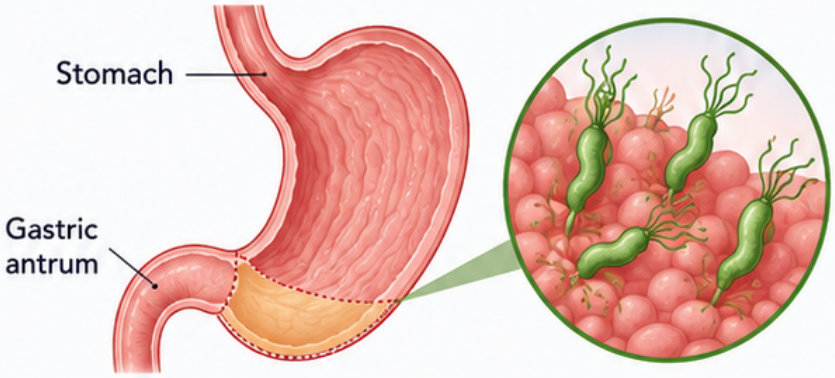
H. PYLORI INFECTION

Quick Study Summary

1. WHAT / LOCATION

Gram-negative spiral bacterium that colonizes the stomach, especially the **gastric antrum.**



2. KEY EFFECTS / PATHOGENESIS

- **Urease enzyme:** Hydrolyzes urea → produces ammonia → neutralizes gastric acid and promotes survival.
- **Flagella:** Provide motility, allowing movement through mucus to reach the epithelium.
- **Adhesins:** Mediate adherence to gastric epithelial cells.
- **Toxins (e.g., CagA, VacA):** Cause epithelial injury, inflammation, and may promote carcinogenesis.
- **Physiologic effects:** Increases gastrin and acid secretion; decreases bicarbonate secretion and mucosal protection.

3. COMMON SYMPTOMS

- Often asymptomatic
- Dyspepsia
- Epigastric pain
- Nausea
- Bloating

4. DIAGNOSIS

- Urea breath test (noninvasive)
- Stool antigen test (noninvasive)
- *H. pylori* antibodies (serology)
- Endoscopic biopsy with rapid urease test and/or histology

5. TREATMENT

Eradication therapy with a proton pump inhibitor (PPI) + antibiotics.

Common Regimen (Triple Therapy)

- PPI (e.g., omeprazole)
- Amoxicillin
- Clarithromycin

or

- Metronidazole / Tinidazole

Alternative: Bismuth-based Quadruple Therapy

- PPI + Bismuth
- Tetracycline
- Metronidazole

6. COMPLICATIONS / ASSOCIATIONS

- Chronic active gastritis
- Antral-predominant gastritis
- Duodenal ulcer
- Gastric ulcer
- Gastric adenocarcinoma
- Gastric lymphoma (MALT)

7. HIGH-YIELD PEARL

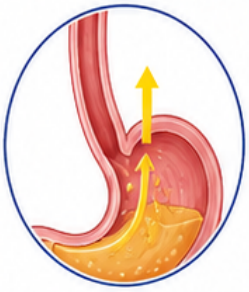
***H. pylori* is the most common cause of antral gastritis.**

★ Remember: Eradication reduces symptoms, heals ulcers, and lowers risk of gastric cancer.

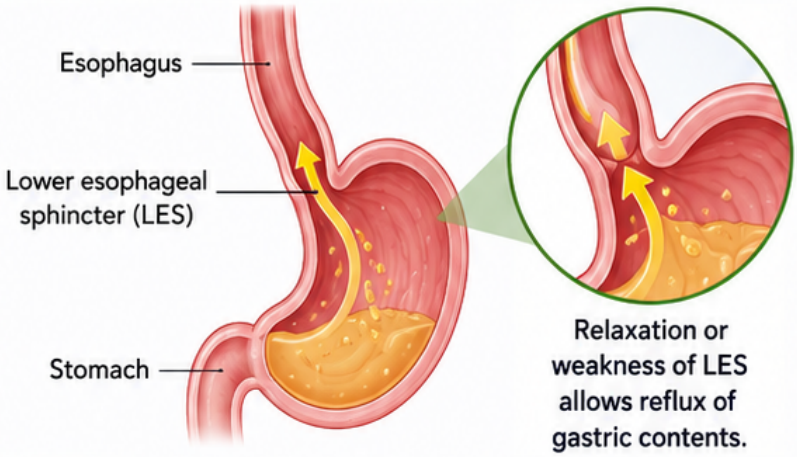
GERD & BARRETT ESOPHAGUS

Quick Study Summary

1. WHAT / LOCATION



Gastroesophageal reflux disease (GERD) is backward movement of gastric contents into the esophagus due to transient relaxation or weakness of the **lower esophageal sphincter (LES).**



2. COMMON SYMPTOMS

- Heartburn
- Regurgitation
- Chest pain
- Belching
- Symptoms worse at night, when lying supine, or after foods/drugs that reduce LES tone
- Respiratory symptoms such as chronic cough, laryngitis, and bronchospasm

3. DIAGNOSIS

Mainly clinical, based on history and symptoms.

Endoscopy if needed or if alarm symptoms exist (e.g., dysphagia, GI bleeding, weight loss, anemia).

4. TREATMENT

Conservative measures first:

- Avoid large meals
- Avoid positions and conditions that increase reflux
- Avoid caffeine, fat, chocolate, alcohol, smoking and other trigger foods

Medicines:

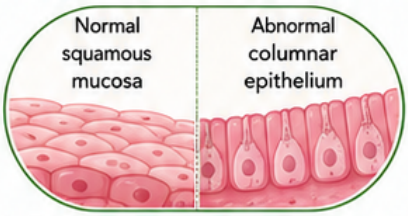
- Antacids with alginic acid
- H_2 blockers
- Proton pump inhibitors (PPIs)

Surgery in some patients (e.g., fundoplication).

5. COMPLICATIONS

- Reflux esophagitis
- Strictures
- Recurrent injury
- Barrett esophagus

6. BARRETT ESOPHAGUS



In Barrett esophagus, normal squamous mucosa of the distal esophagus is replaced by abnormal columnar epithelium due to chronic acid exposure. This increases the risk of **esophageal adenocarcinoma.**

7. HIGH-YIELD PEARL

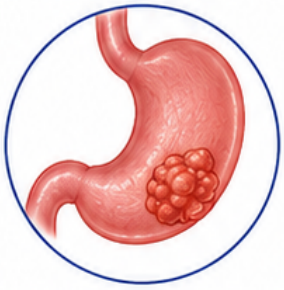
GERD symptoms worsen when LES pressure decreases.

★ Remember: Control reflux, protect the esophagus, and monitor for complications.

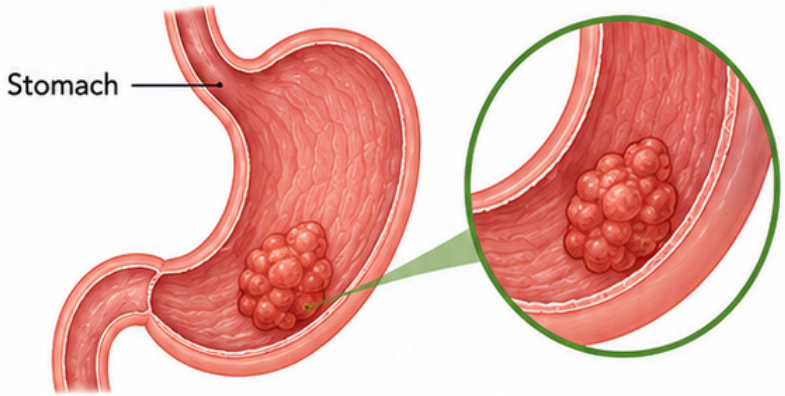
STOMACH CANCER

Quick Study Summary

1. WHAT / LOCATION



Gastric carcinoma occurs in the **stomach.**



2. RISK FACTORS

- Genetic predisposition
- Nitroso compounds in smoked and preserved foods
- Autoimmune gastritis
- Gastric adenoma and polyps
- Chronic *H. pylori* infection as a cofactor for some carcinomas

3. COMMON FEATURES / SYMPTOMS

- Often asymptomatic until late and early detection is difficult
- Indigestion, anorexia, weight loss
- Epigastric pain
- Vomiting
- Abdominal mass

4. DIAGNOSIS

- Endoscopy
- Biopsy
- CT scan
- Barium studies

5. TREATMENT

- Radical subtotal gastrectomy is the treatment of choice.
- Radiation and chemotherapy may be used for palliative purposes or to control metastatic spread.

6. COMPLICATIONS

- Bleeding
- Obstruction
- Metastasis
- Cachexia
- Advanced disease

7. HIGH-YIELD PEARL

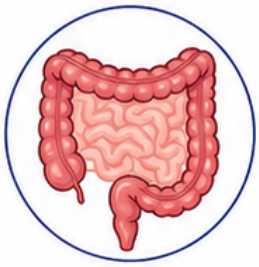
Stomach cancer is more common in males; the male to female ratio is about 2:1.

★ Remember: Early detection improves outcomes but is often challenging.

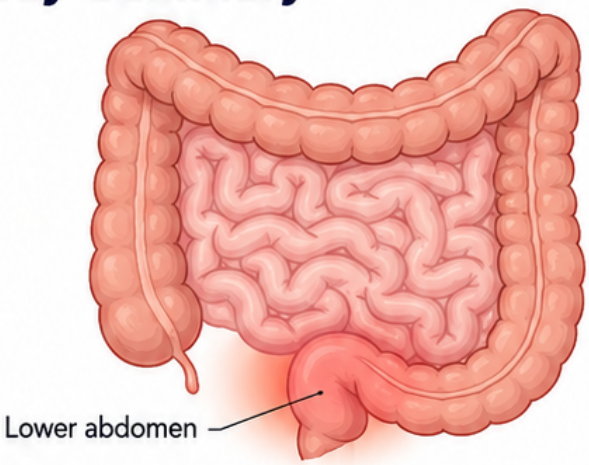
IRRITABLE BOWEL SYNDROME (IBS)

Quick Study Summary

1. WHAT / LOCATION



Persistent or recurrent functional bowel disorder with abdominal pain and altered bowel habit, often felt in the **lower abdomen.**



2. COMMON SYMPTOMS

- Abdominal pain relieved by defecation
- Change in stool frequency or consistency
- Intermittent cramping
- Bloating
- Flatulence
- Nausea
- Anorexia
- Constipation or diarrhea
- Anxiety or depression

- **Pain usually does not interfere with sleep.**
- **Symptoms may worsen with stress.**

3. DIAGNOSIS

Recurrent symptoms for at least 12 weeks, with relief by defecation and association with change in stool frequency and stool form.

Consider lactose intolerance.

4. RED FLAGS / NOT SIMPLE IBS

- Weight loss
- Anemia
- Fever
- Occult blood in stool
- Nighttime symptoms
- Malabsorption

These suggest organic disease rather than simple IBS.

5. TREATMENT

- Adequate fiber intake.
- Avoid offending foods, especially fatty and gas-producing foods, alcohol, and other triggers.
- Pharmacologic therapy includes antispasmodic and anticholinergic drugs.

6. COMPLICATIONS / COURSE

No structural tissue damage or classic organic complications, but symptoms may affect quality of life.

7. HIGH-YIELD PEARL

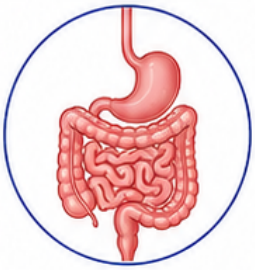
IBS symptoms without red flags suggest a functional disorder.

★ **Remember: Address red flags, relieve symptoms, and improve quality of life.**

CROHN'S DISEASE

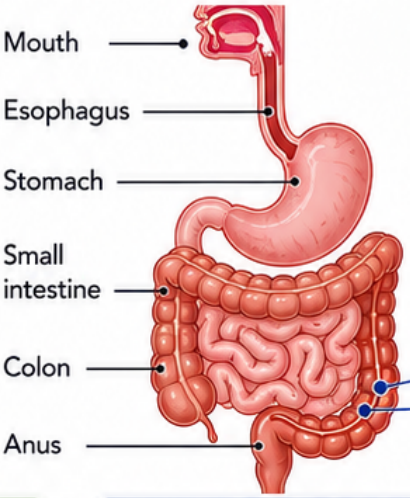
Quick Study Summary

1. WHAT / LOCATION



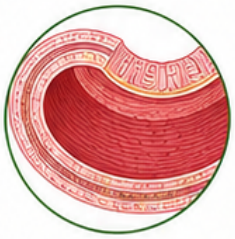
Inflammatory bowel disease.

May affect any area of the GI tract from **esophagus to anus.**



Can involve any part of the GI tract from mouth to anus, but most commonly involves the **terminal ileum** and **colon.**

2. DEPTH / PATHOLOGY



Transmural inflammation affecting all bowel wall layers.

3. COMMON SYMPTOMS

- Diarrhea
- Fecal urgency
- Abdominal pain
- Weight loss
- Flares and remissions

4. SYSTEMIC / EXTRAINTESTINAL FEATURES

- Axial arthritis
- Inflammation of the eyes (uveitis, episcleritis)
- Skin lesions (erythema nodosum, pyoderma gangrenosum)
- Stomatitis (oral ulcers)
- Anemia and hypercoagulability
- Bile duct inflammation (primary sclerosing cholangitis)
- In children: growth retardation

5. DIAGNOSIS

- Clinical evaluation with endoscopy/colonoscopy and biopsy
- Imaging studies as needed (e.g., CT enterography, MRI enterography, barium studies)

6. TREATMENT

- Terminate inflammation
- Promote healing
- Maintain nutrition
- Prevent complications

- Nutritional diet rich in calories, vitamins, and proteins with fat reduction
- Corticosteroids
- Metronidazole
- Immunosuppressants: azathioprine, 6-mercaptopurine, methotrexate, cyclosporine
- Anti-TNF monoclonal antibodies: infliximab, adalimumab

7. COMPLICATIONS

- Intestinal obstruction
- Fistulas (enterocutaneous, enterovaginal, etc.)
- Abscesses
- Malabsorption
- Growth problems

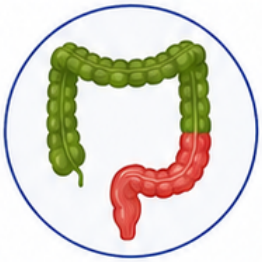
7. HIGH-YIELD PEARL

Surgery is not curative because the disease can recur.

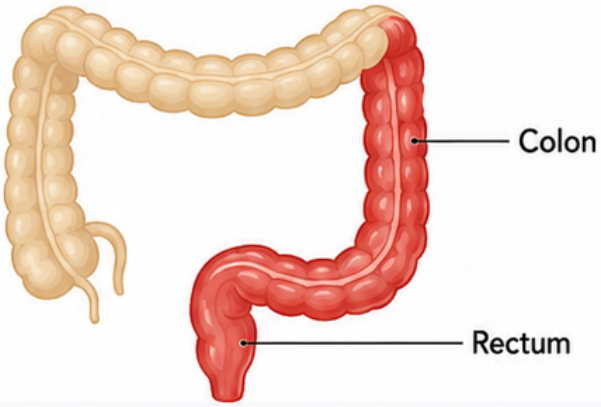
ULCERATIVE COLITIS

Quick Study Summary

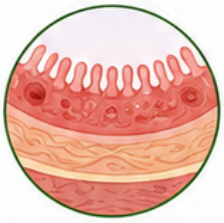
1. WHAT / LOCATION



Inflammatory bowel disease limited to the **colon** and **rectum**.



2. DEPTH / PATHOLOGY



Inflammation is typically restricted to the **mucosa**.

3. COMMON SYMPTOMS

- Attacks of diarrhea that may persist for days, weeks, or months and then subside.
- Diarrhea usually with blood.
- Anorexia, weakness, and fatigue.

4. SEVERE DISEASE FEATURES

- Fever
- Anemia
- Hypovolemia
- Hypoalbuminemia
- In children: failure to grow.

5. DIAGNOSIS

Clinical assessment with colonoscopy/endoscopy and biopsy.

6. TREATMENT

- Avoid caffeine, lactose, and gas-forming food.
- High-protein, high-calorie, low-fiber plan.
- Corticosteroids, TNF inhibitors, probiotics, iron for anemia resulting from intestinal bleeding.
- Surgery can cure disease by colectomy.

7. COMPLICATIONS

- Colon cancer is an important complication.
- Severe bleeding.
- Dehydration.
- Anemia.
- Growth failure.
- Unlike Crohn's disease, UC can be cured by surgical removal of the colon.

8. HIGH-YIELD PEARL

Nicotine has shown clinical and histologic improvement in UC.

★ **Remember:** Early diagnosis and appropriate management reduce complications and improve outcomes.

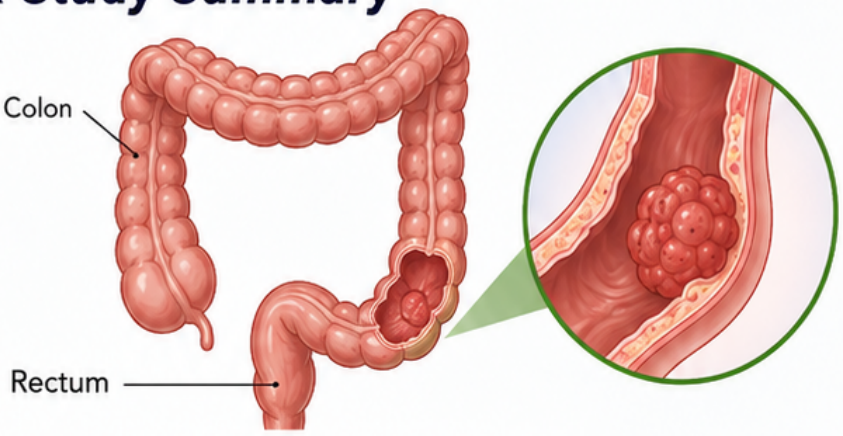
COLORECTAL CARCINOMA

Quick Study Summary

1. WHAT / LOCATION

Cancer of the colon or rectum.

Affects about 1 million persons worldwide.



2. RISK FACTORS

- Peak age **60–70** years
- Family history of cancer
- Crohn's disease or ulcerative colitis
- Familial adenomatous polyposis
- Harmful diet high in fat and refined sugar, low fiber
- Vitamins A, C, and E and higher fiber are protective
- Aspirin may have some preventive benefit by inhibiting COX-2

3. COMMON CLINICAL FEATURES

- May be present for a long time without symptoms.
- Bleeding is a common symptom prompting medical care.
- Change in bowel habits, diarrhea or constipation, urgency, incomplete emptying.
- Pain is usually a late symptom.

4. DIAGNOSIS

- Barium enema or colonoscopy
- CT scan
- Pelvic MRI
- Ultrasonography

5. TREATMENT

- Surgical removal is the main recognized treatment.
- Preoperative radiation therapy may be used.
- Postoperative adjuvant chemotherapy is used.

6. COMPLICATIONS

- Bleeding / anemia
- Obstruction
- Metastasis
- Late-stage pain
- Weight loss

7. HIGH-YIELD PEARL

Familial adenomatous polyposis (FAP) increases risk; it does not protect.

★ **Remember: Early detection and screening improve outcomes in colorectal carcinoma.**