Lewisham and Greenwich
NHS Trust

Paediatrics

GP Referral Guidance for General Paediatrics

Version 2 – May 2024

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To be exceptional

Introduction and Purpose

This guideline has been developed to assist primary care professionals in the management and referral of common outpatient paediatric conditions to secondary care.

It is intended to support the decision-making process and is not a substitute for sound clinical judgement. While every effort has been taken to incorporate up to date information to determine appropriate care, professionals must ensure that they apply the guideline in the context of the individual child/young person and family.

Guidelines

Gastro-oesophageal reflux

What is it?

Gastro-oesophageal reflux (GOR)
is a normal, physiological process which occurs in healthy infants, manifesting as effortless regurgitation of small quantities of feed. (Occult/Silent reflux refers to regurgitation which does not enter the mouth and hence is not visible to the observer other than as discomfort in the infant) Symptoms peak at 4 months of age, improve around 6-7 months of age and resolve by 1 year of age in 90% of infants.

Gastro-oesophageal reflux disease (GORD)
is the condition when infants display additional symptoms or complications of GOR.
Symptoms can include severe pain and discomfort, vomiting, refusal to feed, faltering growth, Sandifer's syndrome (episodic torticollis with dystonic posturing, back arching and stiffening), cough, wheeze (indicates aspiration), apnoea and brief, resolved unexplained events.
Premature infants and children with severe neuro-disability can suffer from persistent GORD.

What should I do?

GOR:
Advice and reassurance to carers that GOR in well infants:

- is very common (affects at least 40% of infants)
- usually begins before the infant is 8 weeks old
- may be frequent (5% of those affected have 6 or more episodes each day)
- usually becomes less frequent with time (resolves in 90% of affected infants before they are 1year old)
- does not usually require further investigations or treatment.

GORD:

- Breastfed infants: Breast feeding assessment and support as required.
- Formula fed infants: Review the feeding history and optimise feed volumes, especially if excessive for the infant's weight.

Carobel can be prescribed or brought over the counter (OTC) to add to regular milk formula and titrate as needed. Do not use thickened formula alongside alginate therapy e.g. Gaviscon. Parents should refer to manufacturers' guidance on how to prepare thickened formula. Note: This is currently not in line with DOH guidance on safe preparation of infant formula and parents should be made aware of the risk of infection.
Consider a trial of a proton pump inhibitor as a second lin therapy after thickeners, e.g. Carobel. Reassess after 4 weeks, and if beneficial, continue.
Treatment can be discontinued based on symptom resolution, usually by 1 year of age.

Remember: Certain symptoms of non-IgE-mediated Cows' milk allergy can mimic GORD, especially in infants with atopic features. If that is suspected, manage as per Cow's milk allergy guideline on page 6.

When should I refer?

- No improvement after 4 weeks of a proton pump inhibitor.
- Marked pain and distress Food aversion/refusal Faltering growth
- Persistent respiratory symptoms
- Symptoms continue beyond first year of life.

Red Flags

- Bile-stained (green or yellow-green) vomiting: Intestinal obstruction
- Persistent, projectile, non-bilious vomiting: Pyloric stenosis

Resources:

- NICE guideline [NG1] January 2015: Gastro-oesophageal reflux disease in children and young people: diagnosis and management

Cow's milk allergy

See South East London Guideline for the management of cow's milk protein allergy in primary care

The management of infants and children with suspected cows' milk protein allergy (CMPA) is complex. This section aims supporting doctors and health visitors in primary care, in the management of children with cows' milk protein allergy, at the point at which they present. It includes referral guidance for children with cows milk protein allergy to paediatric dietetic and allergy clinics.

Background

Cows' milk protein allergy typically presents in the first year of life and affects approximately 2-3% of infants. Most children outgrow immunoglobulin E (IgE) mediated allergy by 5-6 years, non-IgE mediated CMPA is usually outgrown sooner.

Children can continue to achieve tolerance well into adolescence.

Milk allergy is more likely to persist in individuals with multiple food allergies (such as egg allergy) and/or concomitant asthma and allergic rhinitis.

IgE and non IgE mediated cows' milk protein allergy

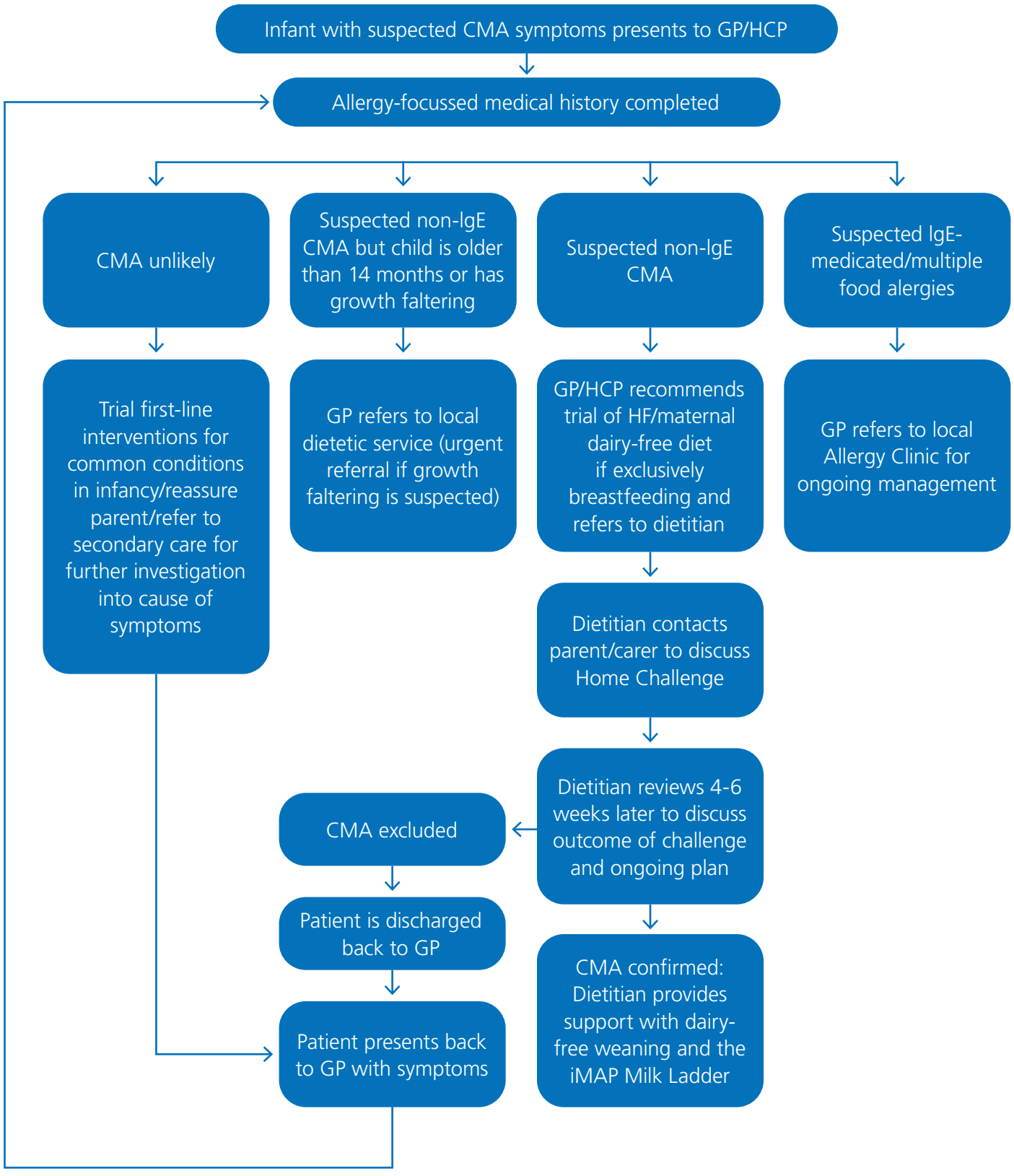
The immune response to cows' milk protein can be subdivided into **IgE-mediated allergy** and **non-IgE-mediated allergy** (previously cows' milk intolerance) see NICE CG116.

Table 1: Signs and symptoms of cows' milk protein allergy

	Non-IgE-mediated (previously cows' milk intolerance)	IgE-mediated
Presentation	Delayed reaction presenting several hours and up to 72 hours after milk ingestion.	Acute allergic reaction usually occurring minutes after milk ingestion, with the majority within 1 hour (can occur up to 2 hours).
Skin	· Pruritus · Erythema · Significant atopic eczema	· Pruritus · Erythema · Acute urticaria · Acute angioedema · Acute flare of atopic eczema
Gastrointestinal	· Infantile colic · Vomiting · Gastro-oesophageal reflux disease (GORD) with poor response to anti-reflux medication · Food refusal/aversion · Loose/frequent stools · Perianal redness · Constipation · Faltering growth · Abdominal discomfort · Blood and/or mucus in stools · Pallor and tiredness	· Angioedema of the lips, tongue and palate · Extreme colic · Vomiting · Diarrhoea
Respiratory *(usually in combination with other symptoms)*	· Rhinorrhoea · Nasal congestion	· Rhinorrhoea · Sneezing · Nasal congestion · Anaphylactic reaction · Cough · Wheezing · Shortness of breath

Pathway for Cows' Milk Allergy

Abbreviations:
HF – hypoallergenic formula (includes extensively hydrolysed formula and amino acid formula
CMA – cow's milk allergy
GP – general practitioner
HCP – healthcare practitioner e.g. dietitian, paediatrician, health visitor



STEP 1 – Assess likelihood of IgE or non-IgE-mediated allergy

- Feeding history – check the source of cows' milk e.g. is the infant milk fed (breastmilk/formula) or weaned onto solids.
- Ask about **age** of first onset, **speed** of onset and **severity** following milk ingestion. Also ask about previous management including medication use and response.
- Take an **allergy-focused clinical history**, specifically ask about a history of eczema, asthma, hay fever, allergic rhinitis and other food allergy.
- Weigh and measure the child to assess growth.
- Examine the child to check for signs of allergy related comorbidities e.g. atopic eczema.
- Discourage parents / carers from seeking advice from unregulated alternative allergy practitioners.

STEP 2a – Confirming diagnosis and manage Non-IgE-mediated cows' milk protein allergy

1. **Advise a trial elimination of cow's milk for a period of 4-6 weeks**

- Verbal and written advice should be provided on the avoidance of food containing cows' milk protein. Patient information sheets are available from Allergy UK and British Dietetic Association BDA.
- If symptoms do not improve (and exclusion has been adhered to) then it is not CMPA, consider alternative diagnosis.
- If symptoms improve on exclusion, then CMPA is likely but a re-challenge is essential to confirm diagnosis (especially if other treatment options have been started concurrently).
- Consider additional soya exclusion if remains symptomatic, seek advice from paediatric dietician (see contact information).

2. **Re-challenge to confirm the diagnosis of Non-IgE-mediated cows' milk protein allergy (after 4-6 week exclusion)**

- Explain to parents why the reintroduction phase is essential.
- If the infant is exclusively breastfed introduce cow's milk back into the diet of the mother.
- If the child is formula or mixed-fed reintroduce cow's milk formula.
- If the child has been weaned onto solid foods, then reintroduce cow's milk into the diet and return to cow's milk-based formula.
- If symptoms do not return then the diagnosis is not CMPA, or the CMPA has been outgrown.
- If symptoms return with the challenge, then return the child to a strict CMPA free diet and **see step 3**.

3. **Ongoing management of non IgE-mediated cows' milk protein allergy**

- Strict avoidance of cows' milk protein for at least 6 months or until the child is 9-12 months old.
- Evaluate the child every 6 months. Monitor the child's weight to assess growth, nutrition and assess whether they have developed any tolerance to cows' milk protein with a challenge of cow's milk protein. If symptoms recur, continue cow's milk avoidance management.
- Seek advice from a paediatric dietitian for guidance on nutritional adequacy and re-introduction of milk protein. Click to see the **milk ladder** (here).

STEP 2b – Manage IgE-mediated cows' milk allergy

- Advise total exclusion of cows' milk from diet.
- Recommend cows' milk replacement if formula fed. **Extensively Hydrolysed Formula (eHF) as first-line** for mild to moderate IgE-mediated CMPA.
- Consider **Amino Acid Formula (AAF) if severe CMPA.**
- Provide the parents/carers with appropriate information on what cows' milk protein allergy is, and the potential risks of a severe allergic reaction. Information sheets from Allergy UK and BDA websites.
- Discuss the diagnostic process and direct the parents/carers to relevant support groups (Allergy UK, Anaphylaxis UK).
- Provide a management plan to parent/carers. Templates for management plans are available on the **British Society for Allergy and Clinical Immunology** website, click (here).
- **Infants with IgE mediated cows' milk protein allergy should be referred to the paediatric allergy clinic following recommendation of an appropriate milk substitute.**

STEP 3 – Advise about cows' milk free diet

Table 2: General recommendations for milk free feeds

Exclusively breastfed	Formula (+/- Breastmilk)	Taking solids
• **Recommend exclusive breastfeeding for 26 weeks (6 months)** • If an exclusively breastfed child is symptomatic, advise mother to exclude cows' milk protein from her diet. A maternal milk substitute should be advised e.g. soya milk. Refer to a dietitian if appropriate. • Women on a milk free diet should take a daily supplement of 1000mg calcium and 10mcg Vitamin D, click (here).	• Advise on the replacement of cow's milk based formulas with an extensively hydrolysed formulas (eHF) as first line. • For mixed fed infants, if symptoms occur only with the introduction of top-up formula feeds, replace these with eHF top-ups. The mother can continue to consume foods containing cows' milk protein (CMPA). • For mixed feeding refer mother to local specialist/additional breastfeeding support for support with return to exclusive breastfeeding or increased breastmilk if this is mother's choice.	• Advise parents/carers to exclude cows' milk protein from the child's diet. • Advise on a suitable milk alternative. • **OTC soya formula can be recommended for infants > 6 months**, but if this is not tolerated (suggesting a soya allergy/a soya intolerance) a milk-free formula should be prescribed. Infants who have been prescribed formula < 6 months can continue this after 6 months of age. • Introduce milk free **solids no earlier than 17 weeks.**

Prescribing Advice of formula milk

See South East London Guideline for the management of cows' milk allergy and prescribing of hypoallergenic formula in primary care for more information.

Prescribe only 2-3 tins initially until compliance/tolerance is established to avoid waste. Review at 1-2 weeks or issue a second prescription with enough to last 1 month if the baby tolerates this milk formula, review at 3-4 weeks.

Table 3: Suggested monthly amounts (vary with large size and stage of weaning)

Age	General advice	Formula quantity
<6 months	Infants under 6 months being exclusively formula fed and drinking 150ml/kg/day of a normal concentration formula.	13 x 400g
6-12 months	Infants 6-12 months requiring less formula as solid food intake increases.	7-13 x 400g
12 months plus	Children over 12 months requiring less formula as solids are the primary source of nutrition.	7 x 400g

Milk alternatives age 0-12 months

- **Extensively Hydrolysed Formula (eHF) should be used first-line.** Patients unresponsive or partially responsive to a trial of two different eHFs can be progressed to Amino Acid Formula (AAF). At least 90% of children with proven CMPA should tolerate these feeds.
- **AAF should only be prescribed for severe IgE-mediated allergy,** enterocolitis, faltering growth, multiple food allergies, GORD, severe early onset eczema when breastfed, breastfeeding infants still symptomatic on maternal elimination diet or if no improvement after 4 weeks on eHF. Only 10% of infants with CMPA should require management with AAF.
- **Soya based formula (e.g. Wysoy®) can be used first line from 6-12 months, (not to be prescribed).** Soya **should not** be used at all for those under 6 months due to high phyto-oestrogen content.
- Other mammalian milk proteins (including unmodified cow, sheep, buffalo, donkey, camel, horse, or goats' milk/formula) are not recommended for infants with cows' milk protein allergy. Most are not adequately nutritious to provide the sole food source for infants and there is a risk of allergenic cross-reactivity with cows' milk
- If child is allergic to soya and cows' milk then refer to a dietitian.

Milk alternatives 12 months +

- Full fat soya milk or oat milk is suitable for children from 1 year of age after the child's diet is assessed as adequate, **(not to be prescribed)**.
- Alternative plant milk drinks are suitable for children from 2 years of age or from 6 months if used for food preparation (unless advised by a dietician).
- They must be non-organic in-order to contain **sufficient calcium**. Some alternative calcium fortified, plant-based milk drinks are suitable as a drink from 1 year of age **if advised by a Dietitian** once the child's diet has been assessed.
- Children under 5 years of age should not be fed rice milk as it contains arsenic.
- Information about achieving adequate calcium requirements can be provided from the BDA and NHS. See BDA food fact Sheet - calcium and NHS calcium.
- **If symptoms do not improve on an elimination diet, re-introduce cows' milk protein and refer to a paediatrician.**
- **Do not routinely prescribe formula for children over 2 years of age unless recommended by dietitian or paediatrician.**

STEP 4 – How to refer

Non-IgE mediated cow's milk protein allergy

Note: Seek advice and guidance via electronic Referral System (eRS) if any uncertainty

Refer to paediatric dietetic service:

Patients in Bromley, Lewisham and Bexley:

- Refer to the Southeast London (SEL) Telephone Non IgE-mediated CMA RAC .
- GP referrals - via e-RS: select Speciality: Dietetics, Clinic Type: Food Allergy and Intolerance and Clinic Name: Telephone Non IgE-mediated Cow's Milk Allergy Rapid Access Clinic. See Paediatric (cow's milk allergy) nutrition - NHS South East London (selondonics.org).
- Referral criteria: ·
- 1. Patient is registered with a GP in Bromley, Lewisham and Bexley. ·
- 2. Allergy-focussed medical history completed and CMA still suspected. ·
- 3. Non IgE-mediated CMA.
- 4. Under 14 months of age. Please refer children older than 14 months to the local dietetic service

Patients in Greenwich:

- Refer to oxl-tr.childrenstherapies@nhs.net
- IgE mediated cow's milk protein allergy
- Refer to paediatric allergy service (which includes paediatric allergy dietetic assessment and advice).

Lactose intolerance

What is it?

Lactose intolerance is a condition arising from the deficiency of the enzyme lactase, which is required for the digestion of lactose; a disaccharide found exclusively in mammalian milk.
Symptoms: Bloating, flatulence, abdominal pain, nausea and loose stools.

Three types:

- Congenital lactose intolerance: is an extremely rare, autosomal recessive disorder resulting from a complete absence of lactase enzyme. Affects infants in the first days - weeks of life and presents with severe diarrhoea, feeding difficulties and growth faltering.
- Primary lactose intolerance: is an autosomal recessive condition where there is a lack of persistence of lactase after weaning age. This has a higher prevalence in Asian and Afro-Caribbean ethnic groups. It typically presents over the age of five years in Caucasians, but earlier in Asian and Afro-Caribbean children.
- Secondary lactose intolerance: This is the most common type in the UK and is due to transient small intestinal villous damage classically following an episode of gastroenteritis. Improves after a few weeks to 3 months.

What should I do?

Congenital lactose intolerance: Refer to secondary care
Primary and Secondary lactose intolerance:

- Children who are systemically well and have mild-moderate symptoms do not usually require any investigations.
- Introduce a lactose-free diet. If breast fed, continue - may benefit from lactase substitute drops to digest the lactose in breast milk
- If bottle fed, use a lactose free formula (SMA LF, Aptamil Lactose free). Symptoms should improve within 48 hours. If **not breastfed** soya formula can be used in children from 6 months onwards. **For infants over 1 year lactose free milk can be purchased over the counter by the parents/carers.**
- Reintroduce normal diet after 2 months. If symptoms recur and a long-term lactose free diet is required, refer to a community paediatric dietician.

Practice point:
Lactose intolerance should be distinguished from Non-IgE mediated (delayed) cow's milk allergy as below:

	Non-IgE-mediated milk allergy	Lactose intolerance
Mechanism	· Immune reaction to milk protein	· Non-immune, deficiency of lactase enzyme
Symptoms	· Gastrointestinal, skin, or respiratory symptoms: Abdominal pain, diarrhoea, eczema, wheeze can all co-exist	· Gastro intestinal symptoms only - Abdominal pain, flatulence, diarrhoea
Management	· Exclusion diet avoiding milk protein followed by reintroduction. · May take 4–6 weeks after elimination diet, for symptoms to improve. · Condition usually resolves by 6 months to a few years.	· Exclusion diet avoiding lactose, followed by reintroduction. · Symptoms usually improve within 48 hours of elimination diet · Condition usually resolves by 6 weeks

When should I refer?

- Severe diarrhoea
- Faltering growth
- Symptoms do not improve with lactose-free diet

Colic

What is it?

Infantile colic is a self-limiting condition, characterised by repeated episodes of excessive and inconsolable crying, lasting more than 3 hours per day, occurring more than 3 days per week, in an otherwise healthy infant.
The aetiology is thought to be a combination of abnormal gastrointestinal motility, changes in intestinal microflora and psychosocial factors.
Symptoms usually start as early as week one of life and typically persist until the third or fourth month. Features include crying in the late afternoon and early evening, drawing up of knees and arching of the back.

What should I do?

HISTORY:

- Evaluate the crying episodes, feeding, sleeping and bowel patterns, any features to suggest gastrooesophageal reflux disease and cow's milk allergy. (see relevant sections in this document)

EXAMINATION:

- Evaluate growth, appropriateness of clothing to maintain optimum body temperature, any oral pathology causing feeding problems, any signs of serious pathology including sepsis and child abuse.

MANAGEMENT:

- Reassure carers that infantile colic is a common and benign problem that should resolve by 4 months of age.
- Advice on identifying symptoms which may suggest a more serious underlying cause.
- Advice to parents on responses to crying, coping strategies and support available.
- Advice on feeding, including positioning, fast-flow teats, ensuring optimal winding techniques and soothing strategies such as holding, rocking, or bathing the infant.
- Identify and manage parental anxiety and post-natal depression, if identified.
- There is insufficient good-quality evidence for: use of Simeticone (Infacol) or lactase (Colief) drops, changing the milk formula or diet modification of breastfeeding mothers.
- Support from health visitor and breast-feeding advisor, as required.
- Signpost to support groups such as Cry-sis (www.cry-sis.org.uk), which runs a national telephone helpline (0845 122 8669)

When should I refer?

- When there is a suspected alternative underlying cause for the symptoms
- Infant is not thriving
- Symptoms are not starting to improve or are worsening after 4 months of age.
- Parents/carers feel unable to cope with the infant's symptoms despite reassurance and advice in primary care.

Red Flags:

Persistent vomiting: Gastro oesophageal reflux disease, Pyloric stenosis

Bilious vomiting:
Surgical causes like malrotation, volvulus, intussuscpetion

Fever, lethargy, sleepiness, fits: Sepsis, Meningitis, Non- accidental injury, Seizure disorder

Weight loss/poor weight gain: Feeding problems, underlying systemic illness.

Faltering growth

What is it?

Faltering growth in children is defined as a slower rate of weight gain than expected for their age and gender. NICE recommended thresholds for concern about faltering growth (using UK WHO growth charts) are:

- 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
- current weight is below the 2nd centile for age, regardless of the birthweight.

Causes:

Inadequate intake or calorie loss	Malabsorption or Poor absorption	Increased metabolic demands	Inherited causes
· Inadequate nutrition (breastmilk, formula and/or food) · Restricted diet (e.g. low fat, vegan) · Structural causes affecting feeding eg. cleft palate · Persistent vomiting · Severe gastro- oesophageal reflux · Delayed introduction of solids · Psychosocial: poverty/ parenting ability/neglect	· Coeliac disease · Chronic liver disease · Cystic fibrosis · Chronic diarrhoea · Cow's milk protein intolerance · Lactose intolerance	· Chronic illnesses · Chronic respiratory disease like Cystic fibrosis · Chronic renal disease · Congenital heart disease · Diabetes Mellitus · Hyperthyroidism	· Genetic syndromes · Inborn errors of metabolism

What should I do?

HISTORY:

- Dietary history to assess adequacy of calorie intake.
- Information on breast feeding, formula feeding, weaning foods and meal time routines.
- History of vomiting, diarrhoea, symptoms of food intolerance, gastro-oesophageal reflux disease and systemic illnesses which result in calorie loss.

EXAMINATION:

- Plot height and weight on appropriate growth charts. (Remember that weighing children very frequently causes unnecessary anxiety).
- Look for signs of chronic illnesses such as coeliac disease (protuberant abdomen, muscle wasting), respiratory disease (clubbing, moist cough) and cardiac pathology (cyanosis, tachypnoea, hepatomegaly).

INVESTIGATIONS:

- Investigations are guided by history and examination findings.
- First line investigations for a child where there are no pointers towards a specific diagnosis:
  - Full blood count
  - Renal function tests
  - Liver function tests
  - Coeliac screen
  - Thyroid function
  - Blood glucose
  - Urine for microscopy and culture

MANAGEMENT:

- Refer to a paediatric dietician for nutritional management
- Identify and treat any underlying cause

When should I refer?

- Failure to gain weight despite adequate calorie intake/other interventions in primary care
- Symptoms or signs that indicate an underlying disorder
- Slow linear growth or unexplained short stature
- Rapid weight loss or severe under-nutrition
- Features that cause safeguarding concerns

When to consider safeguarding?

- The infant or child fails to gain weight and the parent is not engaging/is hostile to professional concerns
- Fabricated and Induced Illness concerns
- Learning difficulties in parents
- Parental mental health issues
- Exhibits risky behaviours (exposure to domestic violence, substance misuse, alcoholism)
- The infant has a chronic illness or disability and the parent is not co-operative with medical treatment

Resources:

- Faltering growth: recognition and management of faltering growth in children. NICE guideline [NG75] September 2017

Food allergy

What is it?

- Food allergy is common, affecting 2-4% of the paediatric population.
- Types: IgE-mediated (Immediate) and Non-IgE-mediated (Delayed) food allergy.
- IgE-mediated (Immediate):
- Affects 3-6% of children.
- The most common triggers are milk, egg, peanuts, tree nuts, sesame, kiwi fruit, fish, shellfish, wheat and soy.
- Other common triggers in the UK are mustard, celery and lentils.
- Symptoms start within minutes - 1 hour.
- Mild to moderate reactions: Urticaria/angioedema, pruritus, vomiting, abdominal pain, tingling of lips, tongue and throat, rhinitis and conjunctivitis
- Severe reactions: Anaphylaxis - Hypotension, stridor, shortness of breath/severe wheeze, circulatory collapse
- Non IgE-mediated (Delayed):
- Symptoms arise more than an hour (hours – 3 days), after exposure to food.
- Predominant symptoms are eczema and GI dysfunction.
- The most common delayed onset food allergy in children is cow's milk allergy (See page 6).

Systemic symptoms	Cutaneous symptoms	Respiratory symptoms	Gastrointestinal symptoms	Feeding symptoms
· Pallor Sweating · Irritability · Hypotension · Collapse	· Dryness · Eczema · Erythema · Urticarial · Angioedema	· Cough · Rhinitis · Conjunctivitis · Wheeze Stridor	· Reflux · Vomiting · Colic · Bloating · Diarrhoea · Constipation	· Fussiness · Food Refusal · Distress During Feeds · Pallor Sweating

Remember to consider food allergy as a contributory/causative factor if children with the following conditions do not respond adequately to treatment:

- atopic eczema
- gastro-oesophageal reflux disease
- chronic gastrointestinal symptoms, including chronic constipation.

• Idiopathic urticaria: might not be allergic in nature!

Recurrent urticaria and angioedema arising with no history of exposure to a suspected allergen, particularly if persisting for days or weeks, are unlikely to be allergic in nature.

See www.bsaci.org/guidelines/chronic- urticaria- and-angioedema,

www.what0-18.nhs.uk/application/files/5517/1155/4055/Urticaria_Pathway_Final.pdf,

www.what0-18.nhs.uk/application/files/5817/1155/4054/Acute_Urticaria_Advice_Sheet_Final.pdf,

www.what0-18.nhs.uk/application/files/8617/1155/4054/Chronic_Urticaria_Advice_Sheet_Final.pdf for more details.

What should I do?

Undertake an allergy-focused history and examination.

HISTORY:

an assessment of presenting symptoms, including

- the age of the child or young person when symptoms first started
- speed of onset of symptoms following food contact
- duration of symptoms
- severity of reaction
- Frequency of occurrence
- setting of reaction (for example, at school or home)
- reproducibility of symptoms on repeated exposure
- what food and how much exposure to it causes a reaction

- what the suspected allergen is
- the child or young person's feeding history, weaning, whether they were breastfed or formula-fed – if the child is currently being breastfed, consider the mother's diet
- details of any foods that are avoided and the reasons why
- details of any previous treatment, including medication.
- any response to the elimination and reintroduction of foods.
- cultural and religious factors that affect the foods they eat
- any personal history of atopic disease (asthma, eczema or allergic rhinitis)
- any individual and family history of atopic disease or food allergy in parents or siblings

EXAMINATION:

- Monitor growth
- Assess for signs of allergy-related comorbidities (atopic eczema, asthma and allergic rhinitis).

MANAGEMENT:

IgE-mediated (Mild to Moderate and Severe) food allergy:

- Refer to secondary care
- Non-IgE mediated (Severe) food allergy:
- Refer to secondary care

Non-IgE mediated (Mild to Moderate) food allergy:

- Can be managed in primary care.
- A trial elimination of the suspected food allergen for 6 weeks, followed by reintroduction, with community paediatric dietician input.

When should I refer?

- **Urticaria rashes in the absence of a history of allergen exposure are generally not allergy. Usually they are due to a concurrent infectious illness. Referrals for acute episodes of urticaria with no trigger will be rejected. Please contact the allergy team via advice and guidance if any uncertainty.**
- IgE-mediated (Mild to Moderate and Severe) food allergy
- Non-IgE mediated (Severe) food allergy
- Any child who has had an episode of anaphylaxis
- Confirmed IgE-mediated food allergy and concurrent asthma
- Significant atopic eczema in children < 1 year, if > 1 year please refer to dermatology.
- Persisting parental suspicion of food allergy despite a lack of supporting history
- Strong clinical suspicion of IgE-mediated food allergy, but allergy test results are negative
- Clinical suspicion of multiple food allergies.

Resources

- www.allergyuk.org: is a patient-orientated website with good resources about allergies.
- www.anaphylaxis.org.uk: is specifically aimed at families at risk of severe IgE-mediated allergies.
- NICE guideline on food allergy in under-19s: https://www.nice.org.uk/guidance/cg116
- RCPCH allergy pathway for food allergy: http://www.rcpch.ac.uk/allergy/foodallergy
- British Dietetic Association https://www.bda.uk.com/foodfacts/Allergy.pdf

Constipation

What is it?

Constipation is the inability to pass stools regularly or empty the bowels completely.
It is referred to as idiopathic, if there are no underlying anatomical or physiological abnormalities. The prevalence of idiopathic constipation is 5%- 30%.
Factors which contribute to idiopathic constipation include inadequate dietary fibre and fluid intake, toileting habits and psychological factors.

What should I do?

History: Rome IV Diagnostic criteria for functional constipation:

- In children up to 4 years of age: Must include 2 or more criteria for at least 1 month
- Less than 2 stools/week
- History of retentive posturing or excessive volitional stool retention
- History of painful or hard bowel movements
- History of large-diameter stools
- Presence of a large faecal mass in the rectum
- In toilet-trained children the following additional criteria may be used:
- At least 1 episode per week of soiling/incontinence
- History of large-diameter stools that may obstruct the toilet

History and Examination	Diagnostic features of Idiopathic constipation vs Non-idiopathic constipation	NOT Idiopathic constipation 'Red flag' findings that indicate an underlying condition
Time of onset and potential precipitating factors	· Starts after a few weeks of life · Obvious precipitating factors: change of diet, timing of potty/toilet training or acute events such as infections, fissure, moving house, starting nursery/school, fears and phobias, major change in family.	Reported from birth or within first few weeks of life
Passage of meconium	· Normal (within 48 hours after birth in term baby)	· Failure/ delay to pass meconium (more than 48 hours after birth in term baby)
Stool patterns	· Fewer than three complete stools per week Hard large stool · 'Rabbit droppings' Overflow soiling	· 'Ribbon stools' (more likely in a child younger than 1 year)
Growth and wellbeing	· Generally well, weight and height within normal limits, normal physical activity	· Growth faltering, tiredness, frequent falling
Diet and fluid intake	· History of poor diet and/or insufficient fluid intake	· Vomiting
Inspection of perianal area	· Normal appearance of anus and surrounding area	· Abnormal appearance/position/patency of anus: fistulae, bruising, multiple fissures, tight or patulous anus, anteriorly placed anus, absent anal wink
Abdominal examination	· Soft, non-distended abdomen.	· Gross abdominal distension
Spine/lumbosacral region/gluteal examination	· Normal appearance of the skin and anatomical structures of lumbosacral/gluteal regions	· Abnormal: asymmetry or flattening of the gluteal muscles, evidence of sacral agenesis, discoloured skin, naevi or sinus, hairy patch, lipoma, central pit (dimple that you can't see the bottom of), scoliosis
Lower limb neurology	· Normal gait, normal tone, power and reflexes in lower limbs,	· Deformity in lower limbs such as talipes Abnormal neuromuscular signs unexplained by co-existing conditions like cerebral palsy

INVESTIGATIONS:
Not routinely indicated.
Coeliac screen and thyroid function tests: In refractory constipation, not responsive to medical management.
X ray abdomen and Ultrasound abdomen are not indicated in idiopathic constipation.

MANAGEMENT – SEE NATIONAL PRIMARY CARE PATHWAY FOR CONSTIPATION (BELOW):
3 key interventions are:
- Laxatives
- Dietary optimisation of fibre and fluid intake
- Behavioural interventions including scheduled toileting and use of rewards systems.

Early diagnosis and treatment are important to prevent chronic constipation with continence problems (including soiling), which can have a significant emotional impact on children and young people and carers.

PARENTAL EDUCATION:
Education is vital to ensure compliance with treatment. Poor compliance is the most common reason for treatment failure.
Signpost to parent education websites e.g. **www.eric.org.uk**.
Some children may require laxative therapy for several years. Reassure parents and carers that laxatives do not lead to a 'lazy' bowel and are safe for long term use.
Consider referral to the community bladder and bowel service.

LAXATIVE TREATMENT:
A. MAINTENANCE REGIME:
is used in children without faecal loading or soiling and after successful disimpaction
- First-line treatment: Macrogols (Substitute with a stimulant laxative (Senna or Sodium Picosulfate or Docusate) if Macrogol is not tolerated)
- Second line treatment: Add a stimulant laxative (Senna or Sodium Picosulfate or Docusate).
- Continue medication at maintenance dose for several weeks after regular bowel habit is established. Do not stop medication abruptly:
- gradually reduce the dose over a period of months in response to stool consistency and frequency.
- Children who are toilet training should remain on laxatives until toilet training is well established.

B. DISIMPACTION REGIME:
is used in Faecal impaction
Macrogol. Provide printed information about disimpaction, e.g.
- A Parent's Guide to Disimpaction

COMMUNITY BLADDER AND BOWEL SERVICES
Lewisham and Greenwich and Bexley have Nurse led Community Children's Bladder and Bowel Services which follow a Tier 2 Care Pathway. They support and deliver care to children and young people with Bladder/Bowel dysfunction.

Inclusion criteria:
Have already had appropriate Tier One interventions that have failed to help (see NHS National Primary Care Clinical Pathway for Constipation in Children (england.nhs.uk))
. 3 years and onwards (Lewisham service), 5 years and onwards (Oxleas service)
. Children with an Lewisham GP can be referred between the ages of 16 - 18 years, ONLY if they attend a Lewisham Special Needs School.
-Referrals only from a GP/doctor

Exclusion criteria:
Any child or young person who has not had a physical examination from a GP/Doctor
Any red flags
Faltering growth
Evidence of maltreatment

Patients with a Lewisham GP Contact lg.childrensbladderandbowel@nhs.net for referral form

Patients with a Greenwich or Bexley GP complete the following referral form and email Oxl-tr.enuresis@nhs.net
Referral form

Resources:
- NICE Clinical guideline updated July 2017: Constipation in children and young people: diagnosis and management (CG99)
- www.eric.org.uk: excellent resource for parents and young people
- Bladder and Bowel UK
- NHS National Primary Care Clinical Pathway for Constipation in Children (england.nhs.uk)

National primary care clinical pathway for constipation in children

All families:
Safeguarding should be considered and managed as per local safeguarding procedures.

Provide written and verbal information to family
Bladder & Bowel UK
ERIC, The Children's Bowel & Bladder Charity
Consider behavioural modification, toileting regimes, physical activity, diet and fluids as treatment adjuncts

Child presents with constipation or soiling (faecal incontinence)
undertake assessment and eliminate RED FLAGS.

Signs of faecal impaction present?

YES

Child presents with faecal impaction

- Disimpact as per NICE guidelines. Review within 1 week
- Ensure that parents know how to give macrogols (instruct to mix each sachet in 62mls of water for paediatric strength and 125mls for adult strength sachets)
- Macrogols should be used in all children including those under 2 as per NICE and BNFc
- Do not assume soiling is part of underlying condition in children with disabilities
- When impaction cleared treat as per child with constipation. If no improvement, see below

NO

Child presents with constipation

- Patient not impacted or has completed disimpaction: commence maintenance laxatives as per NICE guidelines. Review in 2 weeks
- Ensure that parents know how to give macrogols (instruct to mix each sachet in 62mls of water for paediatric strength and 125mls for adult strength sachets)
- Macrogols should be used in all children including those under 2 as per NICE and BNFc
- Do not assume soiling is part of underlying condition in children with disabilities

No improvement within two weeks of starting disimpaction or at review for maintenance, when on macrogols alone.
Add a stimulant laxative such as sodium picosulfate as per NICE Guidance and BNFc.
Review in 2 weeks

No improvement after disimpation or within three months of starting treatment (or 4 weeks if less than 1 year old), complex child or other concerns, refer to local community nurse-led children's bladder and bowel service and continue to provide support or to secondary care paediatrician if not eligible for nurse-led service

Improved
Continue successful maintenance medication until regular bowel habit and toilet training established and symptom free.
Ensure laxatives put onto repeat prescription.
Review as required.
Do not stop laxatives abruptly.

Improvement sustained
Reduce medication gradually, as tolerated. This will take weeks to months for chronic constipation.

Red Flags – refer to the general paediatric team at LGT

- Symptoms that commence from birth or in the first few weeks
- Failure or delay (>first 48 hours at term) in passing meconium
- Ribbon stools, leg weakness or locomotor delay
- Abdominal distension with vomiting
- Abnormal examination findings including
  - › Abnormal appearance of anus
  - › Gross abdominal distension
  - › Abnormal gluteal muscles, scoliosis agenesis, discoloured skin, naevi or sinus, hairy path, or central pit
  - › Lower limb deformity including talipes
  - › Abnormal lower limb reflexes or neuromuscular signs unexplained by existing conditions
- Other symptoms that cause concern

Abdominal pain in children (Non-acute)

What is it?

Abdominal pain is a common symptom and can be caused by a wide range of surgical and non- surgical conditions. An underlying cause will be found only in a small proportion of children, and a significant number of children will be diagnosed to have non-specific abdominal pain.

Common causes:

Constipation

- Crampy abdominal pain, often relieved by opening bowels
- Faecal mass or palpable bowel loop with soft stool
- History of reduced stool frequency, hard stools, soiling and straining

Non-specific abdominal pain / Functional abdominal pain

- 3 or more episodes of abdominal pain
- Symptoms of more than 3 months duration
- Child older than 3 years of age
- Symptoms may affect daily activities like schooling and play
- Child is active and thriving

Less common causes

- Coeliac disease
- Food intolerance (Lactose intolerance)
- Irritable bowel syndrome (usually above 10 years of age)
- Gastro-oesophageal reflux disease
- Gynaecological causes: pelvic inflammatory disease, endometriosis, polycystic ovaries, simple ovarian cyst
- Helicobacter pylori related or NSAID induced gastritis
- Psychological: school phobia or bullying
- Child abuse

What should I do?

Parents are often worried that there may be a sinister underlying cause and should be reassured that this is extremely unlikely in the absence of additional worrying symptoms.

- History and examination to establish cause, in boys always ask and or examine the testes
- Reassurance and education about functional abdominal pain
- Management of constipation (see page 18)
- Investigations (only if indicated by history and examination):
  - › Coeliac screen, FBC, CRP, LFT, Amylase, iron studies
- Consider psychology input, in discussion with child and carers.
- Dietary advice if irritable bowel type symptoms.
- See BDA Food Fact Sheet Irritable Bowel Syndrome

When should I refer?

- Recent weight loss or faltering growth
- Fresh blood in stools/melaena
- Persistent diarrhoea
- Vomiting
- Pain waking child from sleep
- Haematemesis
- Jaundice
- Unexplained fever
- Family history of inflammatory bowel disease
- Significant school absences

Chronic diarrhoea

What is it?

Chronic diarrhoea is defined as the daily passage of watery stools for more than 4 weeks.

Common causes	Less common causes
· Infections · Functional gastrointestinal disorders · Food allergies and intolerances · Inflammatory bowel disease	· Immuno-deficiency · Microvillus inclusion disease · Cystic fibrosis · Neoplasms such as neuroblastoma, carcinoid tumour.

Common causes:

Infections: Viral or bacterial gut infections leading to secondary lactose intolerance is a common cause of chronic diarrhoea. Usually resolves by 6 weeks to 3 months.

Functional gastrointestinal disorders: Caused by gut motility problems, with no underlying structural gut pathology. Two common presentations are toddler's diarrhoea and irritable bowel syndrome (IBS).

1. Toddler diarrhoea:

- Presents in the latter part of the first year and may continue till the age of 3 years.
- Food such as peas and carrots may appear unchanged in the stools.
- There is no faltering of growth, and the child is otherwise well.
- The cause is unknown, but there is often gut motility symptoms in members of the family.
- Avoid excess intake of fluid particularly sugar containing squashes
- Increasing fat content in the diet is often helpful.

2. IBS (Irritable Bowel Syndrome):

- Presents in school-age children and adolescents.
- Symptoms are cramping abdominal pain or discomfort, along with changes in bowel habits, such as diarrhoea.
- The pain or discomfort typically gets better with the passage of stool or gas.
- IBS does not cause symptoms such as weight loss, vomiting or blood in stools.
- Possible causes are neurohumoral influence on gut motility, food sensitivity, and hypersensitivity to pain. Psychological problems, such as anxiety and depression, may also play a role.

3. Food Allergy and Intolerance:

- Non IgE mediated food allergy (Immune mediated):
- Cow's milk and soy allergies are the most common food allergies affecting the gut.
- Food allergies usually appear in the first year of life.
- Most children outgrow cow's milk and soy allergies by 3 years of age.
- Allergies to other foods, such as cereals, eggs, or seafood, may also affect the GI tract.
- Symptoms of food allergies include diarrhoea, vomiting, and poor weight gain.
- **Food intolerance (Non-immune mediated):**
- Includes lactose intolerance (see page 11)
- **Coeliac disease:** Gluten (protein found in wheat, rye, and barley) induced autoimmune destruction of small intestinal villi, causing malabsorption.
- Presents at any age with a range of intestinal and extra intestinal symptoms:
  - chronic diarrhoea
  - abdominal bloating
  - abdominal pain
  - pale, foul-smelling, or fatty stools
  - vomiting
  - constipation
  - irritability or mood changes
  - delayed puberty
  - dental enamel defects
  - faltering growth
  - short stature
  - anaemia

4. Inflammatory bowel disease (IBD):

- IBD is classified into Crohn's disease (CD) and Ulcerative colitis (UC).
- Peak onset is in adolescence. Only 4% of children present before 5 years of age and 18% before 10 years of age.

Presenting symptoms can be

- Intestinal: Abdominal pain, diarrhoea, rectal bleeding, nausea/vomiting, constipation, perianal disease and mouth ulcers
- Extra intestinal: 22% of children present with growth failure, anaemia, arthritis, hepatitis, uveitis etc as the only initial feature.

5. Constipation

- Always consider constipation with overflow in chronic diarrhoea. The constipation history may not be immediate obvious – needs detailed history regarding any history of straining at stool, hard stool or infrequent passage of stool.

What should I do?

Parents are often worried that there may be a sinister underlying cause and should be reassured that this is extremely unlikely in the absence of additional worrying symptoms.

- History and examination to establish cause
- Reassurance and education about toddler diarrhoea
- Management of constipation (see page 18)
- Investigations (only if indicated by history and examination):
  - Coeliac screen, FBC, CRP, LFT, Amylase, TFTs, iron studies. **Coeliac screen must be taken whilst wheat is still in the diet.**
  - Stool sample for faecal calprotectin
- Consider psychology input, in discussion with child and carers.
- Dietary advice if irritable bowel type symptoms.
- See BDA Food Fact Sheet Irritable Bowel Syndrome
- Consider trial of lactose free diet if concerns regarding lactose intolerance
- If there are concerns regarding non-IgE mediated food allergy consider a 4 week exclusion of the suspected food followed by reintroduction to establish the effect on symptoms. If there are concerns regarding the nutritional adequacy of the diet following food exclusion, refer to dietician for advice prior to exclusion.

When should I refer?

- **Reassure only:** Secondary lactose intolerance or toddler diarrhoea, where the child is thriving and is systemically well – reassure.
- **GP management:** Chronic constipation with diarrhoea (treat with disimpaction regime), chronic diarrhoea with normal weight gain and no flags for underlying condition.
- **Paediatric dietician:** Concerns regarding simple non- IgE mediate food allergy / irritable bowel syndrome
- **Gastroenterology:** Concerns regarding inflammatory bowel disease or coeliac disease.
- **Allergy:** complex non-IgE mediated allergy, IgE mediated food allergy

Nocturnal enuresis

What is it?

- Nocturnal enuresis or bedwetting is a common symptom in young children.
- Symptoms improve with time, with the prevalence falling from 2 in 10 children bedwetting at 5 years of age to less than 1 in 10 children bedwetting at 16 years of age.

Two types:

- Primary: when the child has never been dry at night.
- Secondary: when the child was previously dry at night for more than 6 months.

Physiological reasons for primary nocturnal enuresis in childhood are:

- High urine production: due to reduced ADH production
- Small bladder capacity
- Deep sleep

What should I do?

A) HISTORY:

- Previously dry
- Any daytime symptoms
- Difficulty passing urine
- Continuous wetting
- Previous urinary infections
- Constipation or soiling
- Family history of enuresis
- Motor delay
- Psychological: Behavioural concerns? Learning difficulties? Emotional wellbeing?
- Consider safeguarding - can be a symptom of abuse

B) EXAMINATION:

- Growth: plot height and weight
- Blood pressure
- Abdomen: features of constipation
- Lumbar spine: features of spina bifida, sacral agenesis and occult spinal dysraphism, including sacral dimple, tuft of hair, naevus, lipoma, asymmetrical gluteal creases.
- Neurologic examination: assessment of motor strength, deep tendon reflexes, perineal sensation, gait, and coordination.
- Genitalia: look for labial adhesions in girls, meatal stenosis in boys and other anatomical abnormalities

C) INVESTIGATIONS:

- Urine analysis – if short history, daytime symptoms signs of ill health, suggestion of UTI, suggestion of diabetes mellitus
- Renal tract ultrasound can be considered especially if suggestion of UTI

D) MANAGEMENT

General measures

- Reassure child and carers that majority of children will become asymptomatic over time.
- Increase fluid intake to at least 1.5L per day
- Regular voiding during daytime
- Avoid bladder irritants (tea, coffee, fruit squash, fizzy drinks)
- Avoid drinking 1-2 hours before bedtime
- Lifting to toilet during the night does not help to keep children dry in the long term. (This should be used only as a short-term
- management strategy. Young people may find self-instigated waking (using a mobile phone alarm or alarm clock) useful).
- Star charts / reward systems
- Identify and treat co-existing constipation
- Signpost to www.eric.org.uk for further information

Specific measures:

Choice of initial treatment will depend on the child's age, frequency of bedwetting and the motivation and

needs of the child and carers.

1. First line:
Pads and alarms can be provided by the community enuresis team following referral:

- Has a high long-term success rate.
- Assess the response at 4 weeks and continue if there are early signs of response, until a minimum of 2 weeks of uninterrupted dry nights has been achieved.
- If no signs of good response after 3 months, move to second line treatment.

(Desmopressin can be used as first line, if an alarm is undesirable or inappropriate, or if the priority is to achieve a rapid short-term improvement). Desmopressin tablets to be used first line. Desmospray is no longer indicated for the treatment of nocturnal enuresis.

2. Second line:
If bedwetting does not respond to initial Pad & Alarm treatment:

- **a. Pad & Alarm and Desmopressin** or
- **b. Desmopressin alone:** if using the alarm is no longer acceptable to the child or carers.
- Should be taken at bedtime,
- Fluid restrict 1 hour before until 8 hours after taking desmopressin,
- Dose can be increased if there is an inadequate response to the starting dose. Continue treatment with desmopressin for 3 months. Repeated courses of desmopressin can be used.

- **A) Response:** Complete response is achieved when the child has had 14 consecutive dry nights or a 90% improvement in the number of wet nights per week. Partial response is common initially, improving with time. Gradually withdraw desmopressin treatment at regular intervals (for 1 week every 3 months) to check if dryness continues and then discontinue treatment.

- **B) Relapse:** If recurrence of bed wetting occurs on discontinuation of treatment, reinitiate the most appropriate intervention above, pad and alarm or desmopressin on their own or in combination

Who should I refer to?

Community enuresis team

- Children > 5 years of age
- Primary enuresis
- Address constipation first
- Lewisham GP: lg.enuresisteam@nhs.net
- Greenwich and Bexley oxl-tr.enuresis@nhs.net (referral form online)
- Bromley: bromh.cccpod5refs@nhs.net

Paediatrician

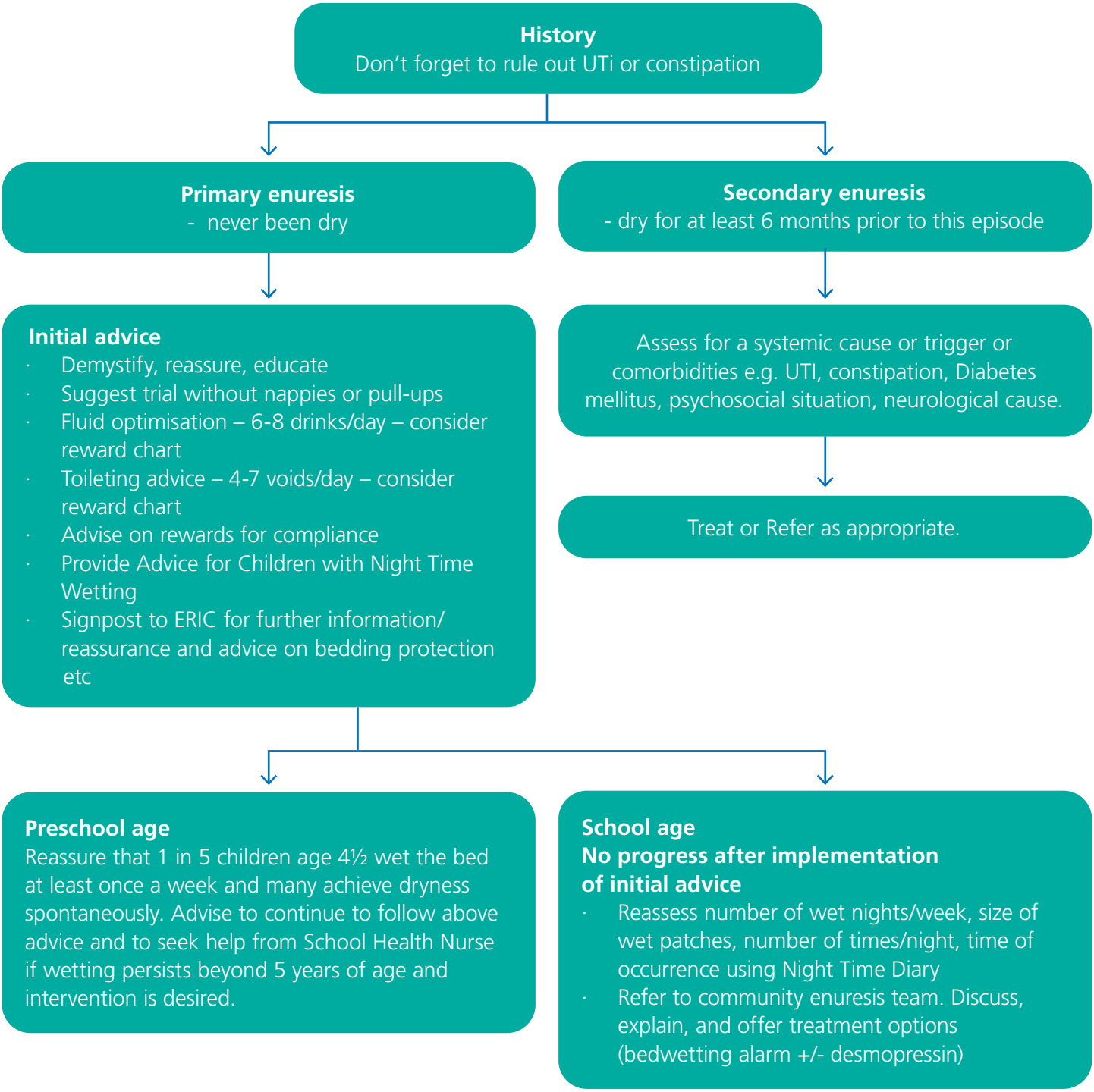
- Abnormal lower limb neurology – suggests spinal pathology
- Continuous wetting/dribbling – suggests bladder pathology
- Difficulty passing urine – suggests obstructive problem
- Severe daytime symptoms
- Recurrent urinary infections
- No cause for secondary enuresis

When to consider safeguarding?

- a child or young person is reported to be deliberately bedwetting.
- parents or carers are seen or reported to punish a child or young person for bedwetting, despite professional advice that the symptom is involuntary.
- a child or young person has secondary daytime or night time wetting that persists despite adequate management and no associated medical cause or clearly identified non-abusive stressful situation.

Resources:

- https://cks.nice.org.uk/bedwetting-enuresis
- www.eric.org.uk: excellent resource for parents and young people
- NICE guidance CG111: Bedwetting in under 19s



Adapted from Eric flow chart
https://eric.org.uk/childrens-continence-pathway/flowchart-night-time-wetting/

Urinary incontinence

What is it?

Urinary incontinence is defined as day wetting in a child over 5 years of age that occurs more than once per month for more than 3 months. It is common and affects 1 in 7 children aged 4 years and 1 in 20 children aged 9 years. Symptoms can range from damp patches to full wetting in the pants.
Most children do not have an underlying structural or neurological cause.

Most common functional causes include:

- Voiding postponement- habitually delayed urination, with overfilling and leakage.
- Over active bladder (OAB)- urgency being the most important feature.
- Underactive bladder- infrequent urination and overfilling leading to overflow incontinence.
  A large post-void residual is common.
- Dysfunctional voiding (non-neurogenic)- an inability to relax the urethral sphincter and/or pelvic floor musculature during voiding, resulting in an interrupted urinary flow and prolonged voiding time.

If the child's voiding pattern is otherwise normal, symptoms usually improve when an increased effort is made toward scheduled voiding.

What should I do?

HISTORY:

- Details of urinary symptoms - If there has never been a period of dryness, or child has continuous incontinence/dribbling, strongly consider anatomical abnormalities
- Any night time symptoms
- Voiding patterns
- History of constipation

EXAMINATION:

- Growth: plot height and weight - Excessive tiredness or loss of weight; consider an underlying chronic illness or renal impairment.
- Blood pressure.
- Abdomen: features of constipation.
- Lumbar spine: features of spina bifida, sacral agenesis and occult spinal dysraphism, including sacral dimple, tuft of hair, naevus, lipoma, asymmetrical gluteal creases.
- Consider neurologic examination: assessment of motor strength, deep tendon reflexes, perineal sensation, gait, and coordination in cases of secondary enuresis or history suggestive of a neuromuscular issue.
- Genitalia: look for labial adhesions in girls, meatal stenosis in boys and other anatomical abnormalities.

INVESTIGATIONS:

- Urine analysis (Urinary tract infections, Diabetes)
- Renal tract ultrasound

MANAGEMENT:

- Behavioural modification: Increase fluid intake to at least 1.5L per day, recommend a drink with each meal and snack, spread over the day, avoid bladder irritants (tea, coffee, fizzy drinks)
- Identify and treat co-existing Constipation and/or soiling, Urinary tract infection and Enuresis (treat daytime symptoms first for children with combined day-night wetting).
- Bladder training: timed voiding (voiding every 2-3 hrs while awake), avoidance of holding manoeuvers, optimal voiding posture.
- Signpost parents to sources of information and support: www.eric.org.uk

When should I refer?

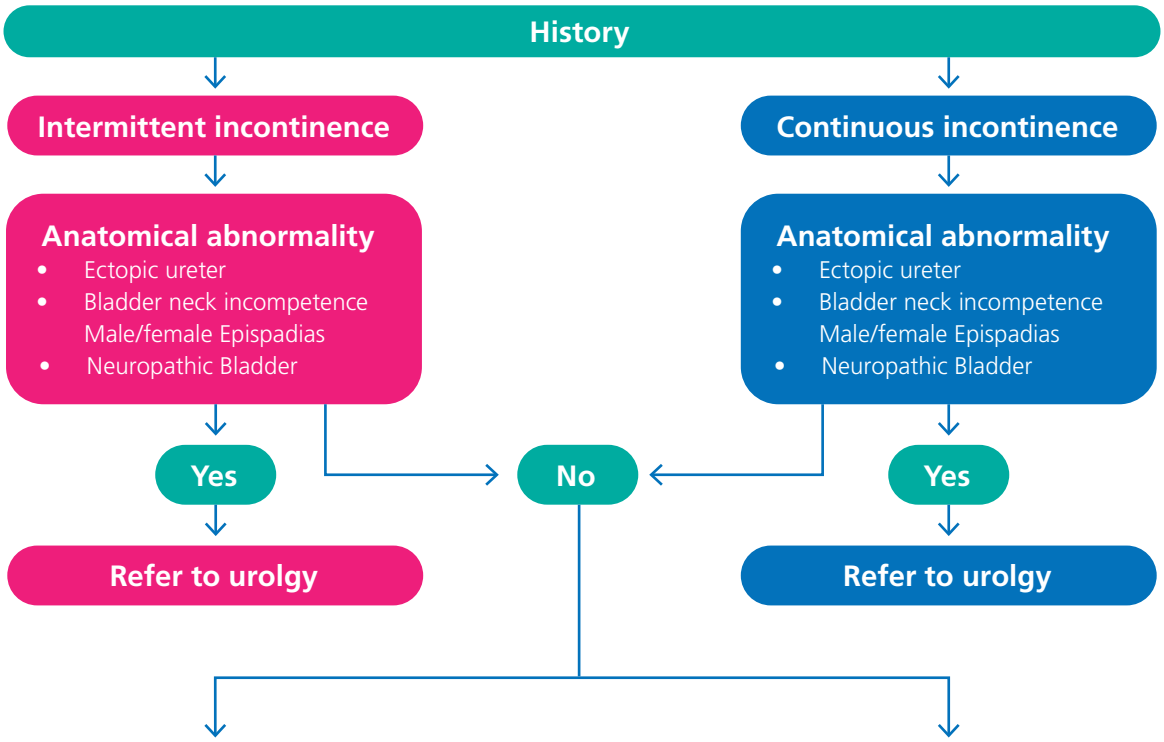
See Flow chart on page 26 for referral criteria.

1. If anatomical abnormality suspected (e.g. continuous wetting)
2. Urine analysis abnormal
3. No improvement after 3 months of conservative management (as above).

Resources:

- NICE Quality standard [QS70] Bedwetting in children and young people: Updated Sep 2017

Daytime urinary incontinence



Common causes

OVERACTIVE BLADDER
- Due to Detrusor overactivity.
- Symptoms: urgency, frequency, urge incontinence, holding behaviours.

What should I do?
- Voiding training: emptying bladder every 2-3 hours when awake
- Oxybutynin

DYSFUNCTIONAL VOIDING
- Incomplete bladder emptying due to pelvic floor dysfunction.
- Symptoms: urinary incontinence, recurrent urinary tract infections (UTIs), and constipation.

What should I do?
- Voiding training: emptying bladder every 2-3 hours when awake
- Treat urinary infections

UNDERACTIVE BLADDER
- Large capacity, poor emptying & sensation Symptoms: Child voids 3 or fewer times in 24 hours or does not void for 12 hours. Often do not void first thing in the morning. Voiding may be accomplished by abdominal straining Association with UTIs and constipation.

What should I do?
- Voiding training: emptying bladder every 2-3 hours when awake
- Aggressive treatment of constipation

Refer to paediatric continence service / secondary care if not improving in 3 months.

Less common causes

OUTFLOW OBSTRUCTION
- Symptoms: Straining, dribbling, weak stream

What should I do?
Refer to secondary care

GIGGLE INCONTINENCE:
- Symptoms: involuntary complete bladder emptying while laughing. Symptoms appear at 5-7 years of age, and usually improves or disappears with age.

What should I do?
Refer to paediatric continence service if symptoms not improving with age

LABIAL ADHESIONS
- Symptoms: cause daytime wetting as a result of the pooling of urine in the vagina.

What should I do?
- Treatment of labial adhesions with topical oestrogen, if significant voiding symptoms

VAGINAL REFLUX
- Symptoms: Post-micturition wetting

What should I do?
- Techniques to aid complete bladder emptying - sitting on toilet back to front with wide stance & cough at the end of voiding.

Cervical lymphadenopathy

What is it?

- Cervical lymphadenopathy is seen very frequently in childhood.
- The commonest cause is reactive lymph node enlargement following upper respiratory infections or eczema.
- Tuberculosis, atypical mycobacterium infections, cat scratch disease, leukaemia and lymphoma are less common causes of persistent cervical lymphadenopathy.

What should I do?

HISTORY

Concerning features: include persistent fever, weight loss, night sweats, lethargy, easy bruising. Enquire about contact with tuberculosis.

EXAMINATION

Cervical lymph nodes which are mobile, tender and < 1.5 cm in size with no concerning history or examination, is likely to be reactive lymphadenopathy. concerning features: Generalised lymphadenopathy, hepatosplenomegaly, weight loss.

INVESTIGATIONS

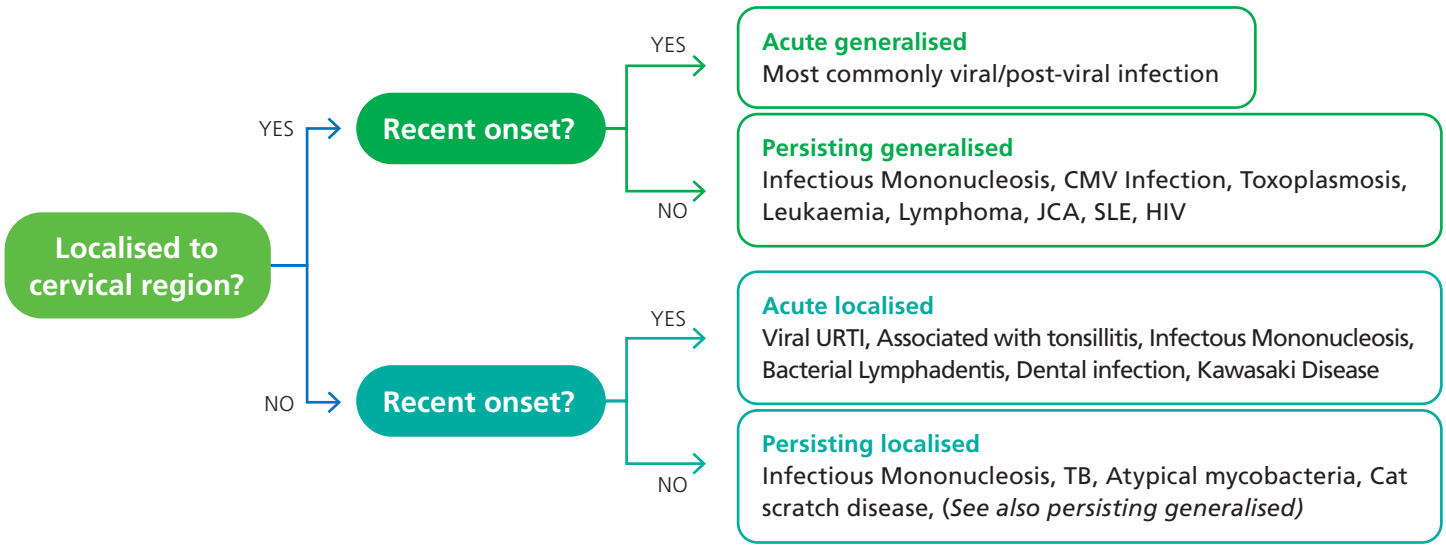
If no concerns on history and examination, investigations are not necessary. Full blood count and blood film can be undertaken if any clinical concerns.

TREATMENT

If less than 2 week history tender lymph node increasing is size, consider antibiotic treatment of appropriate spectrum e.g. co-amoxiclav

When should I refer?

- Cervical lymph nodes which are non-tender, firm/ hard, immobile, persistent and > 2 cm in size.
- Progressive increase in size of lymph nodes
- Axillary or supraclavicular lymph node enlargement
- History of persistent fever, weight loss, night sweats, lethargy and easy bruising
- Generalised lymphadenopathy
- Hepatosplenomegaly



Chronic headache

What is it?

Headache is common in children, increasing in incidence from early childhood to adolescence. Chronic daily headache is headache experienced for more than 15 days per month for at least 3 consecutive months.

Two types:

- **Primary:** Headache has no specific underlying cause. These are the most common causes of chronic headaches in children. e.g.: Tension-type headache, Migraine and Cluster headache.
- **Secondary:** Headache due to underlying causes such as sinusitis, raised intracranial pressure, medication overuse, hypertension, giant cell arteritis. Less commonly seen in children, with the likelihood of a potential serious secondary cause for chronic headache being less than 3 per 1000 children.

Headache feature	Tension type headache		Migraine (with or without aura)		Cluster headache	
Pain location	Bilateral		Unilateral or bilateral		Unilateral (around the eye, above the eye and along the side of the head/face)	
Pain quality	Pressing/tightening band (non pulsating)		Pulsating (throbbing or banging in young people aged 12–17 years)		Variable (can be sharp, boring, burning, throbbing or tightening)	
Pain intensity	Mild or moderate		Moderate or severe		Severe or very severe	
Effect on activities	Not aggravated by routine activities of daily living		Aggravated by, or causes avoidance of, routine activities of daily living		Restlessness or agitation	
Other symptoms	None		Unusual sensitivity to light and/or sound or nausea and/or vomiting Aura Typical aura symptoms include visual symptoms such as flickering lights, spots or lines and/or partial loss of vision; sensory symptoms such as numbness and/or pins and needles; and/or speech disturbance. Aura symptoms can occur with or without headache and: · are fully reversible · develop over at least 5 minutes · last 5–60 minutes		On the same side as the headache: · red and/or watery eye · nasal congestion and/or runny nose · swollen eyelid · forehead and facial sweating · constricted pupil and/or drooping eyelid	
Duration of headache	30 minutes – continuous		1–72 hours in young people aged 12–17 years		15–180 minutes	
Frequency of headache	less than 15 days per month	more than 15 days per month for more than 3 months	less than 15 days per month	more than15 days per month for more than 3 months	1 every other day to 8 per day, with remission for more than 1 month	1 every other day to 8 per day, with a continuous remission less than 1 month in a 12 month period
Diagnosis	**Episodic tension type headache**	**Chronic tension type headache**	**Episodic migraine (with or without aura)**	**Chronic migraine (with or without aura)**	**Episodic cluster headache**	**Chronic cluster headache**

What should I do?

HISTORY:

- Details of the headache: onset, timing, location, associated symptoms, exacerbating and relieving factors
- Medication history, School absences, Sleep habits, Stress, Screen time
- Family history of headaches

EXAMINATION:

- Weight and height: Plot on growth chart
- Check blood pressure
- Local pathology: Check for dental, eye and ENT pathology
- Neurological examination

INVESTIGATIONS:

- Not routinely indicated
- Cranial imaging only if clinically indicated

MANAGEMENT:

General measures: (Tension type headaches generally improve with these measures)

- Reassure that a sinister underlying cause is unlikely, if clinical assessment is normal.
- Headache diary (for 2-3 weeks) to identify patterns and precipitants
- Lifestyle advice: Good fluid intake, sleep hygiene, reducing screen time, regular exercise, avoiding possible triggers
- Rest, relaxation, distraction to manage headache non-pharmacologically
- Simple analgesia: **use sparingly, with warning about risk of medication overuse headache**
- Cognitive Behavioural therapy (CBT) and behavioural support, where indicated

Migraine treatment:

Acute episode:

- Sumatriptan or zolmitriptan: Sumatriptan nasal spray is licensed in children over the age of 12 years. Oral Sumatriptan can be used off label from the age of 6 years.
- Migraleve (OTC)
- Paracetamol, Ibuprofen

Prophylaxis:

- Propranolol (licensed)
- Topiramate (unlicensed but recommended by NICE). **Include discussion of the potential benefits and risks of topiramate and the importance of effective contraception for women and girls of childbearing potential.**
- Pizotifen (licensed but not recommended by NICE)
- Review the need for continuing migraine prophylaxis 6 months after starting treatment.
-

When should I refer?

Any of the features below should lead to an urgent referral; if there is high level of concern about possible brain tumour, immediate referral to acute paediatric services.

RED FLAGS:

- Age < 4 years
- Headache waking child from sleep
- Persistent vomiting
- Focal neurological signs
- Co-ordination problems
- Non-acute visual problems
- Headache with cough/strain/activity/postural change
- Change in personality/behaviour/activity level
- Deteriorating cognitive function Growth/pubertal failure
- Progressively severe headaches

Resources:

- NICE Guideline CG150: Headache in over 12s diagnosis and management
- The Migraine Trust: Patient information about migraine
- Headsmart: HeadSmart works to raise awareness of the common signs and symptoms of a brain tumour in babies, children and teenagers.

Cough

What is it?

Cough is the most common symptom with which children present to primary care.
Prevalence of cough not associated with colds is reported to be 28% in boys and 30% in girls.

Classification: 4 main types, based on duration:

	Acute cough (A recent onset cough lasting less than 3 weeks)	Prolonged Acute/ Subacute cough (A cough lasting 3 – 8 weeks)	Recurrent cough (more than 2 episodes/ year, each lasting 1-2 weeks)	Chronic cough (A cough lasting more than 8 weeks)
What is it?	· Commonest cause is viral upper/lower respiratory infection. · 7–10 incidents per year in school age children. · In the majority, the cough will resolve by 14 days; however, a small minority of healthy children with no underlying pathology, will continue to cough for 3–4 weeks after a viral infection. · In infants, post-bronchiolitis cough can persist for up to 1 month. **Exceptions:** · If there is a preceding history of choking, think of retained foreign body. · If accompanied by undernutrition, clubbing and systemic features - think of first presentation of chronic respiratory disease.	**Two types:** · Cough which slowly resolves over the 3–8 week period. Causes: Pertussis, Mycoplasma or Post-viral cough. · Cough which does not wane by the third week and gets worse.	· Child is asymptomatic between episodes. · Episodes tend to cluster through winter and are less frequent through summer. · Recurrent viral infections is the most likely cause in a child who is thriving and has no systemic signs or symptoms. · If the interval between episodes is short, recurrent cough will be difficult to distinguish from chronic cough.	**A. Common causes:** · Recurrent viral infections: This is the most likely cause in a child who is thriving and has no systemic signs or symptoms. · Post-infectious cough: Viral infections, mycoplasma are common causes. **B. Less common causes:** · Asthma: Isolated cough in the absence of wheeze or shortness of breath and other atopic features is usually not asthma. · Post-nasal drip & Gastro-oesophageal reflux: **C. Uncommon causes:** · Serious pathology: In any child with chronic moist cough and/or systemic signs and symptoms such as fever, weight loss, clubbing, consider underlying pathology such as: · cystic fibrosis, tuberculosis, immunodeficiency, Ccliary dyskinesia, recurrent aspiration, anatomical abnormalities, protracted bacterial bronchitis, retained foreign body.
What should I do?	· Reassuring parents of the viral aetiology. · Advice on seeking medical attention for ongoing fever, work of breathing or becoming systemically unwell.	· If the cough is settling and the child is otherwise well, no further intervention. · Treatment with macrolides is indicated in pertussis, but · it only reduces the period of infectivity and does not alter the · duration of cough. · If the cough is not waning by the third week: Refer to secondary care.	· Assess for other underlying pathology. · If no concerns and child well, reassure parents. · Refer to secondary care if concerns · on clinical assessment, very frequent episodes or significant parental anxiety	· Refer to secondary care

• Other types of cough:

Non-organic cough:
Although the nature of cough can be quite characteristic, this should be a diagnosis of exclusion Non-organic cough requires reassurance and may benefit from referral for distraction therapies and /or psychological support.

Two types:

1. **Psychogenic cough**: unusual, honking disruptive coughing; can be very persistent through the day, increases with attention and decreases when concentrating, and disappears in sleep.
2. **Habit coughs:** generally, less disruptive, typically starts in association with a cold, but persists long after the cold has resolved as a dry non-irritative repetitive coughing, often. Can be seen in boys aged 7-10 years, related to common transient tic disorder.

What should I do?

HISTORY:

- How and when did the cough start?
- What is the nature and quality of the cough?
- Is the cough an isolated symptom?
- What triggers the cough?
- Is there a family history of respiratory symptoms, disorders and atopy?
- What treatments has the child had for the cough and what is the response?
- Does the cough disappear when asleep (suggests psychogenic or habit cough)?
- Is the child exposed to cigarette smoke or other environmental pollutants?

EXAMINATION:

- Assessment of the child's growth
- Signs of underlying ENT, respiratory (digital clubbing, shape of chest, asymmetrical auscultatory signs) and other systemic pathology.

INVESTIGATIONS:

- Chest X ray is not indicated for most children with chronic cough.
- Additional investigations are usually undertaken in secondary care, if an underlying serious organic pathology is suspected.

MANAGEMENT:

- Avoid exposure to environmental irritants such as cigarette smoke and home pollutants.
- Treat Allergic rhinitis: Allergen avoidance, oral antihistamines and intranasal corticosteroids.
- Reassessment and reassurance: In well children, isolated cough is most commonly due to recurrent viral infections or a post-infectious cough.

• Is it asthma?

- Anti-asthma therapy has not been shown to be effective for children with isolated, non-specific, persistent cough.
- However, if there are atopic features and associated wheeze, a trial of anti-asthma therapy can be used to diagnose **whether it is cough-variant asthma.**
  - Bronchodilators and Inhaled corticosteroids (ICS) for 8 weeks (ensure effective delivery of appropriate doses as per BNFc).
  - After 8 weeks, stop treatment and reassess.
  - If symptoms did not resolve with above treatment, it is not asthma, stop treatment.
  - If symptoms resolved during treatment and then reoccurred within 4 weeks of stopping treatment (stopping treatment is necessary to exclude natural resolution of symptoms), restart and continue the treatment, using low dose ICS.
  - If symptoms resolved during treatment and then reoccurred beyond 4 weeks of stopping treatment, restart treatment, using moderate dose of ICS.

When should I refer?

- Neonatal onset cough
- Cough with feeding
- Sudden onset cough
- Chronic moist cough with phlegm production
- Associated night sweats/weight loss
- Continuous unremitting or worsening cough
- Signs of chronic lung disease such as finger clubbing
- Persistent fever
- Dyspnoea
- Poor weight gain/weight loss
- Haemoptysis
- Habit/psychogenic cough lasting for > 3 months

Pre-school wheeze

What is it?

Preschool wheeze or wheezing in children 1-5 years of age is very common in UK.
One third of children under 3 years of age and almost half of children under 6 years of age, have had at least one reported episode of wheeze.

Two types - Primary and Secondary:

Primary wheeze	Secondary wheeze
Two clinical categories. **1. Episodic (viral) wheeze (ETW):** · Wheeze only during viral infections · Child otherwise well · Usually no personal or family history of atopic disorders. **2. Multiple-trigger wheeze (MTW):** · Wheeze with multiple triggers including viruses, pollen, animals, and other allergens. · Interval symptoms are present between exacerbations(wheeze/ cough with activity, excitement, cold weather.) · Often a personal or family history of atopic disorders.	**Due to underlying conditions which cause wheezing:** · Cystic fibrosis, · Immune deficiency · Ciliary dyskinesia · Inhaled foreign body · Gastro-oesophageal reflux disease · Anatomical airway problems. **History:** Symptoms from first day of life, chronic wet cough, sudden onset of symptoms, continuous unremitting symptoms, systemic illness; physical examination shows digital clubbing, unusually severe chest deformity, stridor, fixed wheeze, or asymmetric signs on auscultation, features of systemic disease

What should I do?

HISTORY:

· Confirm the presence of wheeze (Studies show less than 50% agreement between carers and professionals on reported wheeze)
· Rule out underlying contributory or secondary causative factors.

EXAMINATION:

· Signs and symptoms of serious underlying conditions (See Table 1 overleaf).

Table 1 Clinical clues to alternative diagnoses in children with wheezy children

Clinical clue	Possible diagnosis
Perinatal and family history	
Symptoms present from birth or perinatal lung problem	Cystic fibrosis, chronic lung disease of prematurity, ciliary dyskinesia, developmental lung anomaly
Family history of unusual chest disease	Cystic fibrosis, neuromuscular disorder
Severe upper respiratory tract disease	Defect of host defence, ciliary dyskinesia
Symptoms and signs	
Persistent moist cough	Cystic fibrosis, bronchiectasis, protracted bacterial bronchitis, recurrent aspiration, host defence disorder, ciliary dyskinesia
Excessive vomiting	Gastro-oesophageal reflux (with or without aspiration)
Paroxysmal coughing bouts leading to vomiting	Pertussis
Dysphagia	Swallowing problems (with or without aspiration)
Breathlessness with light headedness and peripheral tingling	Dysfunctional breathing, panic attacks
Inspiratory stridor	Tracheal or laryngeal disorder
Abnormal voice or cry	Laryngeal problem
Focal signs in chest	Developmental anomaly, post-infective syndrome, bronchiectasis, tuberculosis
Finger clubbing	Cystic fibrosis, bronchiectasis
Failure to thrive	Cystic fibrosis, host defence disorder, gastro-oesophageal reflux
Investigations	
Focal or persistent radiological changes	Developmental lung anomaly; cystic fibrosis; post-infective disorder; recurrent aspiration; inhaled foreign body; bronchiectasis; tuberculosis

INVESTIGATIONS

- Chest X-ray for persistent and/or severe wheeze
- Additional investigations are usually undertaken in secondary care, if an underlying diagnosis is a possibility.

MANAGEMENT

General measures: Prevent exposure to tobacco smoke - parental smoking "not in front of the children" does not protect them from harm!

	Reliever	Preventer
Mild, infrequent virus induced wheeze	Salbutamol or Ipratropium inhaled treatment	Not indicated
Moderate, frequent virus induced wheeze	Salbutamol or Ipratropium inhaled treatment	**Intermittent** Montelukast or Inhaled corticosteroids (ICS) at start of a cold. Stop after a few days, when clinically better. No indication for **regular** preventer treatment
1. Severe virus induced wheeze (frequent and /or severe episodes) **2. Multi-trigger wheeze**	Salbutamol or Ipratropium inhaled treatment	A. Inhaled corticosteroids (ICS) regularly, ensuring effective delivery of appropriate doses for 8 weeks. B. Keep a symptom diary pre and post treatment for objective assessment. C. After 8 weeks, stop ICS treatment (stopping ICS treatment is necessary to exclude natural resolution of symptoms), and continue to monitor symptoms: • If symptoms did not resolve with ICS treatment, review whether an alternative diagnosis is likely • If symptoms resolved during ICS treatment and then reoccurred within 4 weeks of stopping ICS treatment restart and continue ICS at low does and monitor in primary care. • If symptoms resolved during treatment and then reoccurred beyond 4 weeks after stopping ICS treatment, restart ICS at moderate dose and continue regular monitoring in primary care. Refer if no improvement.

Ensure the use of appropriate inhaler device for age and check inhaler technique regularly. Ensure education, wheeze information leaflet and a written, individualised management plan.

When should I refer?

- Symptoms or signs of underlying serious respiratory pathology
- Severe frequent wheeze with numerous hospital attendances/admissions No improvement after 8 week trial of Inhaled corticosteroids

Resources:

- Asthma UK: www.asthma.org.uk/advice-children-and-asthma
- NHS Choices - Asthma in Children: www.nhs.uk/conditions/Asthma-in-children/Pages/Introduction.aspx

Asthma

What is it?

- Asthma remains one of the most common chronic diseases of childhood.
- Asthma is predominantly a clinical diagnosis in children, based on the characteristic pattern of symptoms and signs and the absence of an alternative explanation; due to the limitations in obtaining accurate lung function tests in childhood.

What should I do?

HISTORY:

3 key diagnostic pointers in history are:

- Episodic symptoms of wheeze, cough, breathlessness and chest tightness, which vary over time (wheeze confirmed by a healthcare professional)
- Personal/family history of other atopic conditions (atopic eczema/dermatitis, allergic rhinitis)
- No symptoms/signs to suggest alternative diagnoses

EXAMINATION:

Rule out underlying chronic respiratory conditions (table below)

Clinical clue	Possible diagnosis
Perinatal and family history	
Symptoms present from birth or perinatal lung problem	Cystic fibrosis, chronic lung disease of prematurity, ciliary dyskinesia, developmental lung anomaly
Family history of unusual chest disease	Cystic fibrosis, neuromuscular disorder
Severe upper respiratory tract disease	Defect of host defence,ciliary dyskinesia
Symptoms and signs	
Persistent moist cough	Cystic fibrosis, bronchiectasis, protracted bacterial bronchitis, recurrent aspiration, host defence disorder, ciliary dyskinesia
Excessive vomiting	Gastro-oesophageal reflux (with or without aspiration)
Paroxysmal coughing bouts leading to vomiting	Pertussis
Dysphagia	Swallowing problems (with or without aspiration)
Breathlessness with light headedness and peripheral tingling	Dysfunctional breathing, panic attacks
Inspiratory stridor	Tracheal or laryngeal disorder
Abnormal voice or cry	Laryngeal problem
Focal signs in chest	Developmental anomaly, post-infective syndrome,bronchiectasis, tuberculosis
Finger clubbing	Cystic fibrosis, bronchiectasis
Failure to thrive	Cystic fibrosis, host defence disorder, gastro-oesophageal reflux
Investigations	
Focal or persistent radiological changes	Developmental lung anomaly, cystic fibrosis, post-infective disorder, recurrent aspiration, inhaled foreign body, bronchiectasis, tuberculosis

INVESTIGATIONS:

Chest X-ray

Is not routinely indicated. (undertake if diagnosis of asthma is in doubt).

Spirometry

Positive spirometry results for obstructive airways diseases including asthma are:

- Forced expiratory volume in 1 second/ Forced vital capacity (FEV1/FVC) ratio: less than 70%
- Bronchodilator reversibility (BDR) test: FEV1 reversibility of 12% or more

NOTE ABOUT INVESTIGATIONS:

- Lung function and FeNO testing is not always possible in children in primary care and is not appropriate to use in children under 5 years.
- **Direct referral for spirometry only is currently not available for patients to UHL and QEH who do not meet criteria for secondary care referral.**
- Diagnostics tests may be normal in children and the child may still have asthma.

FENO:

FeNO scores in children and young people:

< 20 ppb normal
25 – 35 ppb intermediate
>35 ppb raised

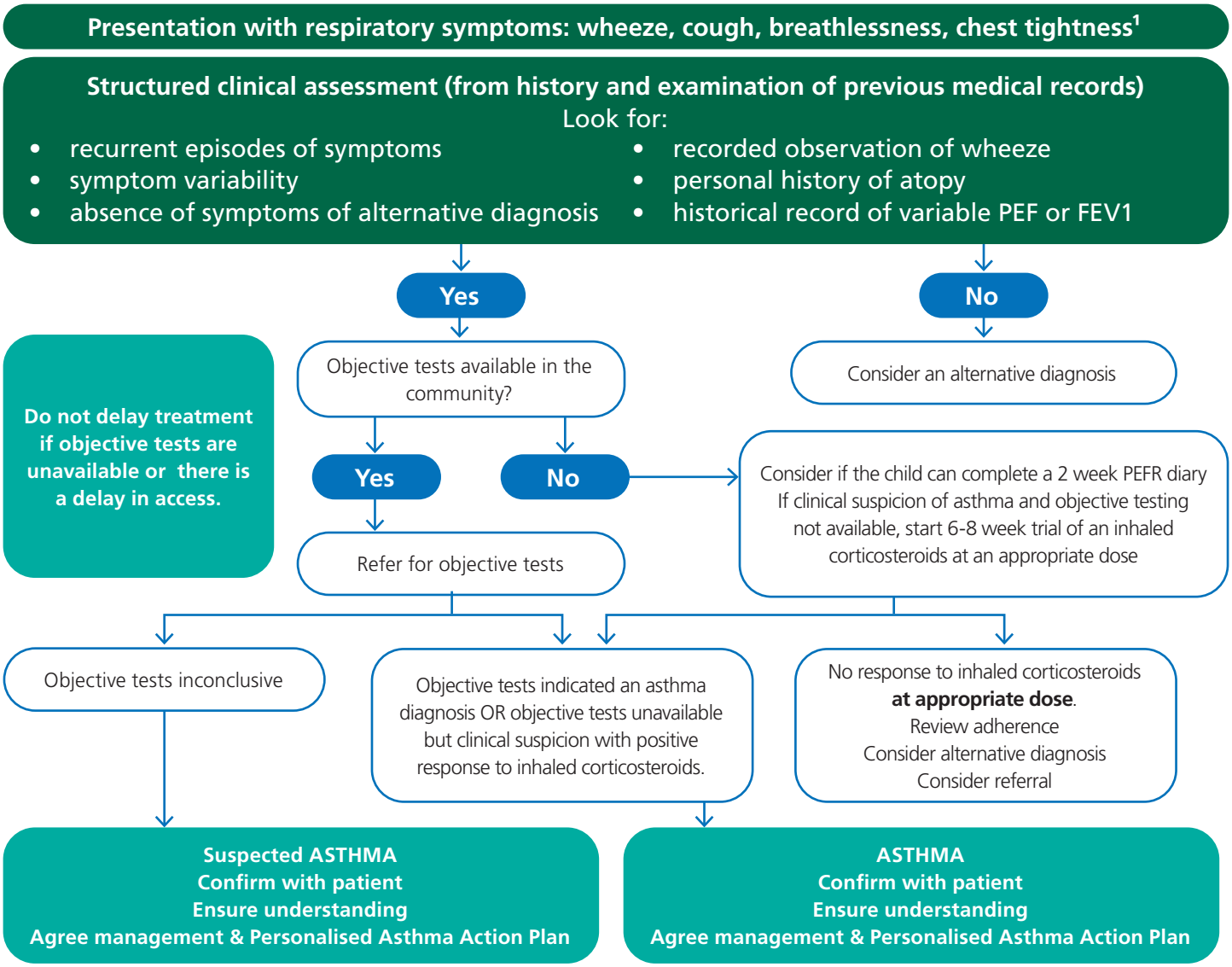
A positive FeNO increases the probability of asthma but a negative test does not exclude a diagnosis of asthma.

Peak expiratory flow (PEF)

No good evidence to support the routine use of peak flow monitoring in the diagnosis of asthma in children. However if spirometry is equivocal, monitor peak flow for 2 to 4 weeks with twice daily PEF recordings with greater than 20% diurnal variability regarded as a positive test.

If there is a clinical suspicion of asthma and lung function testing and FENO are either not appropriate, not available or normal a trial of inhaled steroids should be commenced for 6-8 weeks and the patient reassessed to see if there is a positive response to treatment.

Asthma Diagnostic Algorithm



Asthma Management

Personalise devices to individual needs and capabilities e.g.neurodiversity or learning difficulties.

Main points:

Step-up and step-down asthma treatment as per CESEL Asthma in children and young people Formulary guidance.

Consider stepping up treatment if using three or more days of beta agonists (Salbutamol) per week

MANAGEMENT:

General measures:

- Identifying and avoiding exposure to triggers such as house dust mite, cigarette smoke and other environmental pollutants.
- Remember, parental smoking "not in front of the children" does not protect them from smoke exposure.
- Optimise treatment of allergic rhinitis.
- Education: **Provide a personalised asthma action plan** and asthma information leaflet.
- If over 12 years sign post to the Digital Health Passport App to support asthma self-management.

Treatment monitoring:

Pharmacological management (BTS/SIGN guidelines) is aimed at optimal asthma control

- no daytime symptoms
- no night-time awakening due to asthma
- no need for rescue medication
- no asthma attacks
- no limitations on activity including exercise
- normal lung function (FEV1 and/or PEF>80% predicted or best)
- minimal side effects from medication.

Growth (plot height and weight on centile charts)

- Assess control using Asthma Control Test/other asthma questionnaires
- Advice on identifying triggers and avoidance
- Check inhaler technique at every visit and prescribe appropriate inhaler based on patient preference and effective technique.

In children a pMDI (pressurised Metered Dose Inhaler) and spacer are preferred for delivery of inhaled treatment. A face mask is required until the child can breathe reproducibly using the spacer mouthpiece. **Children are usually switched from a face mask to a mouthpiece spacer at ages 4 – 5 years.** Spacers should be cleaned monthly, washed in detergent and allowed to dry in air. Plastic spacers should be replaced at least every 12 months but some may need changing at six months.

- Check medication adherence
- Re-evaluate treatment and maintain at the lowest possible dose of inhaled corticosteroid.
- Reinforce the management plan at every visit.

NRAD (National Review of Asthma Deaths) identified preventable factors including over-reliance on bronchodilators, underuse of inhaled corticosteroids, lack of regular medical reviews and written management plans as common themes in asthma deaths.

When should I refer to secondary care?

- All referrals to the respiratory clinic should be through the general paediatric referral triage on ERS at UHL or QEH.
- **All patients referred to secondary care asthma clinic should have had a trial of inhaled steroid for 6-8 weeks with the response assessed in primary care. If this has not taken place the referral will be rejected. If there is a reason why the trial of inhaled steroid cannot occur, please contact the paediatric team via advice and guidance to discuss.**
- **Referrals for spirometry or FENO only will not be accepted.**
- Before referral, please consider whether poor understanding or compliance is the reason for poor response to treatment and if so arrange a review with the practice asthma nurse, or community asthma nurses (Lewisham only, see below).

Referral indications:

- Concern about alternative diagnosis
- Diagnosis unclear
- Poor response to asthma treatment
- Requiring high dose inhaled corticosteroids and /or 3 drug combination of preventer therapy (see BTS guidelines)
- Severe/life-threatening asthma attack
- Patient or parental anxiety or need for reassurance
- Family history of unusual chest disease
- Nasal polyps

Community asthma nurse referrals (Lewisham GPs only)

The Community Asthma Team provides specialist support to children and young people, empowering them and their families to manage their condition, preventing hospital presentations and admissions.
The team delivers a number of interventions including telephone helpreviews, home visits and review at nurse-ledd clinics in GP surgeries around the borough of Lewisham. They provide ongoing support, advice, health promotion and training to children, young people and their families where required.

Referral criteria:

- Children and Young people aged 2-16
- Registered with a Lewisham GP
- Diagnosed asthmatics who have poor compliance with current treatment, poor asthma control and/ or require further support regarding asthma management.
- Suspected asthmatics will need a trial of preventative treatment before making referral to secondary care.)

Exclusion Criteria

- Do not refer for diagnostic testing i.e. spirometry or FeNO.Only objective testing (spiro or FeNO) is required
- Fewer than 3 instances of viral induced wheezeVIW in children <5 years
- Alternative respiratory condition suspected
- Brittle asthmatics
- Under care of secondary respiratory services (if unsure, still referunless for 48 hour post-attack asthma reviews)
- If you would like to refer, contact the team on lg.asthmanursespecialist@nhs.net or contact or 0203 049 3780.

Resources:

- CESEL Asthma in Children and Young People: https://selondonccg.nhs.uk/wp-content/uploads/dlm_uploads/2023/09/CESEL-Asthma-Guide-Final-CYP-1.pdf
- Asthma and Lung UK: Health professionals | Asthma + Lung UK (asthmaandlung.org.uk)
- NHS Choices - Asthma in Children: www.nhs.uk/conditions/Asthma-in-children/Pages/Introduction.aspx
- NICE guidelines:
- Asthma - NICE pathways

Vitamin D deficiency

What is it?

- Vitamin D is essential for musculoskeletal health as it promotes calcium absorption from the bowel, enables mineralisation of newly formed osteoid tissue in bone and plays an important role in muscle function.
- The term 'vitamin D' generally refers to two very similar molecules. Vitamin D3, also known as colecalciferol, is the most abundant in humans and is produced in the skin following exposure to sunlight Vitamin D2, or ergocalciferol, occurs naturally in some mushrooms and yeast. The amount in most other vegetables is negligible. The body converts both forms of vitamin D to 25-hydroxyvitamin D (25OHD). Tests to assess vitamin D status measure levels of 25OHD in the blood.
- The main manifestation of vitamin D deficiency is rickets in children. Based on the overall evidence, it is not possible to discern a clear threshold serum 25OHD concentration below which rickets occurs. However, rickets with unknown aetiology, often with serum 25OHD concentration <30 nmol/L, is usually defined as vitamin D deficiency rickets.

Primary prevention:

1. Advice about safe sunlight exposure, dietary sources of Vitamin D and multivitamin supplements.
2. Public Health England advise that during the autumn and winter months EVERYONE, including children and young people, should consider taking a daily supplement containing at least 10 micrograms (400 international units (IU)) of vitamin D, which can be purchased over the counter. Children from ethnic minority groups with dark skin, from African, Afro-Caribbean and South Asian backgrounds, may not get enough vitamin D from sunlight in the summer and therefore should consider taking a supplement all year round.
3. Children from birth to their fourth birthday who are eligible beneficiaries can access free Healthy Start vitamins vouchers under the government Healthy Start scheme. Refer parents to the Healthy Start website for further details www.healthystart.nhs.uk or contact their local Midwife or Health Visitor.
4. Consider supplementation in the following high-risk groups:

- children with diets insufficient in calcium
- exclusively breast-fed babies from the age of 6 months, especially if the mother is also at risk of Vitamin D deficiency or the infant has not started to take a good range of solid foods
- exclusively breast-fed babies from 1 month if the mother has not taken Vitamin D supplements in pregnancy, or if she is known to be Vitamin D deficient or insufficient
- children with limited sun exposure (e.g. veiled and photosensitive patients)
- disabled children if they spend very little time outdoors
- children who have darker skin, e.g. of African, African-Caribbean or South Asian origin
- children taking anticonvulsants such as phenytoin, carbamazepine, primidone or phenobarbitone, that induce liver enzymes
- children with family members with proven Vitamin D deficiency.

Who should be tested for Vitamin D deficiency?

Signs and symptoms of vitamin D deficiency

Infants	Seizures, tetany and cardiomyopathy (features of hypocalcaemia)
Children	Aches and pains (unexplained); myopathy causing delayed walking; rickets with bowed legs, knock knees, poor growth and muscle weakness e.g. difficulty climbing stairs, waddling gait, difficulty rising from a chair
Adolescents	Aches and pains, muscle weakness, bone changes of rickets or osteomalacia, tetany, seizures, acute respiratory tract infections

Check vitamin D levels and a bone profile in infants, children and young people with signs and symptoms of Vitamin D deficiency as above. Note that signs and symptoms of vitamin D deficiency may be non-specific, and have a low threshold for testing in the following at risk groups.

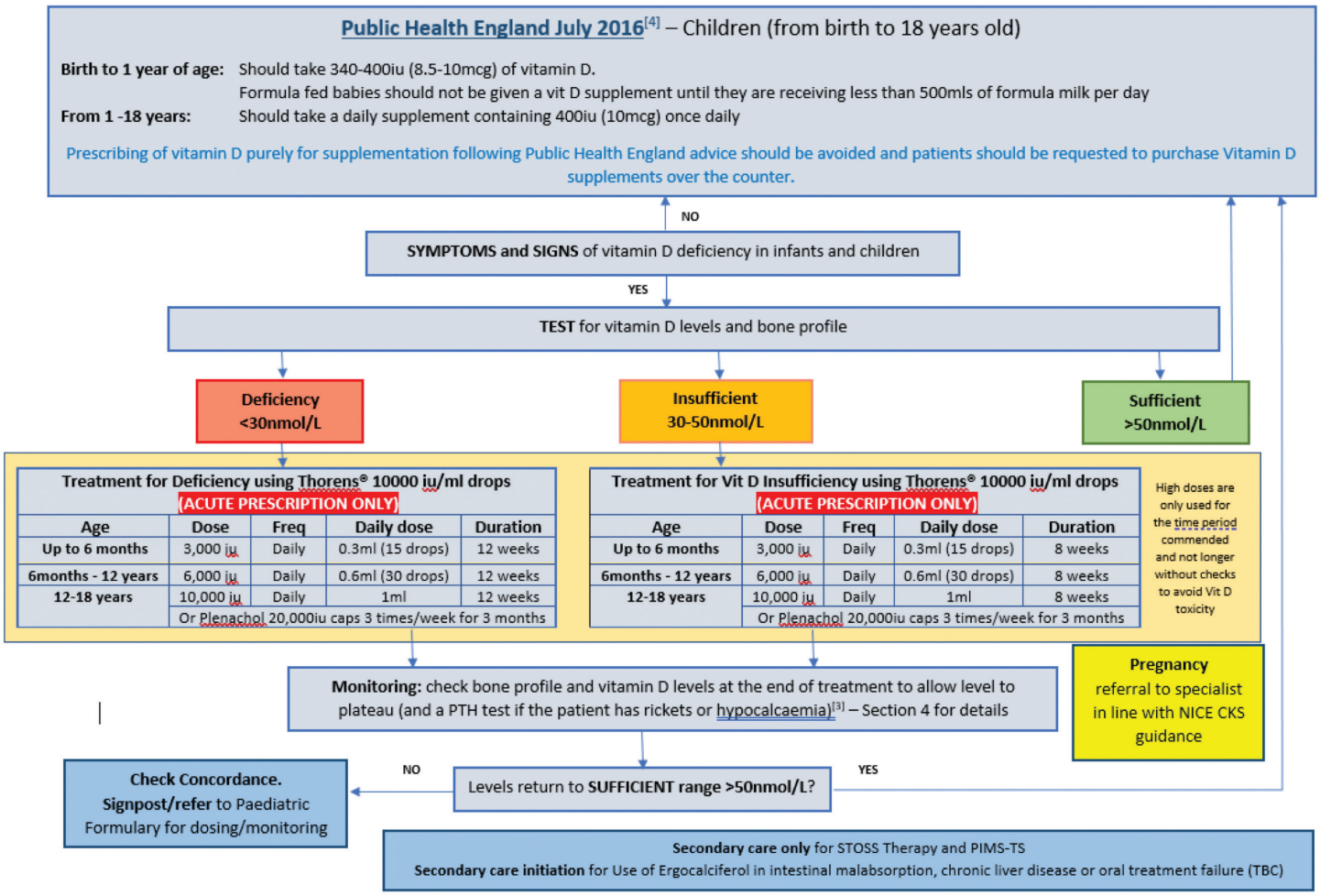
- Diets insufficient in calcium (e.g. vegan, low dairy intake, dairy exclusion) or poor general diet.
- Limited sun exposure (e.g. veiled and photosensitive patients, those advised to apply high factor sun block due to malignancy risk).
- Little time spend outdoors (e.g. children and young people with limited mobility).
- Infants, children and young people with dark skin, for example people of African, AfricanCaribbean or South Asian origin.
- Infants, children and young people taking anticonvulsants that induce liver enzymes (e.g.
- phenytoin, carbamazepine, phenobarbital).
- Infants, children and young people who have family members with proven vitamin D deficiency.

Refer to a specialist for advice if an infant, child or young person: -

- Has clinical features of rickets
- Has repeated hypocalcaemia
- Has raised parathyroid hormone levels - primary hyperparathyroidism (hypercalcaemia)
- Has a fragility fracture, documented osteoporosis, high fracture risk, or is being treated with an
- antiresorptive drug for bone disease
- Is pregnant
- Has a malabsorption disorder (for example Crohn's disease, Cystic Fibrosis)
- Has a history of sarcoidosis, renal stones, tuberculosis, or lymphoma
- Has a diagnosis of stage 3b CKD (or greater)

Management:

(please refer to South East London clinical guidance for the management of vitamin D deficiency and insufficiency in infants, children and young people up to the age of 18 years)



◎ Resources:

- South East London clinical guidance for the management of vitamin D deficiency and insufficiency in infants, children and young people up to the age of 18 years
- British Dietetic Association: Information about dietary sources of vitamin D

Positional plagiocephaly

What is it?

Positional plagiocephaly or Asymmetrical head shape is quite common, affecting about one in five babies. It results from prolonged adoption of a particular head position. This is seen in oligohydramnios, multiple pregnancies, sternocleidomastoid tethering (can cause torticollis), prematurity and babies with neuro-muscular disorders.

In most cases, the head shape will spontaneously improve over time. Mild flattening of the head will usually improve in a couple of months using simple positioning measures and any flattening will be barely noticeable by 1- 2 years of age. More severe cases will also improve over time, and any flattening which remains, becomes less noticeable with hair growth. There is no evidence that it will cause neurological or developmental deficits.

A variation of this is Positional Brachcephaly where the occiput is largely symmetrically flattened becoming much broader, sometimes with a taller head sloping down from the occiput toward the forehead.

Differential diagnosis:

Synostotic plagiocephaly: Results from premature sutural fusion of the lambdoid suture of the skull – Lambdoid craniosynostosis. It is very rare with a frequency of around 1 in 10,000 live births.

Feature	Positional plagiocephaly	Synostotic plagiocephaly
Incidence	Common (1 in 100)	Rare (1 in 100,000)
Palpate skull sutures	Sutural ridge not palpable	Sutural ridge palpable
Check ear position	**Ear pushed forward** on the side of occipital flattening.	**Ear placed backwards** on the side of occipital flattening.
Assess facial symmetry	**Forehead is protuberant** on the side of the occipital flattening	**Forehead is symmetrical**
Inspect Aerial view	Parallelogram-shaped head	Trapezoid -shaped head
Assess hair growth pattern	A unilateral bald spot on the side of occipital flattening	Absent
Management	Can be managed in Primary care	Refer to Secondary care

What should I do?

Positional plagiocephaly can be managed in primary care as below:

- Positioning advice: Encourage parents to place baby in different positions including supervised tummy time during the day, to take pressure off the flattened part of baby's head.
- Physiotherapy referral if sternomastoid tethering is present.

(Use of commercially produced helmets is not widely supported by UK specialists in Craniofacial disorders. There have been very few good quality studies of the efficacy of helmets in comparison to conservative management; and those which have been performed suggest no significant variation in the ultimate normalisation of the head shape.)

When should I refer?

- Craniosynostosis is suspected
- Head circumference falling outside normal centiles (below the 0.4th or above the 99.6th or crossing two centiles)
- Developmental delay
- Severe skull flattening

Common prepubertal gynaecological problems

What is it?

Common presentations:

1. Vaginal discharge

- Newborn: Most newborn girls have small amounts of mucoid white vaginal discharge. This is normal and usually disappears by 3 months of age.
- 3 months of age until puberty: Physiological vaginal discharge is minimal in this age group.

2. Vulvovaginitis

- Extremely common due to thin vaginal mucosa in the prepubescent girl and contact with moisture and irritants (soap, bubble baths, wet wipes)
- Symptoms are itching, discharge, redness, and sometimes dysuria.
- Occasionally itching, soreness and discharge can be severe and persistent.
- In mild cases, no investigations are necessary, if discharge is profuse / offensive take a swab from the introitus.

What should I do?

- Explanation / reassurance
- Avoid contributory factors such as tight and synthetic underwear, bubble baths
- Soothing creams (eg soft paraffin, nappy rash creams) may help as a short-term measure.
- If introital swab grows organisms (group A Streptococcus, Haemophilus, Gardnerella) – treat with appropriate antibiotics
- If perianal / vulval itch /irritation is a major symptom, consider threadworms. and treat accordingly.
- If discharge is bloody, or offensive and persistent, consider a foreign body.
- If there is skin disease elsewhere, consider eczema and psoriasis as possible causes.
- Refer if severe and /or persistent symptoms
- Remember: Sexual abuse can present as vulvovaginitis

3. Lichen sclerosus (Hypotrophic dystrophy of the vulva)

- A chronic skin disorder of presumed auto immune origin
- Commonly seen in postmenopausal women, but also seen in prepubertal girls.
- It usually presents with severe vulval pain and itching.
- On examination, the classical appearance is of white plaques over the vulva and perianal area, and in more severe cases bleeding, erosions and ulcerations can occur.
- severe cases bleeding, erosions and ulcerations can occur.

What should I do?

- If symptoms are mild, no treatment other than an emollient is needed.
- In more severe cases, refer to secondary care, for use of a topical corticoid steroid such as Clobetasol propionate 0.05%, twice daily for 3 months.
- Unlike in postmenopausal women, there is no association with progression to carcinoma of vulva.
- Tends to resolve with the onset of puberty.

4. Vaginal bleeding

<u>Newborn:</u>

- Common to have slight vaginal bleeding in the first week of life, due to withdrawal of maternal oestrogens
- Requires no investigation or treatment.

<u>Older girls:</u>

- Blood stained discharge in an older girl, consider:
- Onset of first menstruation. (Consider as precocious puberty, if occuring before 8 years of age).
- Urethral prolapse (an inflamed “doughnut” of tissue is visible at the urethral meatus)
- Vaginal foreign body
- Severe vulvovaginitis,
- Trauma (including straddle injury and sexual abuse)
- Excoriation associated with threadworms
- Haematuria

5. Labial adhesions

- Adherence of the medial edges of the labia minora, due to a combination of thin vaginal mucosa and minor irritation.
- This is a normal variant and will resolve spontaneously in late childhood.
- Infrequently it can cause urinary dribbling, vulval irritation and soreness.
- Provided the child is able to void easily, no treatment is needed other than reassurance.
- In symptomatic cases, topical oestrogen creams can be used, although there is a risk of recurrence.

Obesity

What is it?

Childhood obesity is one of the biggest public health issues facing the UK. Obesity increases the risk of developing a range of health conditions in childhood and later life, including: heart disease; stroke; high blood pressure; diabetes and some cancers. Obese children are much more likely to be obese adults, which may lead to significant health risks.

Body Mass Index (BMI) is one measure:

- overweight: BMI 91st centile + 1.34 standard deviations (SDs)
- clinical obesity: BMI 98th centile + 2.05 SDs
- severe obesity: BMI 99.6th centile + 2.68 SDs.

Discussions with children and their families about weight should be handled sensitively. This can be a very challenging topic for all.

Obesity is a clinical term.

Co morbidities

Tend to be rare in prepubertal children. Investigation of co-morbidities should not detract from modifications to lifestyle, nor should co-morbidities be left untreated whilst addressing weight optimisation.

These include but are not limited to

- Hypertension
- Obstructive sleep apnoea
- Type 2 diabetes
- Non-alcoholic Fatty Liver disease

What should I do?

Take measurements to determine degree of overweight or obesity and raise the issue of weight with the child and family. BMI should be plotted on charts that are appropriate for age and sex

Assessment for co-morbidity should be considered >98th centile

History

1. Explore eating patterns and physical activity levels
2. Presenting symptoms with any underlying causes of overweight or obesity
3. Willingness & motivation to change
4. Family history of overweight or obesity and comorbidities
5. Growth and pubertal status
6. Sleep issues – snoring or sleep apnoea
7. Breathing difficulties – impacting on co-existing asthma
8. Any medical problems and medication
9. Psychosocial distress, such as low self-esteem, teasing and bullying
10. Environmental, social and family factors that may contribute to overweight or obesity and the success of treatment
11. Find out what they have already tried and how successful this has been and what they learnt from the experience

Examination
- Weight and height to calculate BMI – plotted on an appropriate growth chart
- Look for signs of any chronic illnesses
- If under the age of 2 consider syndromic/genetic cause of obesity – referral to General paediatrics may be indicated here

Investigations
- blood pressure measurement – ensure correct sized cuff.
  - Blood pressure charts here

If concerns re co-morbidity (BMI>98th centile)
- lipid profile, preferably while fasting
- fasting insulin
- fasting glucose levels & HbA1c
- liver function
- thyroid function

Management
1. Discussion regarding their food intake – dietetic services will only accept referrals for children with special education needs
2. Encourage increase in activity link
3. Discussion with regards to how motivated they are to change

Where to refer

With a Greenwich GP
- Under the age of 4 can be referred to Oxleas dieticians oxl-tr.childrenstherapies@nhs.net
- 4-17yr can be referred to Xplore xplore.greenwich@gll.org

Lewisham
- 5-12yr HENRY school healthy lifestyle team weight management lg.shshealthylifestyle@nhs.net if BMI
- BMI 91st – 98th centile (with or without comorbidities)
- BMI 98th -99th centile (without comorbidities)

SEND (Special Education Needs and Disability) Paediatric Dieticians
- Children with a disability, developmental delay or special educational needs with a lewisham GP or in a Lewisham special school can be referred to this team. https://www.lewishamandgreenwich.nhs.uk/send-childrens-dietetic-service
- Complications of Excessive Weight (CEW) clinic (Kings College Hospital)
- South-east London: Bexley, Bromley, Greenwich, Lambeth, Lewisham, Southwark
- https://www.kch.nhs.uk/services/services-a-to-z/complications-of-excess-weight-cew/

Patients must meet all of the following referral criteria:
1) Obesity
2) Significant obesity-related medical comorbidity that would benefit from weight loss (for example, type 2 diabetes, sleep apnoea, Non Alcoholic Fatty Liver Disease with fibrosis) that has not responded to treatment with specialist team
3) Family wants help to change – and agree to commit to a one-year programme

OR

1) Severe obesity – BMI is currently set at >3.33 Z Score (although this may increase in the future)
2) Family wants help to change – and agree to commit to a one-year programme

When to consider safeguarding?

Consistent failure to change lifestyle and engage with support can indicates neglect	Consider this when parents behave in a way that promotes weight loss failure Failure to engage with professionals and support Failure to attend health appointments Particularly concerning in the presence of co-morbidities
Obesity may be part of wider concerns about neglect or emotional abuse	Poor school attendance Exposure to violence Neglect Poor hygiene Parental mental health difficulties Emotional or behavioural difficulties (aggressive, tearful)

If there are safeguarding concerns refer to local safeguarding team.

Resources

Obesity: identification, assessment and management Clinical guideline [CG189]

Notes

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