NICE National Institute for Health and Care Excellence

NICE Pathways

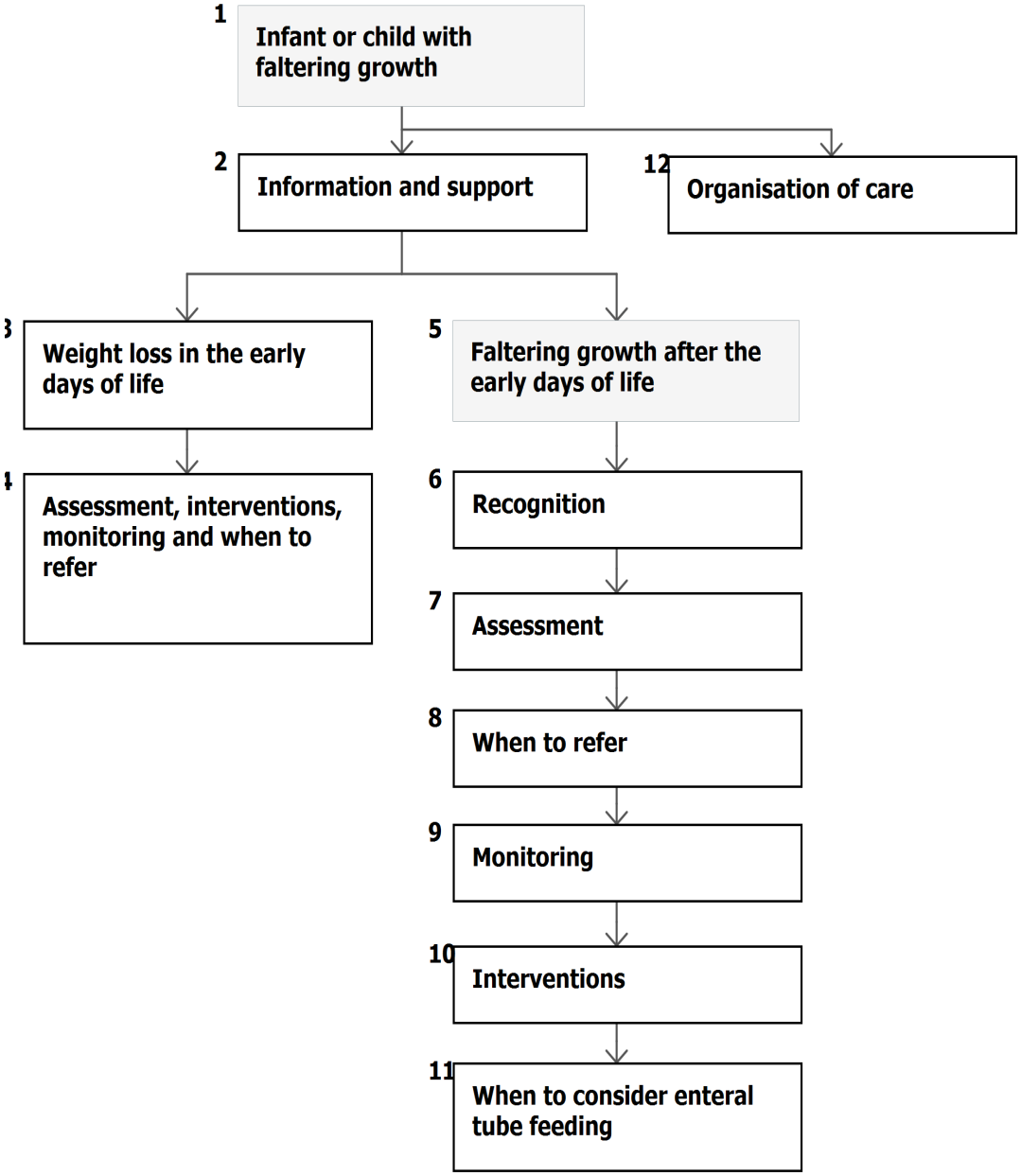
Faltering growth overview

NICE Pathways bring together everything NICE says on a topic in an interactive flowchart. NICE Pathways are interactive and designed to be used online.

They are updated regularly as new NICE guidance is published. To view the latest version of this NICE Pathway see:

http://pathways.nice.org.uk/pathways/faltering-growth
NICE Pathway last updated: 30 October 2018

This document contains a single flowchart and uses numbering to link the boxes to the associated recommendations.



1 Infant or child with faltering growth

No additional information

2 Information and support

Recognise the emotional impact that concerns about faltering growth or weight loss in the early days can have on parents and carers and offer them information about available:

- professional support
- peer support.

Follow the principles in NICE's recommendations on patient experience in adult NHS services in relation to communication (including different formats and languages), information and shared decision-making.

Provide information on faltering growth or weight loss in the early days of life, to parents or carers that is:

- specific to them and their child
- clearly explained and understandable to them
- spoken and in writing.

If there is concern about faltering growth in an infant or child or weight loss in the early days of life, discuss with the parents or carers:

- the reasons for the concern, and how the growth measurements are interpreted
- any worries or issues they may have
- any possible or likely causes or factors that may be contributing to the problem
- the management plan (see interventions [See page 9]).

NICE has written information for the public on faltering growth.

3 Weight loss in the early days of life

Some weight loss in the first days after birth (referred to in these recommendations as the early days of life) is normal and usually relates to body fluid adjustments. Sometimes there may be reason for concern about weight loss in the early days of life, which may need assessment and

intervention. For this reason weight loss in the early days of life is dealt with separately in these recommendations from concerns about inadequate weight gain in older infants and children, which is often related to nutritional intake.

Be aware that:

- it is common for infants to lose some weight during the early days of life
- this weight loss usually stops after about 3 or 4 days of life
- most infants have returned to their birth weight by 3 weeks of age.

4 Assessment, interventions, monitoring and when to refer

If infants in the early days of life lose more than 10% of their birth weight:

- perform a clinical assessment, looking for evidence of dehydration, or of an illness or disorder that might account for the weight loss
- take a detailed history to assess feeding (see what NICE says on breastfeeding and formula feeding in postnatal care)
- consider direct observation of feeding
- ensure observation of feeding is done by a person with appropriate training and expertise (for example, in relation to breastfeeding and bottle feeding)
- perform further investigations only if they are indicated based on the clinical assessment.

Provide feeding support (see what NICE says on breastfeeding and formula feeding in postnatal care) if there is concern about weight loss in infants in the early days of life, for example if they have lost more than 10% of their birth weight.

If infants lose more than 10% of their birth weight in the early days of life or they have not returned to their birth weight by 3 weeks of age, consider:

- referral to paediatric services if there is evidence of illness, marked weight loss, or failure to respond to feeding support (see what NICE says on breastfeeding and formula feeding in postnatal care)
- when to reassess if not referred to paediatric services.

If an infant loses more than 10% of their birth weight in the early days of life, measure their weight again at appropriate intervals depending on the level of concern, but no more frequently than daily.

Be aware that supplementary feeding with infant formula in a breastfed infant may help with

weight gain, but often results in cessation of breastfeeding.

If supplementation with an infant formula is given to a breastfed infant:

- 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.

5 Faltering growth after the early days of life

No additional information

6 Recognition

Thresholds

Consider using the following as thresholds for concern about faltering growth in infants and children (a centile space being the space between adjacent centile lines on the UK WHO growth charts):

- a fall across 1 or more weight centile spaces, if birthweight was below the 9th centile
- a fall across 2 or more weight centile spaces, if birthweight was between the 9th and 91st centiles
- a fall across 3 or more weight centile spaces, if birthweight was above the 91st centile
- when current weight is below the 2nd centile for age, whatever the birthweight.

Measurement of weight and height or length

If there is concern about faltering growth (for example, based on the criteria above):

- weigh the infant or child
- measure their length (from birth to 2 years old) or height (if aged over 2 years)
- plot the above measurements and available previous measurements on the UK WHO growth charts to assess weight change and linear growth over time.

If there are concerns about an infant's length or a child's length or height, if possible obtain the biological parents' heights and work out the mid-parental height centile. If the child's length or height centile is below the range predicted from parental heights (more than 2 centile spaces below the mid-parental centile) be aware this could suggest undernutrition or a primary growth

disorder.

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

- using the UK WHO centiles and the accompanying BMI centile 'look-up chart' **or**
- 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, be aware this may reflect either undernutrition or a small build
- if the BMI is below the 0.4th centile, this suggests probable undernutrition that needs assessment and intervention.

Record all growth measurements in the parent or carer-held Personal Child Health Record.

7 Assessment

If there is concern about faltering growth:

- perform a clinical, developmental and social assessment
- take a detailed feeding or eating history
- consider direct observation of feeding or meal times
- consider investigating for:
  - urinary tract infection (follow the principles of assessment in NICE's recommendations on urinary tract infections in under 16s)
  - coeliac disease, if the diet has included gluten-containing foods (follow the principles of assessment in NICE's recommendations on coeliac disease)
- perform further investigations only if they are indicated based on the clinical assessment.

If observation of eating or feeding is needed because of concern about faltering growth, ensure this is done by a person with appropriate training and expertise.

Be aware that the following factors may be associated with faltering growth:

- preterm birth
- neurodevelopmental concerns
- maternal postnatal depression or anxiety.

Recognise that in faltering growth:

- a range of factors may contribute to the problem, and it may not be possible to identify a clear cause
- there may be difficulties in the interaction between an infant or child and the parents or carers that may contribute to the problem, but this may not be the primary cause.

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 patterns or routines being used
- 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:

- 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.

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.

Be aware that investigations (other than those recommended above) are unlikely to reveal an underlying disorder in a child with faltering growth who appears well with no other clinical concerns.

If a child with faltering growth develops new clinical symptoms or signs after the initial assessment, reconsider whether investigations are needed.

8 When to refer

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:

- short-term dietary fortification using energy-dense foods
- referral to a paediatric dietitian.

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

- symptoms or signs that may indicate an underlying disorder
- a failure to respond to interventions delivered in a primary care setting
- slow linear growth or unexplained short stature (see recognition [See page 5])
- rapid weight loss or severe undernutrition
- features that cause safeguarding concerns (see what NICE says on child abuse and neglect).

Do not admit infants or children with faltering growth to hospital unless they are acutely unwell or there is a specific indication requiring inpatient care, such as a plan to begin tube feeding (see when to consider enteral tube feeding [See page 10]).

9 Monitoring

If there are concerns about faltering growth (see recognition [See page 5]), measure the weight at appropriate intervals taking account of factors such as age and the level of concern, but usually no more often than:

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

Monitor weight if there are concerns about faltering growth (see recognition [See page 5]), but be aware that weighing children more frequently than is needed (see above) may add to parental anxiety (for example, minor short-term changes may cause unnecessary concern).

Be aware that weight loss is unusual except in the early days of life, and may be a reason for

increased concern and more frequent weighing than is recommended (see above).

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

10 Interventions

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.

Provide feeding support (see what NICE says on postnatal care) if there is concern about faltering growth in the first weeks of life. Consider whether such feeding support might be helpful in older milk-fed infants, including those having complementary solid foods.

Be aware that while supplementary feeding with infant formula may increase weight gain in a breastfed infant if there is concern about faltering growth, it often results in cessation of breastfeeding.

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

- 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.

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

- encouraging relaxed and enjoyable feeding and mealtimes
- eating together as a family or with other children
- encouraging young children to feed themselves
- allowing young children to be 'messy' with their food
- making sure feeds and mealtimes are not too brief or too long
- setting reasonable boundaries for mealtime behaviour while avoiding punitive approaches

- avoiding coercive feeding
- 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
- 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:

- short-term dietary fortification using energy-dense foods
- referral to a paediatric dietitian.

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 (see recommendations above).

Regularly reassess infants and children receiving an oral nutritional supplement for faltering growth to decide if it should be continued. Take into account:

- weight change
- linear growth
- intake of other foods
- tolerance
- adherence
- the views of parents or carers.

See what NICE says on dyspepsia and gastro-oesophageal reflux disease and food allergy in under 19s.

For recommendations on human growth hormone (somatropin) for the treatment of growth failure in children, see what NICE says on pituitary conditions.

11 When to consider enteral tube feeding

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

- there are serious concerns about weight gain **and**
- an appropriate specialist multidisciplinary assessment for possible causes and contributory factors has been completed **and**
- 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).

12 Organisation of care

Ensure there is a pathway of care for infants and children where there are concerns about faltering growth or weight loss in the early days of life that:

- clearly sets out the roles of healthcare professionals in primary and secondary care settings
- establishes and makes clear the process for referral to and coordination of specialist care in the pathway.

Provide community-based care for infants and children where there are faltering growth concerns or weight loss in the early days of life with a team (the 'primary care team') that includes, for example:

- a midwife
- a health visitor
- a GP.

Ensure that the primary care team has access to the following healthcare professionals with expertise relevant to faltering growth:

- infant feeding specialist
- consultant paediatrician
- paediatric dietitian
- speech and language therapist with expertise in feeding and eating difficulties
- clinical psychologist
- occupational therapist.

Consider identifying a lead healthcare professional to coordinate care and to act as the first

point of contact for parents of children with faltering growth, for example if several professionals are involved.

Glossary

Child

pre-school children from 1 year of age

Food aversion

behaviours sometimes observed in infants or children indicating a persistent unwillingness to eat; such behaviours, depending upon age, might include signs of distress when presented with food, spitting of food or avoidance behaviour

Infant

a baby up to 1 year of age

Linear growth

the increase in length (under 2 years of age) or height (2 years or older) over time in infants and children

Oral liquid nutritional supplement

a high energy liquid feed designed for enteral use, usually selected and prescribed after specialist advice from a paediatric dietitian

Undernutrition

this is what happens when nutrition is not sufficient; an infant or child with undernutrition may be abnormally thin, may weigh less than expected for their length or height, and if prolonged undernutrition can lead to stunting (length or height less than expected for age)

Sources

Faltering growth: recognition and management of faltering growth in children (2017) NICE guideline NG75

Your responsibility

Guidelines

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals and practitioners are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or the people using their service. It is not mandatory to apply the recommendations, and the guideline does not override the responsibility to make decisions appropriate to the circumstances of the individual, in consultation with them and their families and carers or guardian.

Local commissioners and providers of healthcare have a responsibility to enable the guideline to be applied when individual professionals and people using services wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with complying with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

Technology appraisals

The recommendations in this interactive flowchart represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, health professionals are expected to take these recommendations fully into account, alongside the individual needs, preferences and values of their patients. The application of the recommendations in this interactive flowchart is at the discretion of health professionals and their individual patients and do not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian.

Commissioners and/or providers have a responsibility to provide the funding required to enable the recommendations to be applied when individual health professionals and their patients wish to use it, in accordance with the NHS Constitution. They should do so in light of their duties to

have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

Medical technologies guidance, diagnostics guidance and interventional procedures guidance

The recommendations in this interactive flowchart represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take these recommendations fully into account. However, the interactive flowchart does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

Commissioners and/or providers have a responsibility to implement the recommendations, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations. Nothing in this interactive flowchart should be interpreted in a way that would be inconsistent with compliance with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.