

# LRI Children's Hospital

## Gastro Oesophageal Reflux UHL Children's Hospital Guideline

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### 1. Introduction and Who Guideline applies to

- Gastro-oesophageal reflux (GOR) is the involuntary passage of gastric contents into the oesophagus with or without regurgitation and vomiting.
- Gastro-oesophageal reflux disease (GORD) is present when reflux of gastric contents causes troublesome symptoms and/or complications
- GOR occurs almost daily in 70% of 4 month old babies. It can be frequent with 5% of those affected having more than 6 episodes/day. It starts

between birth and 3 months and usually resolves by 6-12 months. 90% of infants are symptom free by 12 months.

- In most thriving children <1 year of age with no evidence of gastrointestinal blood loss, pain from oesophagitis, or respiratory problems GOR is uncomplicated and little intervention or investigation is required.
- Refractory GORD-GORD not responding to optimal treatment after 8 weeks.

**Related documents:**

- [Gastro Oesophageal Reflux UHL Neonatal Guideline](#)
- [Brief Resolved Unexplained Event UHL Childrens Guideline](#)

**2. Presentation of GORD.**

1. Vomiting and distress
2. Vomiting and Failure to thrive.
3. Pain / distress / irritability/colicky /Feeding refusal
4. Recurrent regurgitation with or without vomiting in older children.
5. Heartburn/chest pain/epigastric pain in older children
6. Vomiting and hematemesis/coffee ground vomits
7. Apnoeic episodes – Baby feeds then vomits and goes blue, apnoeic and stiff.
8. \*Remember: Apnoea / BRUE (Brief Resolved Unexplained Event) (previously known as Acute Life Threatening Event) – many causes, but consider reflux.
9. Chronic chest problems – persistent cough or wheeze can be reflux related.
10. “Sandifer syndrome” – Mainly seen in children with neurodisability and presents as extensor spasm at the time of reflux is a differential of fits.

## 2.1 “Red Flag” symptoms and signs that suggest disorders other than gastroesophageal reflux disease

<u>Gastrointestinal disease</u>	<u>Neurological disease</u>	<u>Cardiac or Respiratory disease</u>	<u>Other</u>
<ul style="list-style-type: none"> <li>• Bilious vomits</li> <li>• GI bleeding</li> <li>• Consistently forceful vomiting suggestive of pyloric stenosis (age 0-3 months)</li> <li>• Onset of vomiting after 6 months</li> <li>• Constipation</li> <li>• Abdominal tenderness /distension/mass</li> </ul>	<ul style="list-style-type: none"> <li>• Bulging fontanelle</li> <li>• Macrocephaly</li> <li>• Microcephaly</li> <li>• Seizures</li> <li>• Genetic abnormalities (Trisomy 21)</li> <li>• Hypotonia</li> </ul>	<ul style="list-style-type: none"> <li>• Persistent cough</li> <li>• Recurrent lower respiratory tract infections</li> <li>• Persistent wheeze</li> <li>• Stridor or noisy breathing suggestive of laryngomalacia or tracheomalacia</li> <li>• Heart murmur</li> <li>• Hepatomegaly</li> </ul>	<ul style="list-style-type: none"> <li>• Fever suggestive of UTI or systemic infection</li> <li>• Irritability</li> <li>• Lethargy</li> <li>• Faltering growth</li> <li>• Renal disease</li> <li>• Infants with a high risk of atopy (Cow’s milk protein allergy)</li> </ul>

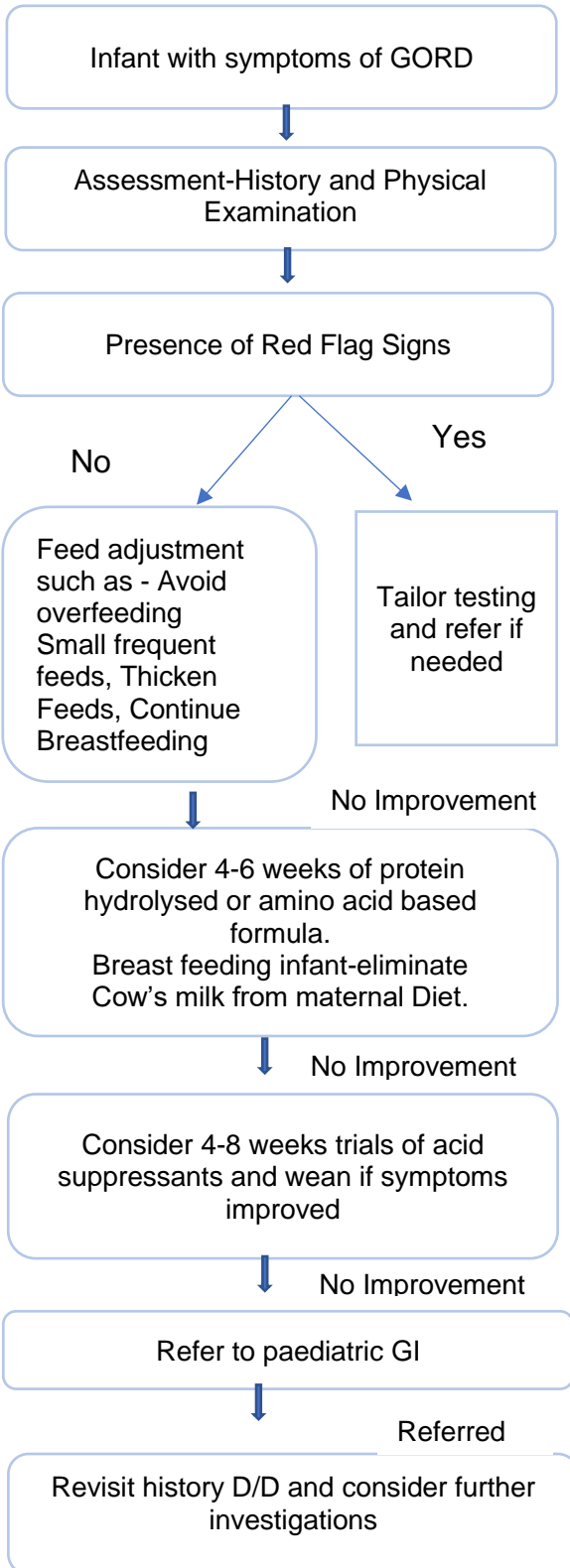
## 2.2 Diagnosis

- a) Classic GORD – Clinical diagnosis i.e. history and examination.
  - No need for investigations.
  - A trial of treatment and symptomatic improvement itself can be diagnostic.
  
- b) If simple measures and medication (see below under treatment) are ineffective, tests are appropriate
  - i. Upper GI contrast study – to delineate anatomy and rule out anatomical problem
  - ii. pH study –abnormal if reflux index (amount of time pH <4) >10% in infant <1 year, >5% in older child.  
Only detects acid reflux and hence can underestimate the problem.  
Good for trying to correlate symptoms to possible reflux events.
  - iii. Intraluminal impedance and pH monitoring (to be organized via Gastroenterology team only). This test detects acid, weak acid and non-acid reflux episodes.  
It is superior to pH monitoring for evaluation of relation between symptoms and gastroesophageal reflux.
  - iv. Endoscopy – if haematemesis or suspected oesophagitis. Including eosinophilic oesophagitis (EoE).
  - v. In older children / adolescents with persistent symptoms despite medication consider differentials such as other systemic causes including
    - metabolic and neurological
    - cyclical vomiting syndrome
    - rumination syndrome
    - psychosomatic causes
    - factitious illness

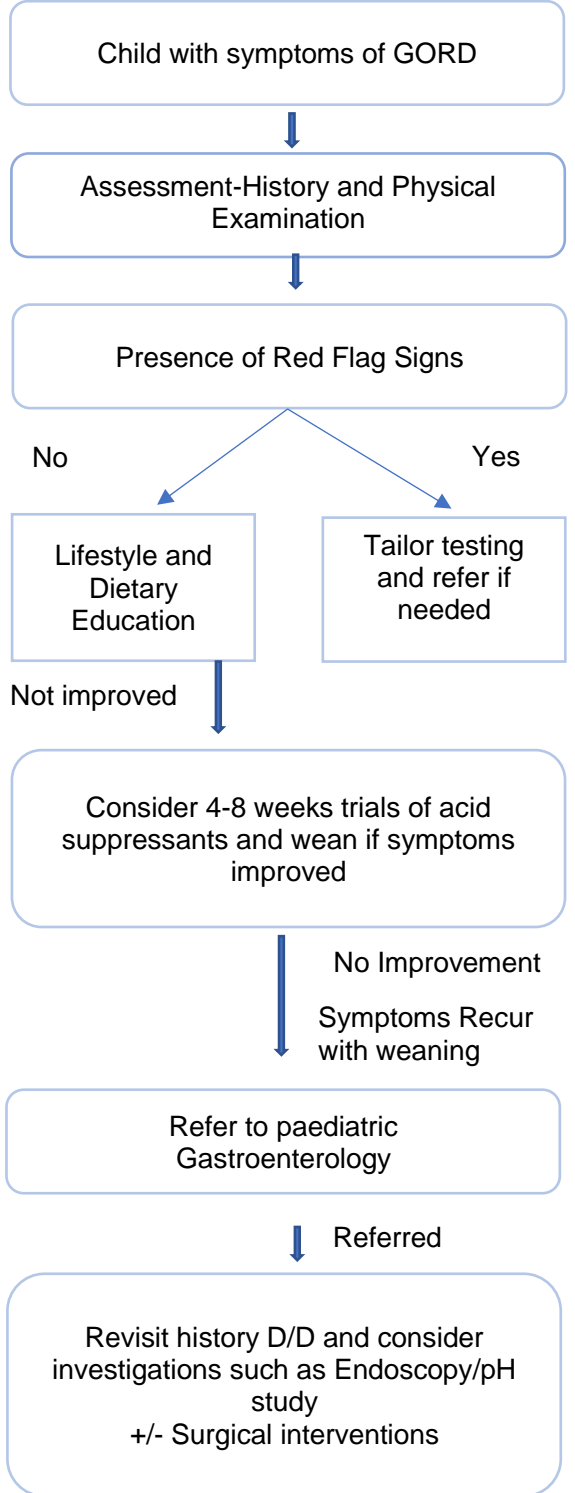
## 2.3 Treatment

The natural history is for reflux to improve - >90% will have resolved by one year.

**Chart 1: Management of Symptomatic Infant:**



**Chart 2. Management of Older children (5 years and above) with more adult type symptoms of heartburn, water brash & vomiting:**



### 2.3.1 Medication for GORD

- Thicken feeds, add gaviscon<sup>®</sup> - half a dual sachet per 100ml / 4oz (reduces episodes of vomiting)
- Acid Suppressants-  
**PPI - Lansoprazole**  
 First line in children - dosing as follows; refer to BNFC for side effect information  
 (Use omeprazole if Lansoprazole is contraindicated or not tolerated)

Weight (Kg)	Suggested Dose	Amount of Lansoprazole 15mg FasTab
Under 3.5kg	Use omeprazole – refer to the BNF for the appropriate dosing – use omeprazole dispersible tablet rounded to nearest 5mg; Leave for 10-15 min to disperse well prior to administration down NG tube	
3.5-4.9	3.75mg	Quarter
5-9.9	7.5mg	Half
10-14.9	7.5mg or 15mg	Half – One
15-19.9	15mg	One
20-24.9	15mg	One
25-29.9	15mg (BNFC dosing)	One
>30kg	15mg-30mg	One - Two

- Doses of 15 or 30mg should be given as capsules where the capsule can be opened and sprinkled on food before administration
- Lansoprazole orodispersible tablets can also be dispersed in a small amount of water and administered via a naso-gastric tube or oral syringe where appropriate.

### 2.3.2. Milk choices for presumed cow's milk protein allergy

1 <sup>st</sup> Line- Extensively Hydrolysed formula	2 <sup>nd</sup> line Amino Acid based formula (AA).
1.SMA Althera – Hydrolysed whey protein. Contains Lactose	1.Neocate Syneo – contains probiotic
2.Aptamil Pepti – Hydrolysed whey protein. Contains Lactose	2.SMA Alfamino
3.Nutramigen LGG –Hydrolysed casein. Lactose free. Contains probiotic	3.Nutramigen Puramino
4. Similac Alimentum - Hydrolysed casein. Lactose free	

- If symptoms do not resolve by starting 1<sup>st</sup> line formula then move to Amino Acid based formula (AA). These are all lactose free and contain no residual cow's milk peptides
- If over 6 months of age then Soya formula can be used  
SMA Wysoy - whole soya protein, lactose free
- If a cow's milk protein free diet is trialled it is important to re-challenge in around 3-4 weeks to confirm or disprove allergy.

- Be aware that some symptoms of a non-IgE-mediated cows' milk protein allergy can be similar to the symptoms of gastro-oesophageal reflux disease, especially in infants with atopic symptoms, signs and/or a family history. If a non-IgE-mediated cows' milk protein allergy is suspected, please contact the allergy team via their team mobile and see NICE's recommendations on [food allergy in under 19s](#).
- Consider Cow's Milk Protein Intolerance as a close differential diagnosis if symptoms atypical or poor response to conventional treatment or infants with a personal or family history of atopic conditions.
- 2-4 weeks trial of extensively hydrolysed formula or amino acid formula can be given and only continued if symptoms improve. Those continuing on extensively hydrolysed formula need dietetic input from the Allergy team.

## 2.4 Refractory GORD

### When to Refer-

Specialist assessment by a paediatrician or paediatric gastroenterologist should be arranged if there is:

- An uncertain diagnosis or 'red flag' symptoms which suggest a more serious condition.
- Persistent faltering growth associated with regurgitation.
- Suspected complications, such as recurrent aspiration pneumonia, or unexplained apnoea.

### **3. Education and Training**

None

### **4. Monitoring Compliance**

None identified

### **5. Supporting Documents and Key References**

National Institute for Care and Excellence, January 2015 (updated 2019). *Gastro-oesophageal reflux disease in children and young people: diagnosis and management*. <https://www.nice.org.uk/guidance/ng1>

ESPGHAN and NASPGHAN Pediatric Gastroesophageal Reflux Clinical Practice Guidelines JPGN Volume 66, Number 3, March 2018

### **6. Key Words**

Vomiting, Failure to thrive, Regurgitation, Heartburn, Epigastric, Hematemesis, Apnoeic episodes, BRUE

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**The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs. As part of its development, this policy and its impact on equality have been reviewed and no detriment was identified.**

<b>CONTACT AND REVIEW DETAILS</b>	
<b>Original authors:</b> A Willmott, S Pande & H Bhavsar <b>Guideline Lead (Name and Title)</b> Dr R Mohan	<b>Executive Lead</b> Chief Medical Officer
<b>Details of Changes made during review:</b> <b>Review GOR as per the new NICE guidelines updated 2019 and BSPGHAN/ESPGHAN.</b> <b>Flow chart added for treatment of GORD</b> <b>Chart added for PPI with the dose according to weight and instruction</b> <b>Chart added for different formula feeds with the guidance</b> <b>Referral criteria for refractory GORD</b>	