

Gastroesophageal Reflux Disease (GERD): Adult

Gastrointestinal

Clinical Decision Tools for RNs with Additional Authorized Practice [RN(AAP)s]

Effective Date: June 9, 2022

Background

Gastroesophageal reflux disease (GERD) is the reflux of acid and pepsin, or bile salts from the stomach into the esophagus, which results in esophageal irritation or inflammation (Huether, 2019). Reflux of acidic stomach contents in the esophagus can be due to laxity of the lower esophageal sphincter (LES), abnormalities in esophageal motility, or abnormalities in gastric motility or emptying (Huether, 2019). Due to the lower resting tone or weakness of the LES, conditions or activities that increase abdominal pressure (e.g., vomiting, pregnancy, coughing, lifting, or obesity) contribute to the development of reflux esophagitis (Huether, 2019). Delayed gastric motility contributes to GERD by lengthening the time reflux is possible and increasing the acid content of chyme (Huether, 2019). Delayed gastric motility is associated with gastroparesis, gastric or duodenal ulcers, and strictures of the pylorus (Huether, 2019).

Immediate Consultation Requirements

The RN(AAP) should seek immediate consultation from a physician/NP when any of the following circumstances exist:

- persistent vomiting (greater than seven days),
- gastrointestinal tract bleeding (hematemesis, melena),
- abdominal mass,
- unexplained weight loss (e.g., > 5% body weight over 6-12 months),
- anemia,
- dysphagia (solid food, progressive),
- odynophagia (painful swallowing),
- symptoms that could be cardiac in origin,
- respiratory symptoms secondary to reflux,
- family history of gastric cancer,

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- prior ulcer,
- jaundice, or
- impaired esophageal motility and LES tone due to medications (e.g., calcium channel blockers, beta-blockers, tricyclic antidepressants, anticholinergics, theophylline) to determine if any adjustments are required (Alberta Health Services, 2021; Interprofessional Advisory Group [IPAG], personal communication, October 2, 2019; RxFiles Academic Detailing Program, 2021).

Predisposing and Risk Factors

Predisposing and risk factors for GERD in adult clients include:

- overweight or obese,
- wearing constrictive clothing,
- hiatal hernia,
- medications that relax the LES (e.g., anticholinergics, nitrates, calcium channel blockers),
- nicotine or tobacco use (including second-hand smoke),
- pregnancy,
- estrogen and progesterone therapy,
- alcohol,
- caffeinated beverages and decaffeinated coffee,
- fatty foods,
- genetic factors,
- defective esophageal clearance,
- hypersecretion of gastric acid,
- diabetes,
- delayed gastric emptying, and,
- high adrenergic drive (e.g., stress, anxiety) (Huether, 2019; Thomas, 2019).

Health History and Physical Exam

Subjective Findings

The circumstances of the presenting complaint should be determined. These include:

- heartburn, typically after eating, ranging from mild to severe;
- chronic cough or wheezing;
- hoarseness or laryngitis;
- sinusitis;
- upper abdominal pain one hour after eating;
- worsening symptoms when lying supine or when intra-abdominal pressure increases;
- regurgitation;
- reflex salivation;
- dysphagia with first swallow of every meal;
- sour taste in mouth in the morning; and/or,

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- belching (Huether, 2019; Thomas, 2019).

The RN(AAP) should elicit information on what relieves symptoms including:

- antacids, over-the-counter histamine two-receptor antagonists and proton-pump inhibitors;
- sitting upright after a meal;
- eating small meals; and
- avoiding certain foods or beverages (Thomas, 2019).

Objective Findings

The physical assessment associated with GERD is usually normal (Thomas, 2019). Dysphagia with weight loss may indicate edema, fibrosis (strictures), esophageal spasm, or decreased esophageal motility (Huether, 2019).

Differential Diagnosis

The following should be considered as part of the differential diagnosis:

- peptic ulcer disease,
- cholelithiasis,
- cholecystitis,
- angina/cardiac pain,
- erosive esophagitis,
- Barrett's esophagus,
- helicobacter pylori infection,
- malignancy,
- eosinophilic esophagitis,
- esophageal motility disorder, or
- esophageal erosion or ulceration (Huether, 2019; Thomas, 2019).

Making the Diagnosis

Diagnosis of GERD can usually be established based on history and physical examination.

Investigations and Diagnostic Tests

The diagnosis of GERD is usually made based on the health history and physical assessment (Huether, 2019). Note that the severity of symptoms may not correspond to the severity of the disease as some clients may have severe disease and remain asymptomatic (Thomas, 2019).

Further investigations and referral are usually not required unless the diagnosis is unclear, the client fails to respond to treatment within eight weeks or alarm features of GERD are present (Thomas, 2019).

Management and Interventions

Goals of Treatment

The primary goals of immediate treatment are to eliminate or reduce symptoms, prevent meal or exercise-related symptoms, and prevent complications such as esophageal stricture, esophageal ulcer, Barrett's esophagus, pulmonary aspiration, and esophageal hemorrhage (Thomas, 2019). The focus of treatment for GERD is on client education regarding lifestyle modifications. Lifestyle modifications with or without use of over the counter (OTC) pharmacological interventions may alleviate symptoms in people with intermittent symptoms (e.g., less than three times per week) (RxFiles Academic Detailing Program, 2021; Thomas, 2019).

Non-Pharmacological Interventions

The RN(AAP) should recommend, as appropriate, the following non-pharmacological options:

- avoidance of foods/beverages known to trigger reflux (e.g., alcohol, caffeine, fatty foods, chocolate, peppermint, etc.);
- smoking cessation;
- small, frequent meals;
- avoid lying down within two to three hours of eating;
- elevation of the head of the bed or lying on left side to sleep; and
- the benefits of physical activity and weight loss as appropriate. (RxFiles Academic Detailing Program, 2021; Thomas, 2019).

Pharmacological Interventions

The pharmacological interventions recommended for the treatment of GERD in adults are in accordance with the *RxFiles: Drug Comparison Charts* (RxFiles Academic Detailing Program, 2021).

Acid Reducing Agents

There are several classifications of medications that can be used in the management of GERD. Antacids (e.g., magnesium-aluminum hydroxide, calcium carbonate, alginates) are useful for mild infrequent episodes or break-through symptoms for clients on proton-pump inhibitor therapy. Histamine 2-receptor Antagonists (e.g., cimetidine, famotidine, ranitidine) have a fast onset and are useful for prn dosing for mild, infrequent symptoms or as prophylaxis before consuming a food known to trigger GERD. Proton pump inhibitors (PPIs) (e.g., pantoprazole, omeprazole) are the treatment of choice for clients with frequent symptoms and those that do not respond to a trial of lifestyle modifications noted previously, either with or without OTC interventions.

There is no clinically significant difference between standard doses of PPIs in the treatment of symptomatic GERD but they should all be taken 30 minutes before the first meal of the day.

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	Drug	Dose	Route	Frequency	Duration
Adult					
	Magnesium-aluminum hydroxide	50 to 100 mEq	p.o.	q.i.d. 1 hour after meals	as needed
	Drug	Dose	Route	Frequency	Duration
Adult					
OR	Calcium carbonate	200 to 400 mg (maximum 2 g elemental Ca in 24 hours)	p.o.	prn	as needed
OR	Alginates	2 to 4 tsp	p.o.	q.i.d. prn	as needed
Adult					
	Cimetidine	600 mg	p.o.	b.i.d.	as needed for maximum of 14 days
OR	Famotidine	20 mg	p.o.	b.i.d.	as needed for maximum of 14 days
OR	RaNITidine	150 mg	p.o.	b.i.d.	as needed for maximum of 14 days
OR	Nizatidine	150 mg	p.o.	b.i.d.	as needed for maximum of 14 days
Adult					
	Esomeprazole	40 mg	p.o.	once daily	4-8 weeks
OR	Lansoprazole	30 mg	p.o.	once daily	4-8 weeks
OR	Omeprazole	20 mg	p.o.	once daily	2-8 weeks

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OR	Pantoprazole	40 mg	p.o.	once daily	2-8 weeks
OR	Pantoprazole magnesium (Tecta)	40 mg	p.o.	once daily	2-8 weeks
OR	RABEprazole	20 mg	p.o.	once daily	4-8 weeks
OR	Dexlansoprazole	60 mg	p.o.	once daily	4-8 weeks

Client and Caregiver Education

The RN(AAP) provides client and caregiver education as follows:

- Counsel about appropriate use of medications (dose, frequency, compliance, etc.).
- Elevate the head of the bed 15 centimetres (6 inches) using wooden blocks.
- Encourage weight loss (if weight > 20% of ideal body weight for age and sex).
- Recommend dietary modifications (decrease or eliminate coffee, tea, chocolate, nicotine, alcohol and fatty foods).
- Recommend smoking cessation (decreases salivation, irritation, and inflammation).
- Recommend small, frequent meals to prevent over-distension of the stomach and eating two to three hours before bedtime.
- Avoid bending at the waist (especially after meals), as well as lying down immediately, and within two hours after a meal.
- Avoidance of tight-fitting clothing (Huether, 2019; Thomas, 2019).

Monitoring and Follow-Up

The RN(AAP) should:

- assess response to therapy every four weeks.
- stop therapy if symptoms respond to four to eight weeks of therapy.
- reassess for symptom relapse four to eight weeks following completion of therapy. If symptoms recur, resume previous therapeutic regimen and refer the client to a physician/NP (RxFiles, 2021).

Complications

The following complications may be associated with GERD in adults:

- Barrett's esophagus (pre-malignant mucosal changes due to chronic GERD, most common in males with 2 or more of the following risk factors
 - Caucasian
 - > 50 years of age
 - central obesity [waist circumference > 102 cm/40" or waist-hip ratio > 0.9]
 - current or history of smoking,

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- confirmed family history (first degree) of Barrett’s esophagus or esophageal cancer;
- esophagitis/esophageal ulcer,
- esophageal stricture,
- nocturnal aspiration (choking, cough, asthma, recurrent pneumonitis),
- posterior laryngitis or chronic hoarseness,
- dental erosions,
- chronic sinusitis,
- pharyngitis,
- subglottic stenosis, or
- laryngeal/esophageal cancer (Alberta Health Services, 2021; Huether, 2019).

Referral

Refer to a physician/NP if client presentation is consistent with those identified in the *Immediate Consultation Requirements* section, who fails to respond to pharmacological treatment in eight weeks, or whose symptoms return after completing eight-week treatment regime (IPAG, personal communication, October 2, 2019).

References

- Alberta Health Services. (2021) *GERD pathway primer*.
<https://www.albertahealthservices.ca/assets/about/scn/ahs-scn-dh-pathway-gerd.pdf>
- Huether, S. (2019). Alterations of digestive function. In K. McCance & S. Huether (Eds.), *Pathophysiology: The biologic basis for disease in adults and children* (8th ed., pp. 1321-1372). St. Louis, MO: Elsevier
- Rx Files Academic Detailing Program. (2021). *RxFiles: Drug comparison charts*. (13th ed.). Saskatoon Health Region.
- Thomas, D. J. (2019). Gastric and intestinal disorders. In L. Dunphy, J. Winland-Brown, B. Porter, & D. Thomas (Eds.), *Primary care: The art and science of advanced practice nursing – an interprofessional approach* (5th ed., pp. 565-602). F. A. Davis

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