

Managing Gastro-Oesophageal Reflux (GOR) Pathway

Clinical Assessment / Management Tool for Infants – Oxfordshire Patient Pathway

Gastro-oesophageal reflux (GOR) is the passage of gastric contents into the oesophagus. In many infants this results in overt/visible regurgitation of feeds. In a small proportion of infants, GOR may be associated with signs of distress or may lead to certain recognised complications that need clinical management, this is known as **gastro-oesophageal reflux disease (GORD)**. Consider other differentials e.g. urinary tract infection, sepsis, raised intracranial pressure, cow's milk allergy or surgical cause

RED FLAGS

Consider alternative diagnosis in those with:

- Frequent, forceful, projectile vomiting
- Bile stained vomit
- Bloody Stools that is not thought to be related to cow's milk allergy
- Abdominal distention, tenderness or palpable mass
- Haematemesis that is not caused by swallowed blood
- Melaena
- Bulging fontanelle or altered responsiveness
- Appearing unwell or fever
- Onset after 6 months or persisting over 1 year of age
- Chronic diarrhoea
- Unexplained distress in children and young people with communication difficulties

The presence of any of the above requires SAME DAY REFERRAL to General Paediatrics or Paediatric Surgery

Regurgitation without signs of distress
GOR is a common physiological event that can happen at all ages, more frequently after feeds.

Regurgitation with signs of distress but no red flags

Management
If no **red flags** (see box) then reassure that in well infants, who are gaining weight, effortless regurgitation of feeds is:

- ✓ Physiological and very common (at least 40% of infants)
- ✓ Usually begins before 8 weeks old
- ✓ May be frequent (some have more than 6 per day)
- ✓ Does not usually need further investigation or treatment
- ✓ Provide parental resource: <https://www.oxfordshire-healthier.together.nhs.uk/parents/carers/worried-your-baby-unwell-under-3-months/my-baby-vomiting>

*Could consider reducing volume of feeds if excessively gaining weight.
If weight gain is poor, consider thickening feeds*

Formula Fed

1. Review feeding history and volume. If taking >150 ml/kg/day, with adequate weight gain, feed volumes should be reduced
2. 1-2 week trial of splitting daily total into smaller more frequent feeds
3. 1-2 week trial of thickened formula
 - a) Usual formula with added **Instant Carobel**
 - b) Pre-thickened formula e.g. C&G/HIPP organic/Aptamil Anti-Reflux
 - c) Thickening formula e.g. SMA stay down/Enfamil AR

Breast fed
Breastfeeding assessment and advice

If inadequate response to above measures

Trial **Gaviscon Infant® sachets** for 2 weeks and stop pre-thickened or thickened formula. If successful, continue and try stopping it at intervals to see if GORD symptoms have resolved. Advise parents that constipation is a potential side effect

- If Gaviscon does not work, consider **cow's milk protein allergy** especially if there are other symptoms e.g. diarrhoea, eczema or family history of atopy
- Consider **UTI** if late onset, faltering growth or frequent regurgitation with marked distress

Consider a 4-week trial of Proton pump inhibitor (PPI) [A] when Gaviscon is not working and if reflux is accompanied by 1 or more of;

1. Unexplained feeding difficulties (refusing feeds, gagging or choking)
2. Distressed behaviour
3. Persistent faltering growth

Treat with **Omeprazole** (Lansoprazole could be considered as 2nd line if Omeprazole is not tolerated/available if the child is over 1 years but it is unlicensed for children). Assess response after 4 weeks

If good response, continue and try stopping at regular intervals to see if GORD symptoms have resolved

*Ranitidine currently unavailable for children
*Domperidone not recommended to be prescribed in primary care

When to refer:

- **Dysphagia, apnoeic episode** or coughing with feeds
- **Unexplained apnoea or non-epileptic seizure-like events thought to be related to reflux/regurgitation**
- Children with persistent faltering growth with overt regurgitation
- Symptoms recur after PPI stopped or are refractory to medical therapy
- Feeding aversion with a history of regurgitation
- Suspected recurrent aspiration pneumonia
- Frequent otitis media (more than 3 episodes in 6 month)
- Suspected Sandifer's syndrome
- No improvement of regurgitation after 1 year of age
- Unexplained upper airway inflammation
- Dental erosion in a child with neurodisability or if effective acid suppression is needed

Refer for outpatient assessment (the urgency of referral depending on clinical judgement). If concerns discuss with Paediatric Consultant via advice line. Highlighted conditions require SAME DAY REFERRAL
Advice can also be sought via the email advice line

If inadequate response, optimise dose further and refer to secondary care

This guidance has been reviewed and adapted by the Children's Hospital at Home Working Group, with representatives from Oxford University Hospitals NHS Foundation Trust, Oxford Health Foundation Trust and General Practice, with consent from the Hampshire development groups.

This document was arrived at after careful consideration of available evidence, including, but not exclusively, NICE, SIGN, EBM data and NHS evidence as applicable. This pathway is to support clinicians in decision making and management.

When to suspect GORD

- Suspect GORD in an infant (up to 1 year of age) or child if they present with regurgitation and one or more of the following:
 - Distressed behaviour shown, for example, by excessive crying, crying while feeding, and adopting unusual neck postures.
 - Hoarseness and/or chronic cough.
 - A single episode of pneumonia.
 - Unexplained feeding difficulties, for example, refusing to feed, gagging, or choking.
 - Faltering growth.
 - Additional features such as episodic torticollis with neck extension and rotation may indicate the presence of Sandifer’s syndrome.

Safety netting advice

- When reassuring parents and carers about regurgitation, advise them that they should return for review if any of the following occur:
 - The regurgitation becomes persistently projectile
 - There is bile-stained (green or yellow-green) vomiting or haematemesis (blood in vomit)
 - There are new concerns, such as signs of marked distress, feeding difficulties or faltering growth
 - There is persistent, frequent regurgitation beyond the first year of life.

Information on thickening/thickened formula

- Over the counter thickeners/thickened formulae contain carob gum. This produces a thickened formula and will require the use of a large hole (fast-flow) teat.
- **Over the counter thickeners/thickened formulae should not be used with Gaviscon as this can lead to over-thickening of the stomach contents**
- Thickening formulae react with stomach acids, thickening in the stomach rather than the bottle so there is no need to use a large hole (fast-flow) teat. However thickening formulae need to be prepared with cooled pre-boiled water. This is against recommendations of using boiled water cooled to 70°C. This means there is an increased risk of bacteria being present in the milk. This risk should be assessed by a medical practitioner.
- **Thickening formulae should not be used in conjunction with separate thickeners or with medications such as infant Gaviscon, Proton pump inhibitor (PPI) ^(A) or H₂ Receptor antagonist (H2RA)**
- Instructions to prepare **Instant Carobel** for [formula or breast fed infants](#)

Useful information to include in referral letter to secondary care

- How is the infant fed? Formula or breast?
- If breastfed – how is breastfeeding going? If there are difficulties with breastfeeding or growth, please signpost the parents to [breastfeeding support](#) and consider referral to [infant feeding team](#) or enhanced HV Infant Feeding Service
- If formula fed – what volumes is the infant taking and are these appropriate for weight? (Aim for 150mls/kg/24 hours in a thriving infant). If the infant is receiving a significantly larger volume of milk and is vomiting, please give advice on overfeeding
- Any **red flags** signs?
- Growth – Is the infant thriving?
- Social circumstances – support for mother, who is at home?
- What has already been tried and its duration?
- General examination findings including head circumference

Risk factors for reflux in infants

- Prematurity
- History of congenital diaphragmatic hernia (repaired)
- History of congenital oesophageal atresia (repaired)
- Neuro-disability
- Parental history of heartburn / acid reflux / hiatus hernia

Resources for parents and health professionals

- [NICE guidelines](#) NG1: GORD in children and young people
- Unicef [breast feeding](#) and [bottle feeding](#) resources
- [NHS- Breast and bottle feeding advice](#)
- [NHS – Reflux in babies](#)
- [Oxfordshire healthier together- My baby is vomiting](#)
- [Living with reflux](#)
- Medicines for children- [Gaviscon](#) and [Omeprazole](#)

Consider Paediatric Urgent Care Pathway

Alternatives to hospital admission when GPs are considering referral:

- Oxford Paediatric Advice/Referral Line Tel: 01865 227533, Option 1 for HGH and Option 2 for JRH.
- If no response Tel: 01865 741166, Bleep 9403 for HGH or 1711/4734 for JRH Paediatrician on call
- Children’s Community Nursing (CCN) Team via single point of access Tel: 01865 902700

Useful numbers for clinicians in the community

John Radcliffe Hospital Tel: 01865 741166
Horton General Hospital Tel: 01295 275500
Royal Berkshire Hospital Tel: 0118 322 5111
Great Western Hospital Tel: 01793 604020
Stoke Mandeville Hospital Tel: 01296 315000