily routine, as both cows' milk and tea reduce significantly the amount of iron absorbed into the body.

Cows' milk.

Food refusal or fussy eating can be worsened if a toddler drinks large volumes of cows' milk. Large intakes of cow's milk have been associated with lower serum ferritin concentrations in toddlers. From current research, the effect of cows' milk on iron status remains unclear, though possible explanations

include: its low iron content (~0.5 mg/l); the presence of components in cows' milk that may inhibit iron absorption; or that high intakes of cows' milk may fill up a toddler and therefore prevent them from eating iron-rich solid food sources from the diet. The European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) Committee on Nutrition recently advised that young children should avoid consuming large volumes of cows' milk.

Caffeinated drinks.

Tea and coffee affect the absorption of iron, and significantly reduce the amount of iron absorbed into the body. Caffeinated drinks should not be offered to toddlers.

QUICK TIP FOR PARENTS

1

Large amounts of cows' milk will fill a toddler up, so they aren't hungry enough to consume a balanced diet.

3. Prevention of iron deficiency anaemia

Healthcare professionals have a key role to play in prevention, by:

- Educating parents about iron rich foods, such as red meat, eggs, beans, lentils, fortified cereals and milks.
- Advising parents not to allow their toddler have large volumes of cows' milk.
- Advising parents not to allow their toddler drink tea or coffee, as they can affect the absorption of iron from food.

“ In my daily work as a paediatrician I am struck as to how common iron deficiency is in the toddler age group. In effect up to 10% of toddlers are iron-deficient, and this generally relates to their diet. It is reasonable to recommend up to 300 mls of an iron-fortified or growing up milk per day. We know iron deficiency does not just make a toddler pale and a bit miserable, but can also lead to a delay in their cognitive development if severe. It is important for parents to be aware of iron-rich foods and to encourage their toddler to eat them as much as possible. ”

Professor Alf Nicholson

4. Treatment of iron deficiency anaemia

A simple blood test can identify anaemia, which can be treated with an iron supplement (recommended dose: 3mg of iron/kg per day) and nutritional advice given to prevent recurrence. By ensuring the toddler consumes iron-rich foods and an iron supplement, the haemoglobin should rise by 1g/l per month if there is no other medical cause for anaemia other than poor diet. Treatment for two to three months should restore the iron stores and haemoglobin level. Failure to respond to such treatment should trigger investigations of alternative causes.

Understanding extreme food refusal

Many parents have robust toddlers, yet have genuine concerns about times when they just will not eat. If the toddler is healthy, growing normally and full of energy, there is probably little to worry about.

1. Assessing the situation

When taking a history, find out:

- Who feeds the toddler?
- How often are they are fed?
- What quantities of drinks and food are they given?
- Where are they fed?
- What texture solids are they given?

During an assessment, a feeding history will establish information about the toddler's behaviour, and the possible presence of stress signals during feeding.

The toddler as an infant may have had abnormal tactile experiences such as prolonged ventilation, prolonged nasogastric feeding, or the placement of a gastrostomy tube. If the infant had neurological impairment, oral feeding may have been delayed. Assess the toddler's ability to coordinate sucking, swallowing and breathing.

The parental reaction also needs to be looked at. Many parents whose toddlers refuse food have high anxiety and parents can develop low self-esteem as a result. Persistent and severe feeding problems are evident in about 5% of toddlers, and the vast majority of these have a behavioural component to their food refusal. In severe cases referral to a specialised feeding clinic may be required. This would normally incorporate the expertise of a dietitian, clinical psychologist, social worker and paediatrician.

How to cope with food refusal: tips for parents

1. Aim for a wide and varied choice of food.
2. If your toddler doesn't take fruit and vegetables, encourage them to drink pure fruit juice diluted with water.
3. Don't give up on the solid fruit and vegetables - keep offering them to your toddler.
4. Toddlers who drink a large volume of milk may not feel hungry for solid foods. Toddlers should have 300mls (10oz) and at the very most 600mls (20oz) of milk each day.
5. Toddlers who do not drink milk can get adequate calcium in their diet by taking cheese, yoghurt and other dairy substitute products.
6. If you're concerned about food intake, keep a food diary to see exactly how much food (meals and snacks) and drink your toddler has in a day. You may be pleasantly surprised!
7. In general terms, vitamin tonics and supplements may not sufficiently improve a reluctant feeder's diet.
8. If your toddler is not gaining weight, a medical and dietetic assessment may be indicated.
9. Don't force your toddler to eat. Food forcing is a cause of food refusal.

Failure to Thrive (Faltering Growth)

Toddlers usually gain an average of 2-3kg and will grow between 4-6cms each year. When weight gain is below that expected, the term 'failure to thrive' (FTT) or 'faltering growth' is used.

A toddler's growth may falter after an illness or if the toddler is a fussy or restrictive eater. Failure to thrive can also be caused by an illness or medical condition. A referral to a paediatrician or dietitian may be necessary if weight gain is very poor or if the toddler has recently lost significant weight.

Don't force your toddler to eat. Food forcing is a cause of food refusal.

1. What is Failure to Thrive or Faltering Growth

The term failure to thrive is not a diagnostic label, but rather a descriptive term for infants and toddlers failing to gain weight appropriately, the cause of which is not immediately known. Indicators that an infant or toddler may not be thriving include:

- Documented sustained weight loss.
- Downward crossing of more than two major centile lines on standard centile chart.
- Weight below second centile.

2. Classification of FTT

Non-organic FTT is where there is no underlying medical reason why the toddler is not gaining weight as expected. It may be attributable to environmental feeding and psychosocial factors. It is often a diagnosis of exclusion. However, in the absence of symptoms (eg, vomiting, diarrhoea or steatorrhoea) or signs (eg, features of congestive heart failure or very significant subcutaneous fat loss), investigations for FTT are very likely to be negative.

3. Assessing the situation

A detailed history should establish:

- Birth history: gestation; birth weight and prior weights; whether the toddler was breastfed or not.
- Intakes of food and milk: are they adequate for growing needs?
- Are there any abnormal weight losses? (This includes questions about diarrhoea, vomiting and excessive urinary losses.)
- Is the toddler systemically unwell? (Consider chronic respiratory distress, congestive heart failure and chronic infection, including urinary tract infection.)
- Are there any unusual or dysmorphic features? (Many syndromes are associated with poor weight gain, dysmorphic features and developmental delay.)
- What are the social circumstances? (The great majority of failure to thrive is non-organic and related to either feeding issues or psychosocial deprivation.)

4. Examining for FFT

Your examination should focus on:

- Weight, body mass index, length and head circumference: chart these for age and sex on a centile chart.

- Check for any dysmorphic features (eg features of Down Syndrome).
- Cardiovascular and respiratory examinations.
- Abdominal examination (distension, renal masses or visceromegaly).
- Examination for loss of subcutaneous fat (inner thighs, axillae or buttocks).
- Urinalysis.

5. Investigating FFT

Focus on whether the toddler experiences:

- Diarrhoea? Consider a coeliac screen; stool for reducing sugars; consider checking stools for parasites.
- Vomiting? Consider reflux or pyloric stenosis (diagnosed by abdominal ultrasound).
- Tachypnoea or fast breathing? Consider chronic lung disease and congestive heart failure.
- Polyuria or excessive output of urine? Consider diabetes insipidus, diabetes mellitus and renal tubular acidosis.
- Recurrent infections or persistent candida infection? Consider severe combined immunodeficiency.

6. Managing FFT

The management of FFT requires a thorough evaluation process addressing three key considerations:

- How severe is it?
- Are there any significant parenting, feeding, behaviour or environmental issues?
- Have potential underlying organic illness been excluded?

7. Non-FFT toddler's diarrhoea

Toddler's diarrhoea occurs in healthy one to three year olds who pass three or more large, painless, unformed stools per day for at least a month due to a shortened colon transit time. This is commonest cause of chronic diarrhoea in toddlers without FFT. It is characterized by seeing some undigested foods in the stool, such as peas and sweetcorn. In some instances it is associated with excessive consumption of fruit juices high in fructose.

Management is mainly parental reassurance, plotting on growth charts to assess normal weight gain, and removal of excessive fruit juices. Loperamide should be avoided but use of probiotics may help in some cases, and is worth trying. The natural history is for it to resolve by age five. It can pose issues regarding toilet training, which may have to be delayed.

Suitable articles for parents on this topic are available at www.toddlebox.ie/nutrition