Ashford and St. Peter's Hospitals
NHS Foundation Trust

Guideline for the management of Gastro-oe-sophageal reflux Disease (GORD) in Children and Young People

Authors: Dr Josh Collier-Keywood GPST1, Dr Osman Janjua,

Supervisor: Dr Geraldine Igbenoba, Paediatric Consultant

Contact details: claire.mitchell15@nhs.net

Guideline History		
Date	**Comments**	**Approved By**
January 2020	Created by Dr Osman Janjua based on NICE recommendations 2019	
April 2022	Changed considerably	Paediatric Guidelines Committee

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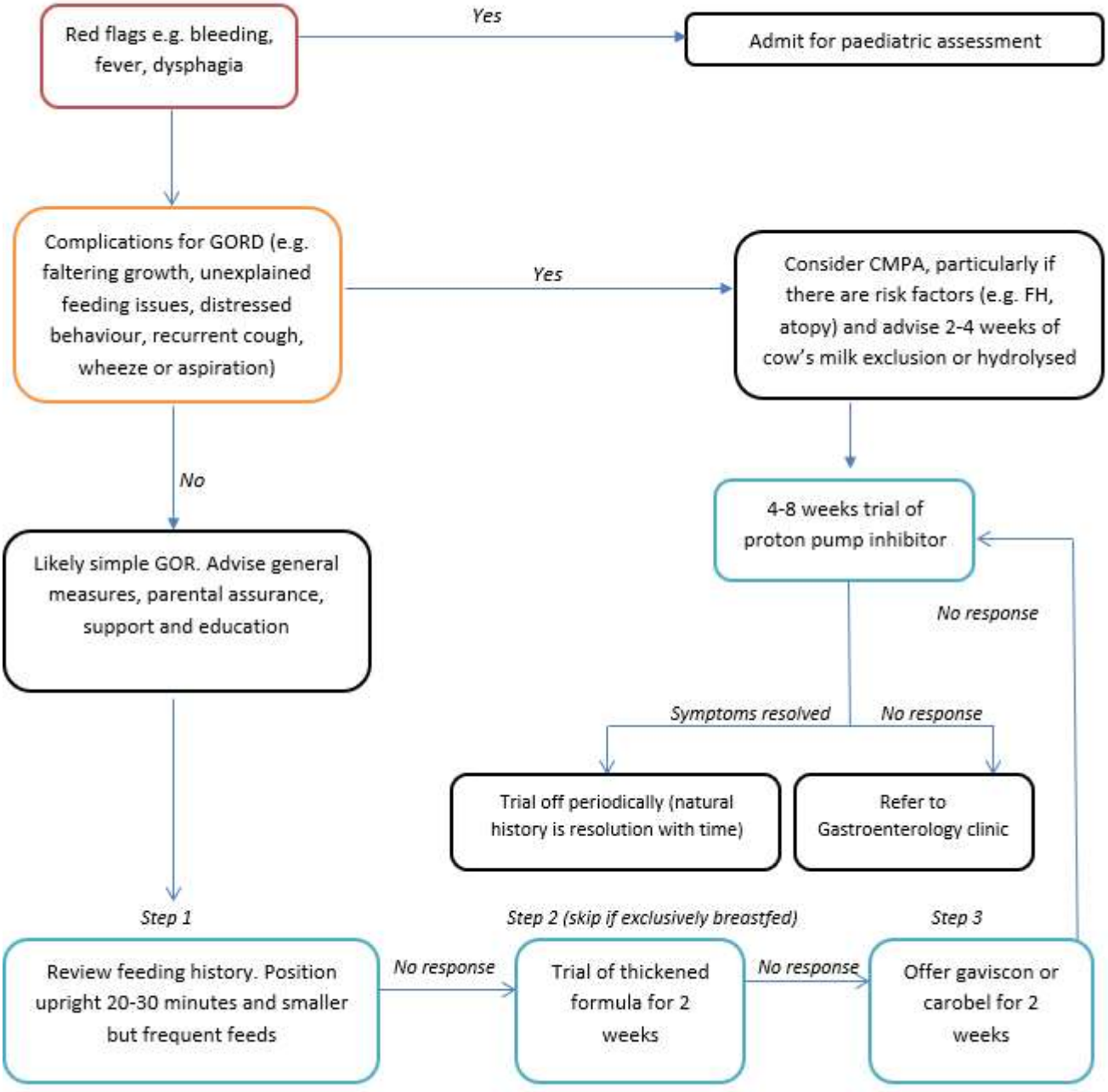
1 a. GUIDELINE

SUMMARY OF MANAGEMENT OF GOR AND GORD

Management flow chart for a child presenting with frequent vomiting or reflux



Gastro-oesophageal reflux and gastro-oesophageal reflux disease

b. Introduction

Definitions-

Gastro-oesophageal reflux (GOR) is the passage of gastric contents into the oesophagus. It is a common physiological event that can happen at all ages from infancy to old age. It is often asymptomatic. It occurs more frequently after feeds/meals. In many infants, GOR is associated with a tendency to regurgitate (posseting).

REMEMBER

- 50% of infants have GOR.
- GOR is a normal, physiological process which occurs in healthy infants, manifesting as effortless regurgitation of small quantities of feed.
- It arises from immaturely developed lower oesophageal sphincter.
- The infant is thriving and gaining weight.
- Symptoms usually 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 when GOR causes symptoms that include severe pain and discomfort, vomiting, refusal to feed, faltering growth, sandifer's syndrome (episodic torticollis with dystonic posturing, back arching and stiffening), recurrent cough, wheeze (indicates aspiration), apnoea and brief resolved unexplained events (BRUE).

Risk factors for GORD include-

- Prematurity
- Family history
- Obesity
- Hiatus hernia
- History of congenital diaphragmatic hernia or oesophageal atresia (repaired)
- Neuro-disability

REMEMBER

- GORD is the condition when infants display additional symptoms or complications of GOR.
- Premature infants and children with severe neuro-disability can suffer from persistent GORD.
- Certain symptoms of non-IgE mediated CMPA can mimic GORD, especially in infants with atopic features. If suspected, exclude cow's milk for 2-4 weeks.

c. Management of GOR

- Advise and reassure carers and parents that GOR in well infants that it is very common and posseting may be frequent.
- Usually becomes less frequent with time (resolves in 90% of affected infants before they are 1 year old).
- It does not usually require further investigations or treatment.

Management of GORD

1. Conservative measures:
Infants (0-12 months)- review feeding (smaller but more frequent feeds) and infant should be upright in positioning especially after a feed. If baby is formula fed and overfeeding is possible, reduce total feed to 150ml/kg over 24 hours and it should be offered spread over 6-7 feeds. Consider cow's milk protein exclusion for 2-4 weeks. If infant is breastfed and cow's milk protein allergy is suspected, Mother should be on 1,000mg of calcium/day.

Older children (>12months)- weight loss, avoidance of foods that trigger acid reflux such as spicy and greasy foods, caffeine, peppermint and chocolate. Avoid eating large portions and avoid eating close to bedtime. If no improvement of symptoms with conservative measures, go to "number 4" management point.

2. If no relief of symptoms with conservative measures, offer thickened formula if child is a baby and is bottle fed. Examples of thickened milk are cow & gate anti-reflux, aptamil anti-reflux, Enfamil AR or SMA Stay Down milk.
If no improvement after **two weeks,** stop thickened milk and commence alginates or carobel.

3. Alginates (e.g. gaviscon) or carobel
If no improvement after **two weeks**, start a protein pump inhibitor (PPI).

4. Protein pump inhibitor therapy (e.g. omeprazole, lansoprazole, esomeprazole or pantoprazole)
Reassess after **four to eight weeks**, and if beneficial, continue. Treatment can be stopped based on symptom resolution.

5. H2 receptor antagonist (such as famotidine or cimetidine) and prokinetics (such as domperidone, metoclopramide and erythromycin) could be offered but at this point, one should be referring the patient to the gastroenterology clinic.

The natural history of GORD tends to resolve with time; any therapy should be reviewed regularly. Empiric use of acid suppression may cause harm.

Weaning of acid suppression could be done from 8 weeks after starting treatment. If it has been beneficial, it should not be stopped suddenly but weaned gradually over a period of time.

NB: treatment with ranitidine a common H2 receptor antagonist is no longer available since it was voluntarily withdrawn by manufacturers due to levels of N-nitrosodimethylamine (NDMA) impurity, a probable human carcinogen.

6. Investigating for Helicobacter pylori is indicated in suspected peptic ulcer or duodenal ulcer disease NOT recurrent abdominal pain or functional abdominal pain. It is done via testing for Helicobacter pylori in the stool sample. If +ve, treatment involves triple therapy; protein pump inhibitor (PPI), amoxicillin (clarithromycin in penicillin allergy) and metronidazole for 14 days as per BNF recommended doses. 4-8 weeks after treatment, Helicobacter pylori should be checked again to ensure eradication. Best for the patient to be off PPI for at least 2 weeks before re-testing for Helicobacter pylori as PPI could give a false negative.

7. Enteral tube feeding

This is indicated when there is faltering growth associated with overt regurgitation or food aversion. Consider the following;

- A specific and individualised nutrition plan with aid of a Dietician.
- Provide oral stimulation and continue feeding orally as tolerated.
- A strategy to reduce and stop enteral tube feeding

Investigation for GORD is with *24 hour ambulatory oesophageal pH study.* It is not indicated in every patient but to see if persistent symptoms correlate with acid or non-acid gastro-oesophageal events.

d. When and where to refer

- **Any child or young person with any of the following red flag signs should be investigated and referred on to specialist centers where necessary.**

Gastrointestinal symptoms and signs	Possible diagnostic implications	Suggested actions
Frequent, forceful (projectile) vomiting	May suggest hypertrophic pyloric stenosis in infants up to 2 months old	Paediatric surgery referral (St Georges Hospital)
Bile-stained (green or yellow) vomit	May suggest intestinal obstruction	Paediatric surgery referral (St Georges Hospital)
Haematemesis (excluding ingested blood)	May suggest an upper GI bleed	Check full blood count, clotting and liver function Consider referral to gastroenterology
Vomiting and/or fever	May suggest urinary tract infection or another infection	Urine MCS Treat infection as per antimicrobial guideline
Blood in stool	May suggest a variety of conditions, including gastroenteritis, CMPA, inflammatory bowel disease or surgical condition	Stool MCS Manage cause
Abdominal distension, tenderness or palpable mass	May suggest intestinal obstruction or another acute surgical condition	Paediatric surgery referral (St Georges Hospital)
Chronic diarrhoea	May suggest CMPA	If CMPA, exclude cow's milk
Dysphagia, food impaction, atopy	May suggest eosinophilic oesophagitis	Refer to gastroenterology
Dysphagia	May suggest structural abnormalities (e.g. cleft palate, trachea-oesophageal fistula, oesophageal atresia), tumours/masses and oesophagitis	Upper GI contrast
Bulging fontanelle, altered responsiveness, lethargy, irritability	Raised ICP (meningitis)	Treat infection as per antimicrobial guideline
Increasing head circumference, morning headache and/or vomiting	Raised ICP (hydrocephalus or brain tumour)	Refer to neurosurgery

e. Indications for Paediatric Gastroenterology referral

1. Alarm signs or symptoms suggesting an underlying gastrointestinal disease.
2. No resolution on optimal anti-reflux medications after 2 months trial.
3. Inability to stop anti-reflux medications after several weaning attempts (usually after 12 months duration).

2. Supporting References

- NICE guideline [NG1] January 2015. Updated October 2019: Gastro-oesophageal reflux disease in children and young people: diagnosis and management.
- Birmingham Women's and Children's NHS Trust December 2018: Management and referral guidelines. Top 20 Paediatric Outpatient conditions.
- The Pharmaceutical Journal, PJ, April 2021, Vol 306, No 7948;306(7948):: DOI:10.1211/PJ.2021.1.74641
- Joint ESPGHAN/NASPGHAN Guidelines for the Management of Helicobacter pylori in Children and Adolescents (Update 2016)
- Pediatric Gastroesophageal Reflux Clinical Practice Guidelines 2017: Joint recommendations of the North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition (NASPGHAN) and the European Society for Pediatric Gastroenterology, Hepatology, and Nutrition (ESPGHAN)
- Friedman, Chloe; Sarantos, Gianna; Katz, Sarah; Geisler, Sheryl MS, PA-C Understanding gastroesophageal reflux disease in children, Journal of the American Academy of Physician Assistants: February 2021 - Volume 34 - Issue 2 - p 12-18 doi: 10.1097/01.JAA.0000731488.99461.39

Supporting relevant trust guidelines

Infant formula guideline. Updated December 2019

3. Guideline Governance

a. Scope

This guideline is relevant to all staff caring for all children from 0-18 years old across the emergency department, inpatient ward and outpatient department.

b. Purpose

i. This guideline aims to facilitate a common approach to the management of children. At times deviation from the guideline may be necessary, this should be documented and is the responsibility of the attending consultant.

ii. This guideline is subject to regular review to ensure ongoing evidence based practice.

c. Duties and Responsibilities

All healthcare professionals responsible for the care of all children 0-18years should be aware of practice according to this guideline.

d. Approval and Ratification

This guideline will be approved and ratified by the Paediatric Guidelines Group.

e. Dissemination and Implementation

i. This guideline will be uploaded to the trust intranet 'Paediatric Guidelines' page and thus available for common use.
ii. This guideline will be shared as part of ongoing education within the Paediatric Department for both medical and nursing staff.
iii. All members of staff are invited to attend and give comments on the guideline as part of the ratification process.

f. Review and Revision Arrangements

a. This policy will be reviewed on a 3 yearly basis by the appropriate persons.
b. If new information comes to light prior to the review date, an earlier review will be prompted.
c. Amendments to the document shall be clearly marked on the document control sheet and the updated version uploaded to the intranet. Minor amendments will be ratified through the Paediatric Guidelines Group. A minor amendment would consist of no major change in process, and includes but is not limited to, amendments to documents within the appendices.

g. Equality Impact Assessment

Background • Who was involved in the Equality Impact Assessment
Author and the supervising consultants.
Methodology • A brief account of how the likely effects of the policy was assessed (to include race and ethnic origin, disability, gender, culture, religion or belief, sexual orientation, age) • The data sources and any other information used • The consultation that was carried out (who, why and how?)
All groups of staff and patients were taken into consideration and there is no bias towards or against any particular group.
Key Findings • Describe the results of the assessment • Identify if there is adverse or a potentially adverse impacts for any equalities groups
There is no evidence of discrimination.
Conclusion • Provide a summary of the overall conclusions
There is no evidence of discrimination.
Recommendations • State recommended changes to the proposed policy as a result of the impact assessment • Where it has not been possible to amend the policy, provide the detail of any actions that have been identified • Describe the plans for reviewing the assessment
This guideline is appropriate for use.

h. Document Checklist

To be completed (electronically) and attached to any document which guides practice when submitted to the appropriate committee for approval or ratification.

Title of the document: Guideline for the management of GORD in CYP

Policy (document) Author: Dr Geraldine Igbenoba

Executive Director: N/A

		Yes/No/ Unsure/NA	Comments
1.	**Title**		
	Is the title clear and unambiguous?	Y	
	Is it clear whether the document is a guideline, policy, protocol or standard?	Y	
2.	**Scope/Purpose**		
	Is the target population clear and unambiguous?	Y	
	Is the purpose of the document clear?	Y	
	Are the intended outcomes described?	Y	
	Are the statements clear and unambiguous?	Y	
3.	**Development Process**		
	Is there evidence of engagement with stakeholders and users?	N/A	
	Who was engaged in a review of the document (list committees/ individuals)?		Paediatric Guidelines Committee

		Yes/No/ Unsure/NA	Comments
	Has the policy template been followed (i.e. is the format correct)?	Y	
4.	**Evidence Base**		
	Is the type of evidence to support the document identified explicitly?	Y	
	Are local/organisational supporting documents referenced?	N/A	
5.	**Approval**		
	Does the document identify which committee/group will approve/ratify it?	Y	
	If appropriate, have the joint human resources/staff side committee (or equivalent) approved the document?	N/A	
6.	**Dissemination and Implementation**		
	Is there an outline/plan to identify how this will be done?	Y	
	Does the plan include the necessary training/support to ensure compliance?	Y	
7.	**Process for Monitoring Compliance**		
	Are there measurable standards or KPIs to support monitoring compliance of the document?	N/A	

		Yes/No/ Un-sure/NA	Comments
8.	**Review Date**		
	Is the review date identified and is this acceptable?	Y	
9.	**Overall Responsibility for the Document**		
	Is it clear who will be responsible for coordinating the dissemination, implementation and review of the documentation?	Y	
10.	**Equality Impact Assessment (EIA)**		
	Has a suitable EIA been completed?	Y	

Committee Approval (Paediatric Guidelines Group)			
If the committee is happy to approve this document, please complete the section below, date it and return it to the Policy (document) Owner			
Name of Chair	Dr Claire Mitchell	**Date**	31/05/2022
Ratification by Management Executive (if appropriate)			
If the Management Executive is happy to ratify this document, please complete the date of ratification below and advise the Policy (document) Owner			
Date: n/a			