OTC Therapy of GI Disorders

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THE GASTROINTESTINAL TRACT - function

✓ Ingestion of food

✓ Digestion

- mechanical digestion of food particles
- breaks up food particles

✓ Motility

- movements of organs and food
- mechanical digestion of food particles

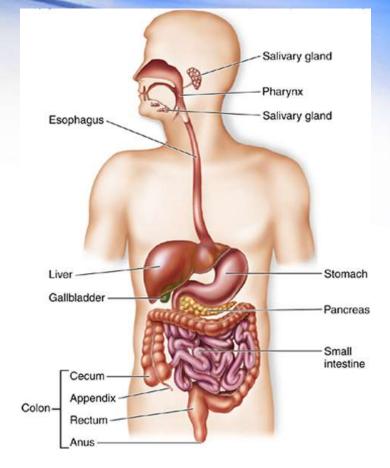
✓ Secretion

- secretion of digestive juices
- chemical digestion of food particles

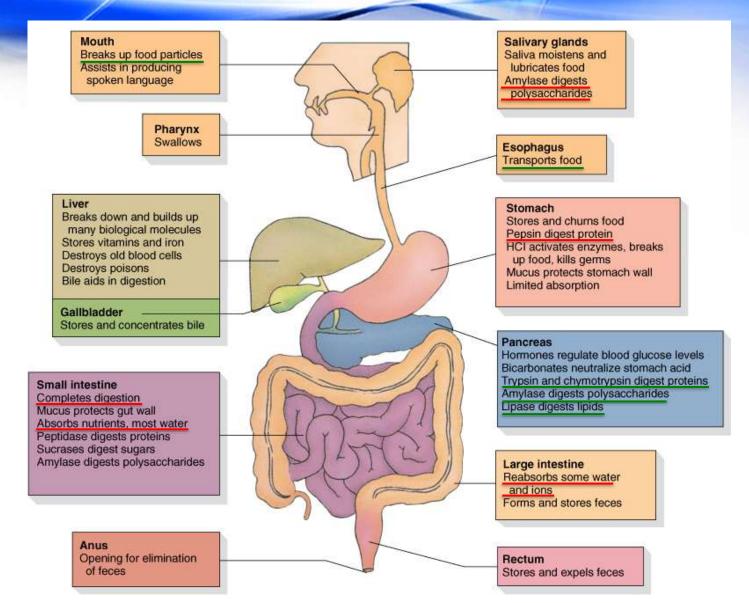
✓ Absorption

- absorption of digestion products to blood or lymphatic vessels
- ✓ Storage and Elimination
 - non-digested food particles
- ✓ Protective function mechanical, chemical, immunological
 - not only GIT organs but also the body as a whole, against the potential harmful food

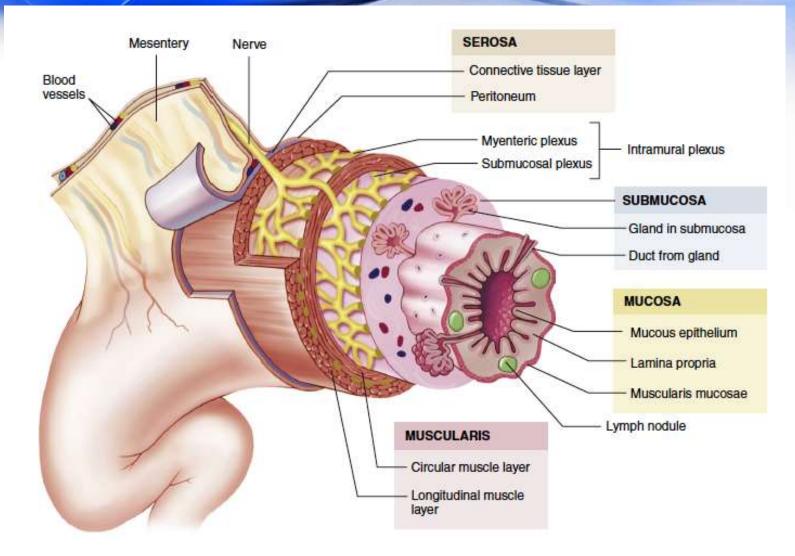
components



THE GASTROINTESTINAL TRACT - function



THE GASTROINTESTINAL TRACT - structure



DISORDERS OF THE DIGESTIVE SYSTEM

• Disorders of the digestive system have serious consequences for the activity of the organism as a whole

- ✓ congenital malformations
- ✓ inflammatory processes
- ✓ infectious processes

- ✓ traumatic processes
- ✓ neoplastic processes

• Digestive system communicates with the external environment through the intake of fluids and food

- Toxic substances in food and fluids
- ✓ GIT itself contains toxic substances

- secretion components enzymes, HCI
- waste products of digestion of food, bacterial flora

THE MOST COMMON DISORDERS of the digestive system

- ✓ *Motor dysfunction of smooth muscle* of the individual parts of the digestive system
- ✓ Indigestion of food and absorption of nutrients malabsorption syndrome
- ✓ *Bleeding* into the individual parts of the digestive tract
- Perforation of the wall of the digestive system with subsequent leakage of the contents to the peritoneal cavity
- Obstruction in moving of the contents of one part of the digestive system to the next section
- ✓ *Circulation* disorders in the wall of the individual parts of the digestive system

Mouth ulcer

What you need to know

Age Child, adult Nature of the ulcers Size, appearance, location, number Duration Previous history Other symptoms Medication



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Table 2.1	The three ma	in types o	f aphthous ulcers	
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Minor	Major	Herpetiform
80% of patients	10–12% of patients	8–10% of patients
2–10 mm in diameter (usually 5–6 mm)	Usually over 10 mm in diameter; may be smaller	Pinhead sized
Round or oval	Round or oval	Round or oval; coalesce to form irregular shape as they enlarge
Uncomfortable but eating not affected	Prolonged and painful ulceration; may present patient with great problems – eating may become difficult	May be very painful









Oral ulcer

- Duration
- Other symptom
- Medication
 - ✓ (NSAIDs), cytotoxic drugs, nicorandil, betablockers and sulphasalazine (sulfasalazine).

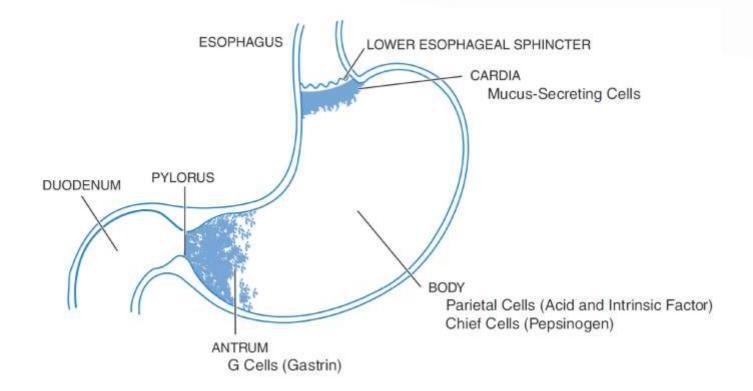
When to refer

Duration of longer than 3 weeks Associated weight loss Ulcer suggestive of cancer Involvement of other mucous membranes or eyes Rash Suspected adverse drug reaction Diarrhoea

Treatment

- ✓ Chlorhexidine gluconate mouthwash
- ✓ Topical corticosteroids
- ✓ Local analgesics
- ✓ Local anaesthetics (e.g. lidocaine [lignocaine] and benzocaine)

PHYSIOLOGY OF THE UPPER GASTROINTESTINAL TRACT



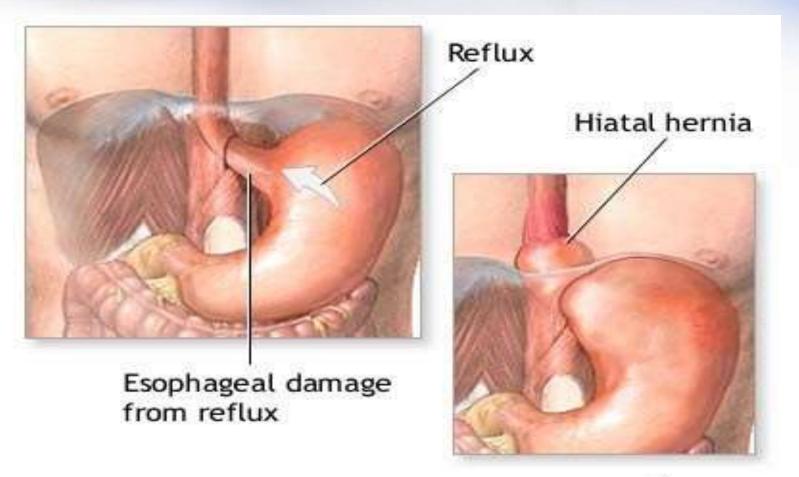
Heartburn



What you need to know

Age Adult, child Symptoms Heartburn Difficulty in swallowing Flatulence Associated factors Pregnancy Precipitating factors **Relieving factors** Weight Smoking habit Eating Medication

GASTROESOPHAGEAL REFLUX DISEASE







• GERD is a common acid-related GI disorder associated with a wide array of symptoms, the most frequent of which is heartburn and acid regurgitation.

Table 23-7

Risk Factors Associated With Gastroesophageal Reflux Disease^{6,8,153–155,166,167}

Drugs	Dietary	
α -Adrenergic agonists	Foods high in fat	
Anticholinergics	Spicy foods	
Aspirin	Carminatives (peppermint, spearmint)	
Barbiturates	Chocolate	
Benzodiazepines	Caffeine (coffee, tea, colas)	
$m eta_2$ -Adrenergic agonists	Garlic or onions	
Bisphosphonates	Citrus fruits and juices	
Calcium-channel blockers	Tomatoes and juice	
Dopamine	Carbonated beverages	
Estrogen		
Isoproterenol	Lifestyle	
Iron	Cigarette/cigar smoke	
Narcotics	Obesity	
Nitrates	Supine body position	
NSAIDs	Tight-fitting clothing	
Progesterone	Heavy exercise	
Potassium		
Prostaglandins	Medical/Surgical Conditions	
Quinidine	Pregnancy	
Tetracycline	Scleroderma	
Theophylline	ZES	
Tricyclic antidepressants	Gastroparesis	
Zidovudine	Nasogastric tube intubation	

NSAID, nonsteroidal anti-inflammatory drug; ZES, Zollinger-Ellison syndrome.

Etiology and risk factor

Pathophysiology

- TRANSIENT RELAXATIONS OF THE LOWER ESOPHAGEAL
 SPHINCTER
- ESOPHAGEAL ACID CLEARANCE AND BUFFERING CAPABILITIES
- ANATOMIC ABNORMALITIES
- GASTRIC EMPTYING

Treatment

Table 23-8

Dietary and Lifestyle Modifications Used to Manage Gastroesophageal Reflux Symptoms^{8,65,167,178}

Dietary	Medication	Lifestyle
Avoid foods listed in Table 23-7	Avoid medications with a potential to relax the lower esophageal sphincter or that have a di- rect irritant effect on the esophageal mucosa (Table 23-7)	Stop or decrease smoking/tobacco
Avoid eating large meals	Medications with the potential to irritate the eso- phagus should be taken with a full glass of water	Avoid alcohol
Avoid eating within 3 hours of bedtime		Lose weight ^a
		Elevate the head of bed 6–8 inches or use a foam wedge ^{a}
		Sleep in the left lateral decubitus position ^a

OCufficient evidence evicts to support lifestule modification

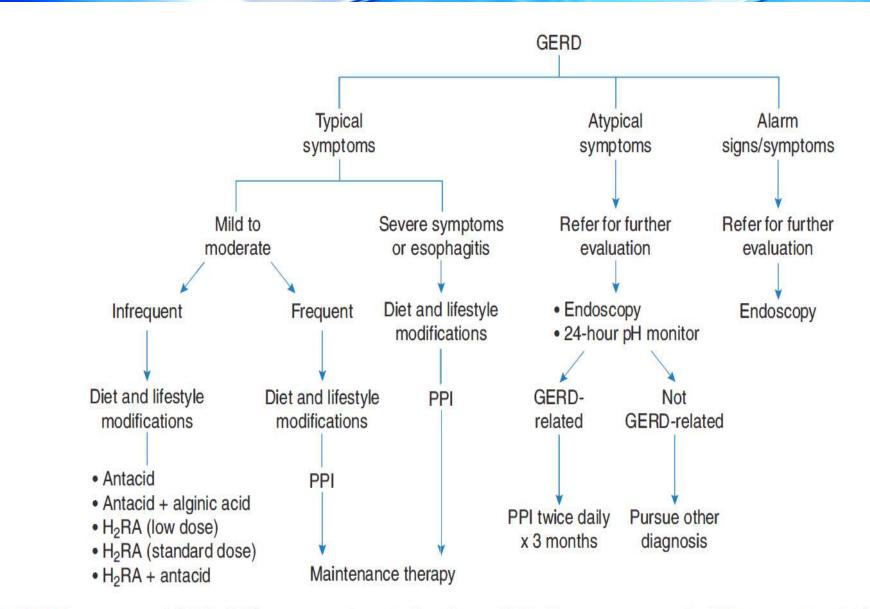


Figure 23-5 Management of GERD. GERD, gastroesophageal reflux disease; H₂RA, H₂ receptor antagonist; PPI, proton-pump inhibitor.

Table 23-10Atypical Manifestations of Gastroesophageal RefluxDisease6,205

Noncardiac Chest Pain	Pulmonary	
Ear, Nose, and Throat	Chronic cough	
Laryngitis/pharyngitis	Nonallergic, nonseasonal asthma	
Hoarseness	Aspiration	
Globus sensation	Bronchiectasis/bronchitis	
Laryngeal cancer	Sleep apnea	
Sinusitis	Idiopathic pulmonary fibrosis	
Otitis	Pneumonia	
Other		
Hypersalivation		
Dental erosions		

Pharmacotherapy

- Antacids
- Histamine blockers
- PPI
- Combination therapy
- Prokinetic agents
- sucralfate

When to refer

Failure to respond to antacids Related to prescribed medication Pain radiating to arms Difficulty in swallowing Regurgitation Long duration Increasing severity Children Clinical manifestations of GI dysfunction -DYSPEPSIA (malfunction of digestion)

Symptoms

- ✓ abdominal pain
- ✓ feeling of imperfect digestion
- ✓ bloating
- ✓ nausea

Malfunction

- ✓ esophagus
- \checkmark stomach
- ✓ duodenum

Disease

- ✓ peptic ulcer
- ✓ long-lasting reflux of stomach contents into the esophagus
- ✓ gastritis
- frequently it is functional (non-ulcer) dyspepsia
- dyspepsia similar to ulcer symptomatology: pain predominates
- dyspepsia similar to dysmotility symptomatology: nausea, vomiting, bloating
- For individual diseases of the upper GI, these symptoms can be combined in various ways

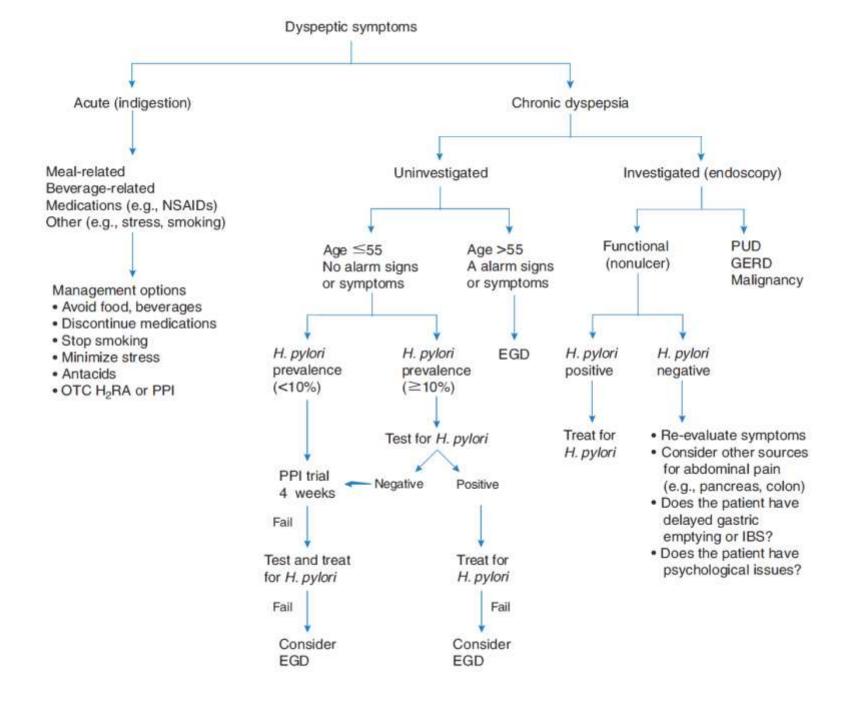


Table 23-2

Indications for Testing and Treating Helicobacter pylori Infection

Recommended (Evidence Established)

- Uninvestigated dyspepsia (depending on *H. pylori* prevalence)
- PUD (active gastric or duodenal ulcer)
- History of PUD (confirmed ulcer not previously treated for H. pylori)
- Gastric MALT lymphoma
- After resection of early gastric cancer
- Reduce the risk of recurrent bleeding from gastroduodenal ulcer

Controversial (Evidence Not Well Established)

- NUD
- Individuals using NSAIDs (no signs/symptoms of peptic ulcer)
- GERD
- Individuals at risk for gastric cancer
- Individuals with unexplained iron deficiency anemia

Treatment

Acute (indigestion)

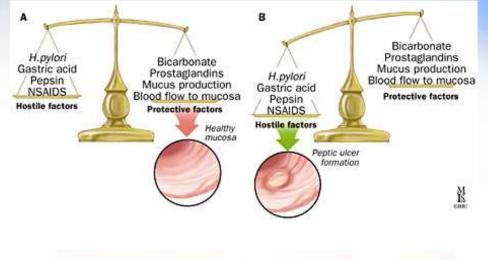
Meal-related Beverage-related Medications (e.g., NSAIDs) Other (e.g., stress, smoking)

Management options

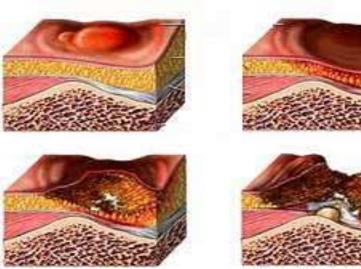
- Avoid food, beverages
- Discontinue medications
- Stop smoking
- Minimize stress
- Antacids
- OTC H₂RA or PPI

Disorders of the GIT – PEPTIC ULCER

 is a result of *imbalance* between the *mucosal defense mechanisms* in the esophagus, stomach and duodenum, and
 gastric mucosa-damaging mechanisms

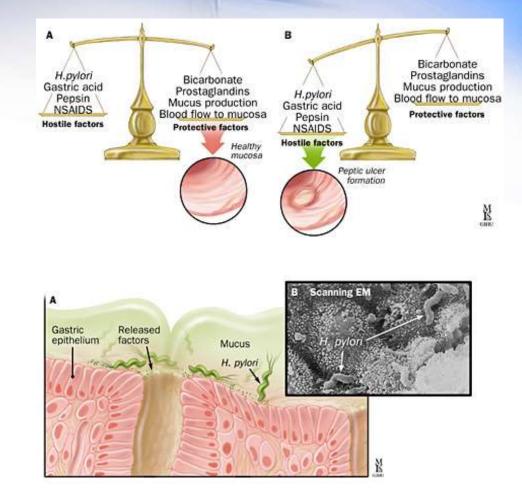


relates to digestion of *mucous membrane and lower parts of the stomach, duodenum, and lower esophagus* by HCl and pepsin



Risk factors for peptic ulcer disease:

- genetic predisposition
- H.pylori infection of the gastric mucosa
 - age greater than 65 years
- psychologic stress (mechanism unknown)
 - excessive use of alcohol
 - smoking
 - acute pancreatitis
- chronic obstructive pulmonary disease
 - obesity
 - cirrhosis







CHARACTERISTICS

Incidence

Age at onset Family history Gender (prevalence) Stress factors Ulcerogenic drugs Cancer risk

Pathophysiology Helicobacter pylori infection Abnormal mucus Parietal cell mass Acid production Serum gastrin Serum pepsinogen Associated gastritis

Clinical Manifestations Pain

Clinical course

GASTRIC ULCER

50-70 years Usually negative Equal in women and men Increased Normal use Increased

Often present (60-80%) May be present Normal or decreased Normal or decreased Increased Normal More common

Located in upper abdomen Intermittent Pain-antacid-relief pattern Food-pain pattern Chronic ulcer without pattern of remission and exacerbation

DUODENAL ULCER

20-50 years Positive Equal in women and men Average Increased use Not increased

Often present (95-100%) May be present Increased Increased Normal Increased Usually not present

Located in upper abdomen Intermittent Pain-antacid or food-relief pattern Nocturnal pain common Pattern of remissions and exacerbations for years

• Types of Peptic Ulcers:

acute - quickly heal by the mucosa regeneration
 chronic - penetrate deeper into the tissue, healing takes several weeks or months

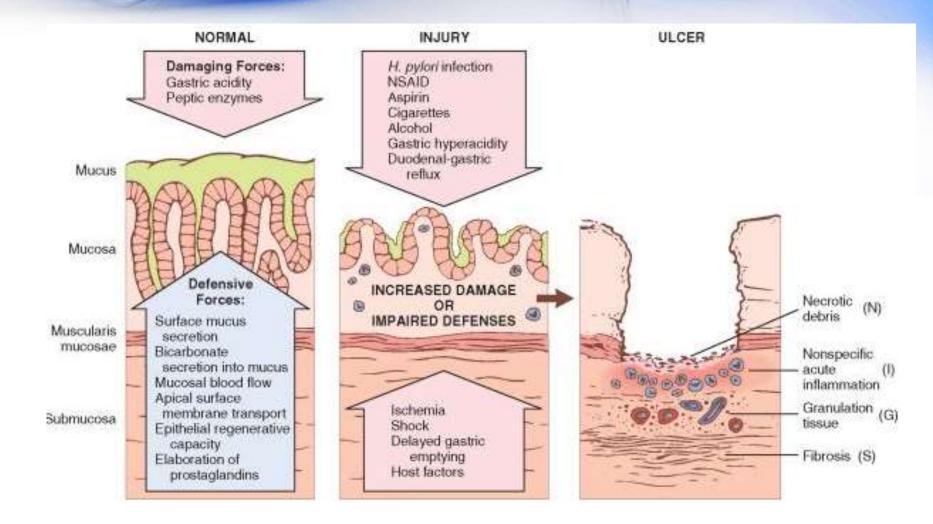
• Special types of ulcers:

Cushing - traumatic origin, or after surgery CNS (irritation of n. Vagus -> hypersecretion HCI)

Curling - traumatic origin, after burns (↑ levels of histamin -> hypersecretion HCI)

Zollinger - Ellison Syndrome - ↑ production of gastrin -> stimulates the secretion of HCI)

Stress ulcers - mucosal perfusion defect



EPITHELIAL GASTRODUODENAL BARRIER

• Mucus-bicarbonate barrier

- smooth adhesive mucus layer
- pH gradient (lumen epithelial surfice)
- bicarbonate secretion by epithelial cells

• *H*⁺ disposal in gastric wall

- mucoid barrier damage
- back diffusion of H⁺ into the wall
- mucosal blood flow
- Proliferation and epithelial repair
 - mitosis and cell migration along the basal membrane
 - mucoid cap after epithelial damage

Table 23-3

Risk Factors for Nonsteroidal Anti-Inflammatory Drug–Induced Ulcer and Ulcer-Related Upper Gastrointestinal Complications

Established

- Confirmed prior ulcer or ulcer-related complication
- Age >65 years
- Multiple or high-dose NSAID use
- Concomitant use of aspirin (including low cardioprotective dosages, e.g., 81 mg)
- Concomitant use of an anticoagulant, corticosteroid, bisphosphonate, clopidogrel, or SSRI
- Selection of NSAID (selectivity of COX-1 vs. COX-2)

Controversial

- H. pylori
- Alcohol consumption
- Cigarette smoking

PEPTIC ULCER DISEASE

- ✓ Clinical presentation
- \checkmark Complication

Table 23-4 Selected Nonsteroidal Anti-Inflammatory Drugs Salicylates Acetylated: aspirin Nonacetylated: trisalicylate, salsalate **Nonsalicylates**^a Nonselective (traditional) NSAIDs: ibuprofen, naproxen, tolmetin, fenoprofen, sulindac, indomethacin, ketoprofen, ketorolac, flurbiprofen, piroxicam Partially selective NSAIDs: etodolac, diclofenac, meloxicam, nabumetone Selective COX-2 inhibitors: celecoxib^b, rofecoxib^c, valdecoxib^c Pacad on COV 1/COV 2 coloctivity ratio in vitro

Diagnostic Tests for Helicobacter pylori Infection

Tests Using Gastric Mucosal Biopsy in Patients Undergoing Endoscopy

Rapid Urease Test

- Tests for active H. pylori infection; >90% sensitivity and specificity.
- In the presence of *H. pylori* urease, urea is metabolized to ammonia and bicarbonate resulting in an increase in pH, which changes the color of a pH-sensitive indicator.
- Results are rapid (within 24 hours), and test is less expensive than histology or culture.
- Withhold H₂RAs and PPIs 1–2 weeks before testing and antibiotics and bismuth salts 4 weeks before testing to reduce the risk of false negatives.

Histology

- "Gold standard" for detection of active H. pylori infection; >95% sensitive and specific.
- Permits further histologic analysis and evaluation of infected tissue (e.g., gastritis, ulceration, adenocarcinoma); tests for active H. pylori infection.
- Results are not immediate; not recommended for initial diagnosis; more expensive than rapid urease test.

Culture

- Permits sensitivity testing to determine antibiotic choice or resistance; 100% specific; tests for active *H. pylori* infection.
- Use usually limited to patients who fail initial course of eradication therapy.

Polymerase Chain Reaction

- Detects *H. pylori* DNA in gastric tissue; highly specific and sensitive.
- High rate of false positives and false negatives; positive DNA does not correlate directly with presence of the organism; used primarily for research.

Diagnostic Tests for Helicobacter pylori Infection (continued)

Nonendoscopic Tests That Do Not Use Gastric Mucosal Biopsy

Urea Breath Test

- Tests for active H. pylori infection; >95% sensitive and specific.
- Radiolabeled urea with either C¹³ or C¹⁴ is given orally; urease secreted by *H. pylori* in the stomach (if present) hydrolyzes radiolabeled urea to produce radiolabeled CO₂, which is exhaled and then quantified from the expired breath; radiation exposure is minimal.
- Withhold H₂RAs and PPIs 1–2 weeks before testing and antibiotics and bismuth salts 4 weeks before testing to reduce the risk of false negatives.
- Used to detect H. pylori before treatment and to document posttreatment eradication.
- Results usually take about 2 days; less expensive than tests that utilize gastric mucosal biopsy but more expensive than serologic tests: availability and reimbursement is inconsistent.

Antibody Detection (In-Office or Near Patient)

- Qualitative test: detects IgG antibodies to H. pylori in whole blood or fingerstick.
- Effective for primary diagnosis, but not of benefit in confirming eradication because antibodies to H. pylori remain positive for years after successful eradication of the infection.
- Results obtained quickly (usually within 15 minutes) but reduced sensitivity and specificity compared with laboratory-based tests; widely available and inexpensive.
- Results not affected by H₂RAs, PPIs, or bismuth; antibiotics given for other indications may result in a positive antibody test.

Antibody Detection (Laboratory)

- Quantitative test; detects IgG antibodies to H. pylori in serum using laboratory-based ELISA tests and latex agglutination techniques.
- More accurate than in-office tests; similar sensitivity and specificity to rapid urease biopsy and urea breath tests.
- Unable to determine if antibody is related to active or cured infection; antibody titers vary between individuals and take up to 6
 months to 1 year to return to the uninfected state.
- Results not affected by H₂RAs, PPIs, or bismuth; antibiotics given for other indications may result in a positive antibody test.

Fecal Antigen Test

- An enzymatic immunoassay test that identifies H. pylori antigen in stool; sensitivity and specificity comparable to the UBT for initial diagnosis.
- H₂RAs, PPIs, antibiotics, and bismuth may cause false-negative results but to a lesser extent than the UBT.
- Considered an alternative to detecting H. pylori before treatment and documenting posttreatment eradication; patients may have a
 reluctance to obtain stool samples.

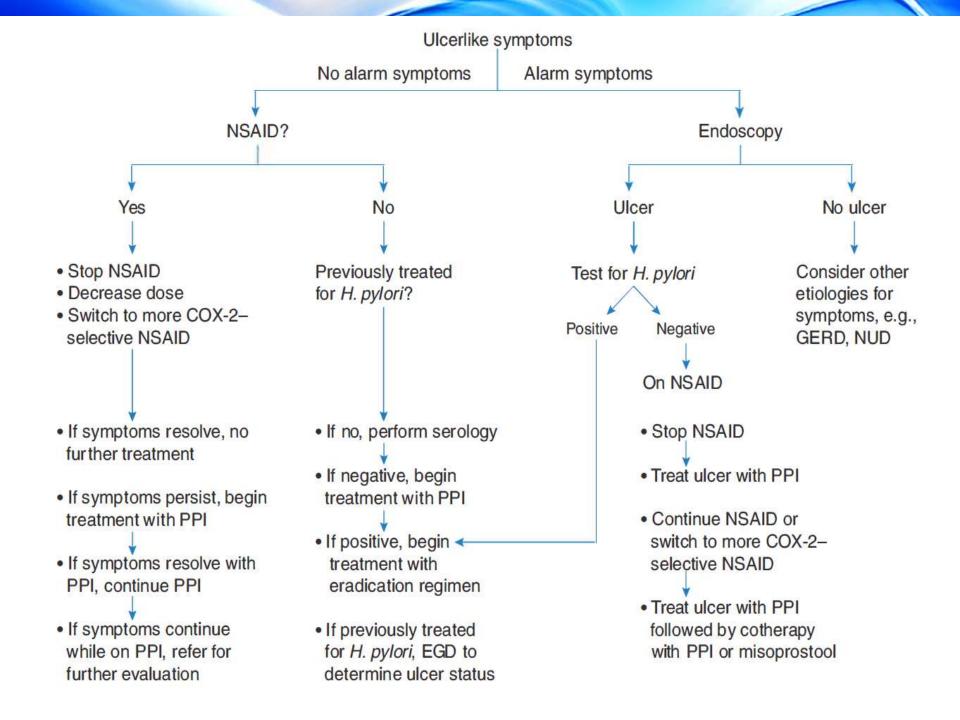


Oral Drug Regimens Used to Eradicate Helicobacter pylori Infection

Drug Regimen	Dose	Frequency	Duration	
Proton-Pump Inhibitor-Ba	ased Three-Drug Regimens			
PPI	Standard dose ^a	BID ^a	14 days ^b	
Clarithromycin	500 mg	BID	14 days ^b	
Amoxicillin ^c	1 g	BID	14 days ^b	
Or				
PPI	Standard dose ^a	BID ^a	14 days ^b	
Clarithromycin	500 mg	BID	14 days ^b	
Metronidazole ^c	500 mg	BID	14 days ^b	
Bismuth-Based Four-Drug	g Regimens			
Bismuth subsalicylate ^d	525 mg	QID	10–14 days	
Metronidazole	250–500 mg	QID	10–14 days	
Tetracycline plus	500 mg	QID	10–14 days	
PPI	Standard dose ^a	Daily or BID ^a	1014 days	
Or				
H ₂ RA ^e	Standard dose ^e	BID ^e	4-6 weeks	
Sequential Therapy ^f				
PPI	Standard dose ^a	BID ^a	Days 1–10	
Amoxicillin	1 g	BID	Days 1–5	

Oral Drug Regimens Used to Eradicate Helicobacter pylori Infection (continued)

Drug Regimen	Dose	Frequency	Duration
Clarithromycin	250–500 mg	BID	Days 6–10
Metronidazole	250–500 mg	BID	Days 6-10
Secondary or Rescue Therap	y		
Bismuth subsalicylate ^d	525 mg	QID	10–14 days
Metronidazole	500 mg	QID	10–14 days
Tetracycline	500 mg	QID	10–14 days
PPI	Standard dose ^a	Daily or BID ^o	10–14 days
Or			
PPI	Standard dose ^a	BID ^a	10–14 days
Amoxicillin	1 g	BID	10–14 days
Levofloxacin	500 mg	Daily	10–14 days



Stress-Related Mucosal Bleeding Prevention: Regimens and Doses

Agent	Dose and Frequency of Administration	FDA Approval ^a
Antacid	30 mL PO/NG every 1-2 hours	No
Cimetidine	300 mg IV loading dose, then 50 mg/hour continuous N infusion ^b	Yes
Famotidine	20 mg IV every 12 hours or	No
	1.7 mg/hour continuous infusion	No
Ranitidine	50 mg IV every 6–8 hours or	No
	6.25 mg/hour continuous infusion	No
Sucralfate	1 g PO/NG every 6 hours	No
Omeprazole	20-40 mg PO/NG ^c every 12-24 hours	No
Omeprazole/sodium bicarbonate powder for oral suspension	40 mg PO/NG initially, followed by 40 mg 6–8 hours later, then 40 mg PO/NG every 24 hours	Yes
Lansoprazole	30 mg PO/NG ^{cd} every 12–24 hours	No
Pantoprazole	40 mg IV/PO/NG ^c every12-24 hours	No
Esomeprazole	40 mg IV/PO/NG every 12-24 hours	No

Nausea and vomiting

What you need to know

Age

Infant, child, adult, elderly

Pregnancy

Duration

Associated symptoms

Has vomiting started?

Abdominal pain

Diarrhoea

Constipation

Fever

Alcohol intake

Medication

Prescribed

OTC

Previous history

Dizziness/vertigo

Motion sickness and its prevention

- Motion sickness is thought to be caused by a conflict of messages to the brain, where the vomiting centre receives information from the eyes, the GI tract and the vestibular system in the ear.
- Symptoms of motion sickness include nausea and sometimes vomiting, pallor and cold sweats.

What you need to know

Age

Infant, child, adult Previous history Mode of travel: car, bus, air, ferry, etc. Length of journey Medication

Constipation

• Constipation is a condition that is difficult to define and is often selfdiagnosed by patients. Generally it is characterised by the passage of hard, dry stools less frequently than the person's normal pattern.

 Table 2.2
 Treatments for motion sickness

Ingredient	Minimum age for use (year)	Children's dose	Adult dose	Timing of first dose in relation to journey	Recommended dose interval (h)
Cinnarizine	5	15 mg	30 mg	2 h before	8
Hyoscine Hydrobromide	3	3–4 years 75 μg 4–7 years 150 μg 7–12 years 150–300 μg	300 µg	20 min before	6
Meclozine	2	2–12 years 12.5 mg	25 mg	Previous evening or 1 h before	24
Promethazine theoclate	5	5–10 years 12.5 mg	25 mg	Previous evening or 1 h before	24
		Over 10 years 25 mg			

What you need to know

Details of bowel habit

Frequency and nature of bowel actions now When was the last bowel movement? What is the usual bowel habit? When did the problem start? Is there a previous history? Associated symptoms

Abdominal pain/discomfort/bloating/distension

Nausea and vomiting Blood in the stool

Diet

Any recent change in diet? Is the usual diet rich in fibre? Medication

Present medication Any recent change in medication

Previous use of laxatives

Box 2.2 Common Symptoms of Bowel Cancer (adapted from NHS Choices and NICE)

The symptoms of bowel cancer can be subtle and don't necessarily make people feel ill. More than 90% of people with bowel cancer have one or more of the following three main symptoms:

A persistent change in bowel habit – usually going more often, with looser stools and sometimes abdominal pain Blood in the stools without other symptoms such as piles (haemorrhoids) Abdominal pain, discomfort or bloating brought on by eating – sometimes resulting in a reduction in the amount of food eaten and unintentional weight loss

Constipation is rarely caused by serious bowel conditions.

Constipation

Table 3	Drugs th	hat may cause	constipation
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Drug group	Drug		
Analgesics and opiates	Dihydrocodeine, codeine		
Antacids	Aluminium salts		
Anticholinergics	Hyoscine		
Anticonvulsants	Phenytoin		
Antidepressants	Tricyclics, SSRIs		
Antihistamines	Chlorpheniramine, promethazine		
Antihypertensives	Clonidine, methyldopa		
Anti-Parkinson agents	Levodopa		
Beta-blockers	Propranolol		
Diuretics	Bendrofluazide		
Irono	and a first of the state of the		
Laxative abuse			
Monoamine oxidase inhibitors			
Antipsychotics	Chlorpromazine		

Constipation

- Treatment:
- Osmotic laxatives (e.g. lactulose, Epsom salts, Glauber's salts)
- Lubricant laxatives (e.g. liquid paraffin)
- Bulk laxatives (e.g. ispaghula, methylcellulose, sterculia)
- Stimulant laxatives (e.g. senna, bisacodyl)

constipation

When to refer

Change in bowel habit of 2 weeks or longer Presence of abdominal pain, vomiting, bloating Blood in stools Prescribed medication suspected of causing symptoms Failure of OTC medication

Diarrhoea

What you need to know

Age

Infant, child, adult, elderly Duration Severity Symptoms, associated symptoms Nausea/vomiting Fever

Abdominal cramps

Flatulence

Other family members affected?

Previous history

Recent travel abroad?

Causative factors

Medication

Medicines already tried

Other medicines being taken

Diarrhoea

Infection	Incubation	Duration	Symptoms		
Staphylococcus	2–6 h	6–24 h	Severe, short-lived; especially vomiting		
Salmonella	12–24 h	1–7 days	Mainly diarrhoea		
Campylobacter	2–7 days	2-7 days	Diarrhoea with abdominal colic		
Bacillus cereus	1–5 h	6–24 h	Vomiting		
<i>Bacillus cereus</i> (two types of infection)	8–16 h	12–24 h	Diarrhoea		

Table 4	Features	ot	some	infections	causing	diarrhoea
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Table 2.5 Some drugs	that commonly cause diarrhoea
Antacids: magnesium salts	
Antibiotics	
Colchicine	
Cytotoxic drugs: methotrexa	ate, chemotherapy
<i>Digoxin</i> (toxic levels)	
Diuretics (furosemide)	
Iron preparations	
Laxatives	
H ₂ antagonists	
Misoprostol	
Non-steroidal anti-inflamma	tory drugs
Proton pump inhibitors	
Selective serotonin reuptake	inhibitors

When to refer

Diarrhoea of greater than

- 1 day's duration in children younger than 1 year
- 2 days' duration in children under 3 years and elderly patier
- 3 days' duration in older children and adults

Persistent diarrhoea after course of antibiotics

Association with severe vomiting

Feverish, high temperature

Suspected outbreak of 'food poisoning'

Recent travel abroad

Suspected drug-induced reaction to prescribed medicine

History of change in bowel habit

Presence of blood or mucus in the stools

Pregnancy

Management

Table 6	Amount of	rehydration	solution	to	be	offered to	
patients							

Age	Quantity of solution (per watery stool)
Under 1	50 ml (quarter of a glass)
1-5	100 ml (half a glass)
6-12	200 ml (one glass)
Adult	400 ml (two glasses)

Haemorrhoids (commonly known as piles) can produce symptoms of itching, burning, pain, swelling and discomfort in the perianal area and anal canal and rectal bleeding. Haemorrhoids are swollen veins, rather like varicose veins, which protrude into the anal canal (internal piles).

What you need to know

Duration and previous history

Symptoms

Itching, burning

Soreness

Swelling

Pain

Blood in stools

Constipation

Bowel habit

Pregnancy

Other symptoms

Abdominal pain/vomiting

Weight loss

Medication

When to refer

Duration of longer than 3 weeks Presence of blood in the stools Change in bowel habit (persisting alteration from normal bowel habit) Suspected drug-induced constipation Associated abdominal pain/vomiting

- Management:
- Local anaesthetics (e.g. benzocaine, lidocaine (lignocaine))
- Skin protectors
- Topical steroids
- Antiseptics
- Laxatives

IBS

IBS is defined as a functional bowel disorder in which abdominal pain is associated with defecation or a change in bowel habit, with the additional features of disordered defecation and abdominal distension.

What you need to know

Age Child, adult Symptoms Gastrointestinal Abdominal pain Abdominal distension/bloating Disturbed bowel habit; diarrhoea and/or constipation Nausea Other Urinary symptoms especially frequency Dyspareunia (pain during intercourse)



When to refer

Children

Older person with no previous history of IBS

Pregnant women

Blood in stools

Unexplained weight loss

Caution in patients aged over 45 with changed bowel habit

Signs of bowel obstruction

Unresponsive to appropriate treatment

Management

- Antispasmodics
- Peppermint oil
- Mebeverine hydrochloride
- Diet
- Chinese herbal medicine

