وزاره التعليم العالي والبحث العلمي

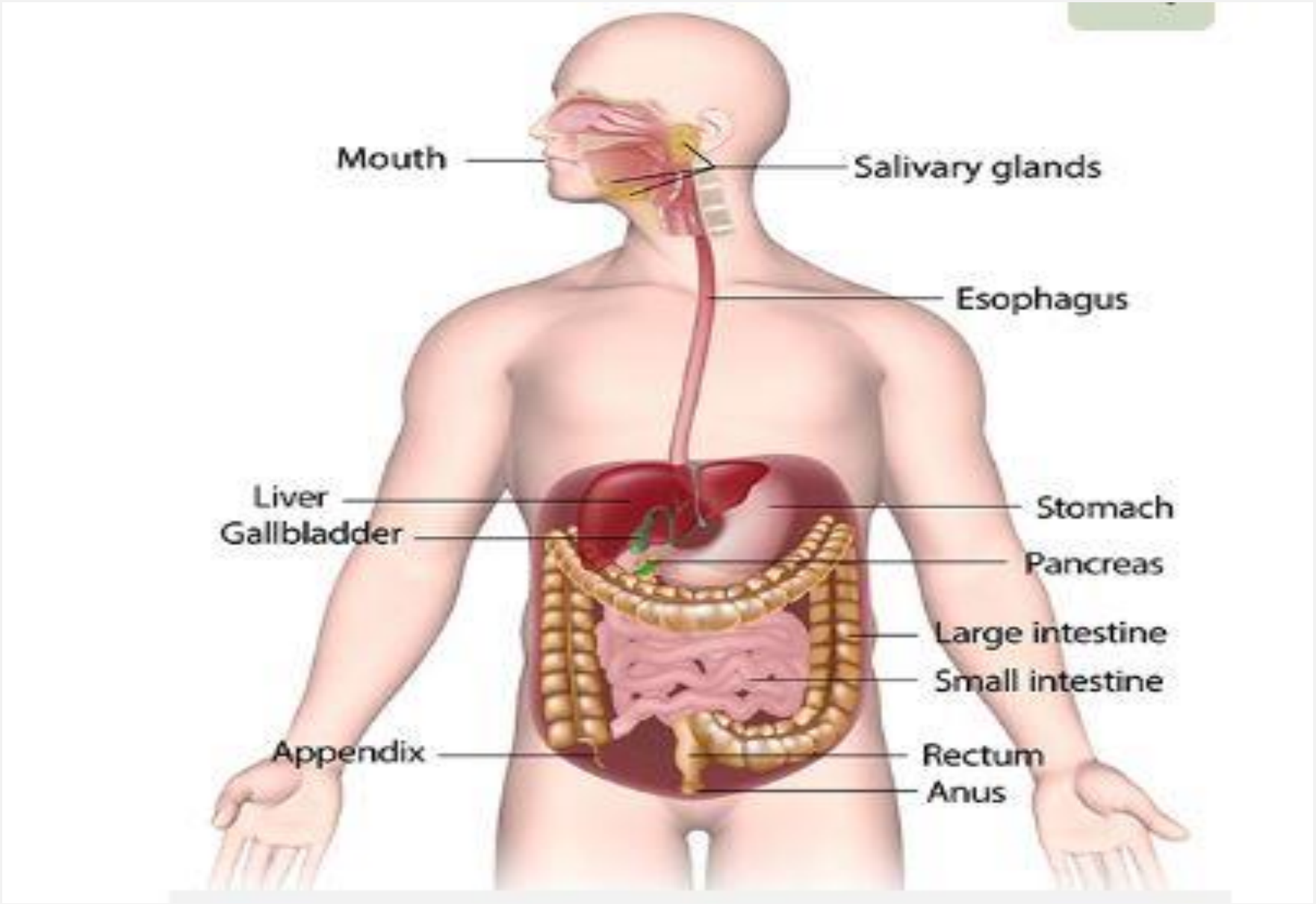
Care for Patients with Digestive System Disorders

Adult Nursing I

Assist. L Mohammed B. N

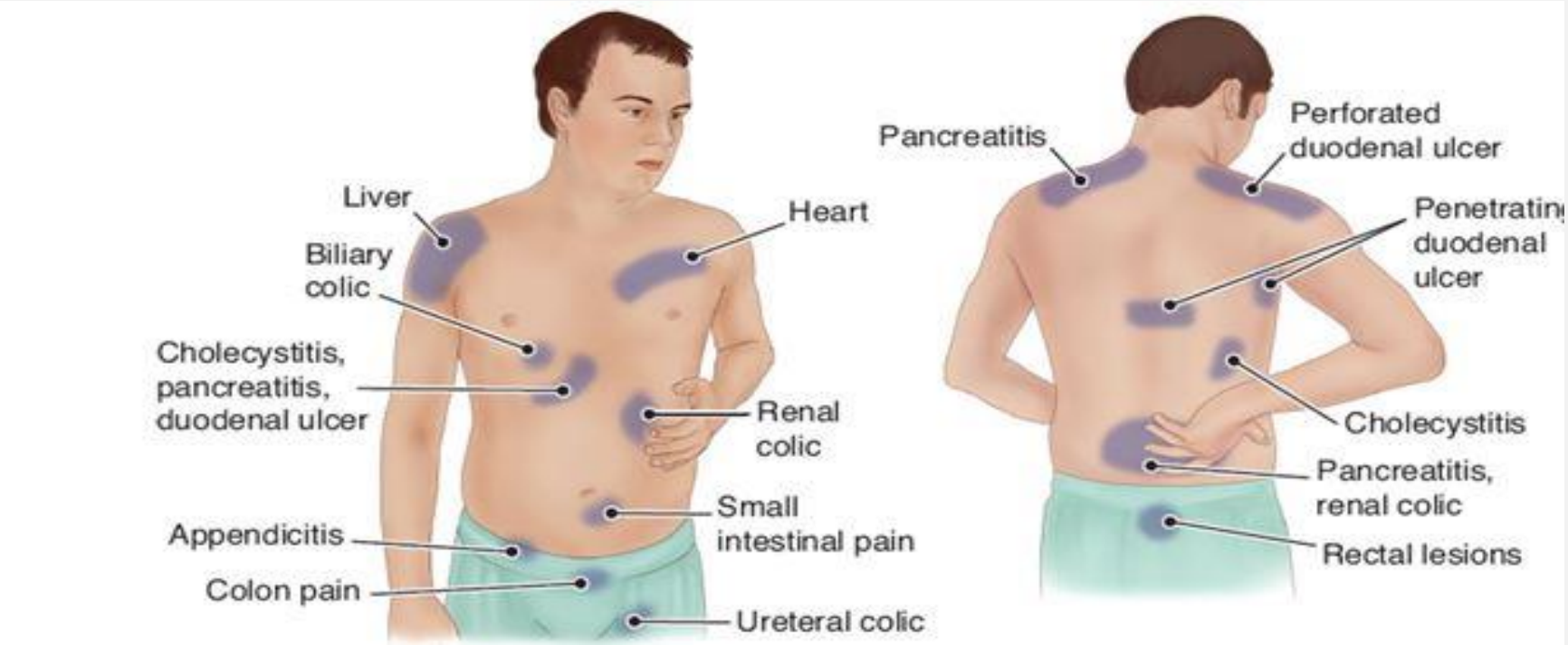
Lecture Outlines

- Anatomy of Digestive System
- Assessment and diagnostic test
- Hernia
- Peptic Ulcer
- Ulcerative colitis.
- Irritable bowel syndrome.


Mouth
Salivary glands
Esophagus
Liver
Gallbladder
Stomach
Pancreas
Large intestine
Small intestine
Appendix
Rectum
Anus

Common symptoms

1- Pain A major symptom of GI disease. The character, duration, pattern, frequency, location, distribution of referred pain, and time of the pain vary greatly depending on the underlying cause.



Common symptoms

2-Dyspepsia

- upper abdominal discomfort associated with eating (commonly called indigestion), is the most common symptom of patients with GI dysfunction.

- Indigestion refers to a host of upper abdominal or epigastric symptoms such as pain, discomfort, fullness, bloating, belching, heartburn, or regurgitation.

- typically, fatty foods cause the most discomfort because they remain in the stomach for digestion longer than proteins or carbohydrates.

Common symptoms

3-Intestinal Gas

- The accumulation of gas in the GI tract may result in:

A- belching (expulsion of gas from the stomach through the mouth)

B- flatulence (expulsion of gas from the rectum).

- Patients often complain of bloating, distention, or feeling “full of gas” with excessive flatulence as a symptom of food intolerance.

Common symptoms

4- Nausea and Vomiting Nausea

- Nausea is a vague, uncomfortable sensation of sickness or “queasiness” that may or may not be followed by vomiting.
- Distention of the duodenum or upper intestinal tract is a common cause of nausea
- It can be triggered by odors, activity, medications, or food intake.
- Vomiting is the forceful emptying of the stomach and intestinal contents through the mouth.
- Emesis or vomitus, may vary in color and content and may contain undigested food particles, blood (hematemesis), or bilious material mixed with gastric juices.

Common symptoms

5-Change in Bowel Habits and Stool Characteristics

A. Diarrhea: increase in the frequency and liquidity of the stool, commonly occurs when the contents move so rapidly through the intestine and colon that there is inadequate time for the GI secretions and oral contents to be absorbed.

B.Constipation: a decrease in the frequency of stool, or stools that are hard, dry, and of smaller volume than normal, may be associated with anal discomfort and rectal bleeding.

Diagnostic Evaluation

General nursing interventions for the patient who is undergoing a GI diagnosticc evaluation include:

- Providing education to patients and families on the diagnostic test, and pre- and postprocedure restrictions and care.
- Helping the patient cope with discomfort and alleviating anxiety.
- Informing the primary provider of known medical conditions or abnormal laboratory values that may affect the procedure .
- Assessing for adequate hydration before, during, and immediately after the procedure, and providing education about maintenance of hydration.

Diagnostic Evaluation

- **Serum Laboratory Studies** : CBC, complete metabolic panel, triglycerides, liver function tests.

- **Stool Tests**: inspecting the specimen for consistency, color, and occult blood. Fecal occult blood testing (FOBT) is one of the most commonly performed stool tests.

Diagnostic Evaluation

❑Breath Tests

- The hydrogen breath test used in the diagnosis of bacterial overgrowth in the intestine.

- Urea breath tests detect the presence of Helicobacter pylori

Diagnostic Evaluation

❑Abdominal Ultrasonography:

- is a noninvasive diagnostic technique in which high frequency sound waves are passed into internal body structures.
- It is particularly useful in the detection of an enlarged gallbladder or pancreas, the presence of gallstones, an enlarged ovary, an ectopic pregnancy, or appendicitis.
- The patient is instructed to fast for 8 to 12 hours before ultrasound testing to decrease the amount of gas in the bowel.

Diagnostic Evaluation

❑ **Imaging Studies :**

- **Computed Tomography (CT)**

➢ provides cross-sectional images of abdominal organs and structures. Multiple x-ray images are taken from numerous angles, digitized in a computer, and then viewed on a computer monitor.

➢ Nursing Interventions : CT may be performed with oral or intravenous (IV) contrast. Assess for any allergies to contrast agents such as iodine; the patient's current serum creatinine level; and urine human must be determined before administration of a contrast agent.

Diagnostic Evaluation

❑ **Imaging Studies :**

- **Magnetic Resonance Imaging(MRI**) is used in gastroenterology to supplement ultrasonography and CT. This noninvasive technique uses magnetic fields and radio waves to produce images of the area being studied.
- **Nursing Interventions – Pre-Study Patient Education**

➢ Instruct the patient to remain NPO (nothing by mouth) for 6 to 8 hours before the procedure.

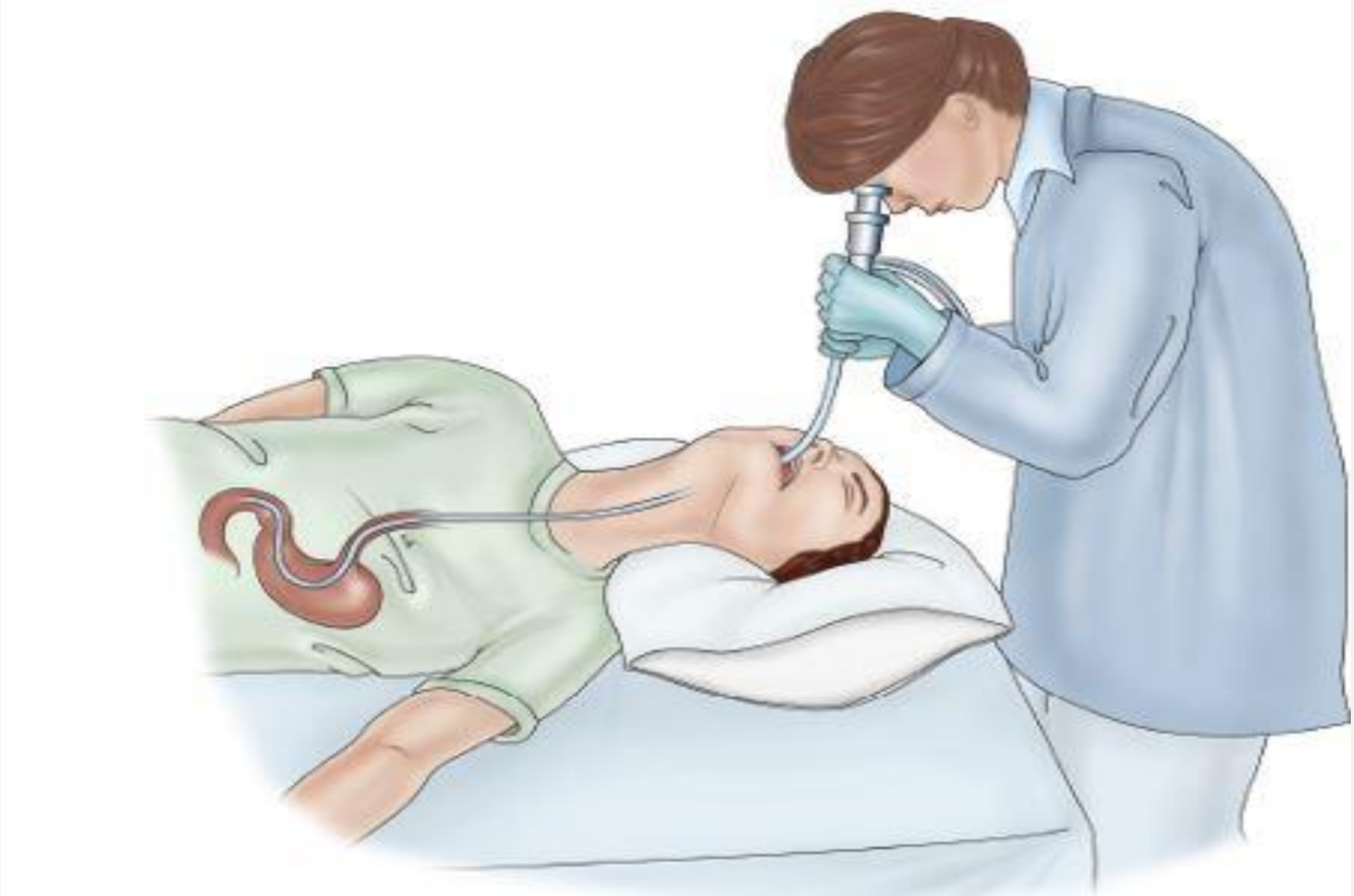
➢ Ensure the removal of all jewelry and metallic objects prior to the study.

➢ Inform the patient and family that the procedure will take approximately 60 to 90 minutes.

Diagnostic Evaluation

- **Endoscopy** uses a tube and a fiberoptic system (endoscope) for observing the inside of a hollow organ or cavity.

Procedure	Route	Purpose
Gastroscopy	Through the mouth	To examine the esophagus, stomach, and duodenum
Colonoscopy	Through the anus	To examine the colon and rectum
Laparoscopy	Through a small abdominal incision	To examine or operate on abdominal organs
Enteroscopy	Through the mouth	to examine the small intestine
Capsule Endoscopy	Through the mouth	Identifying sources of gastrointestinal bleeding or other conditions in the small intestine

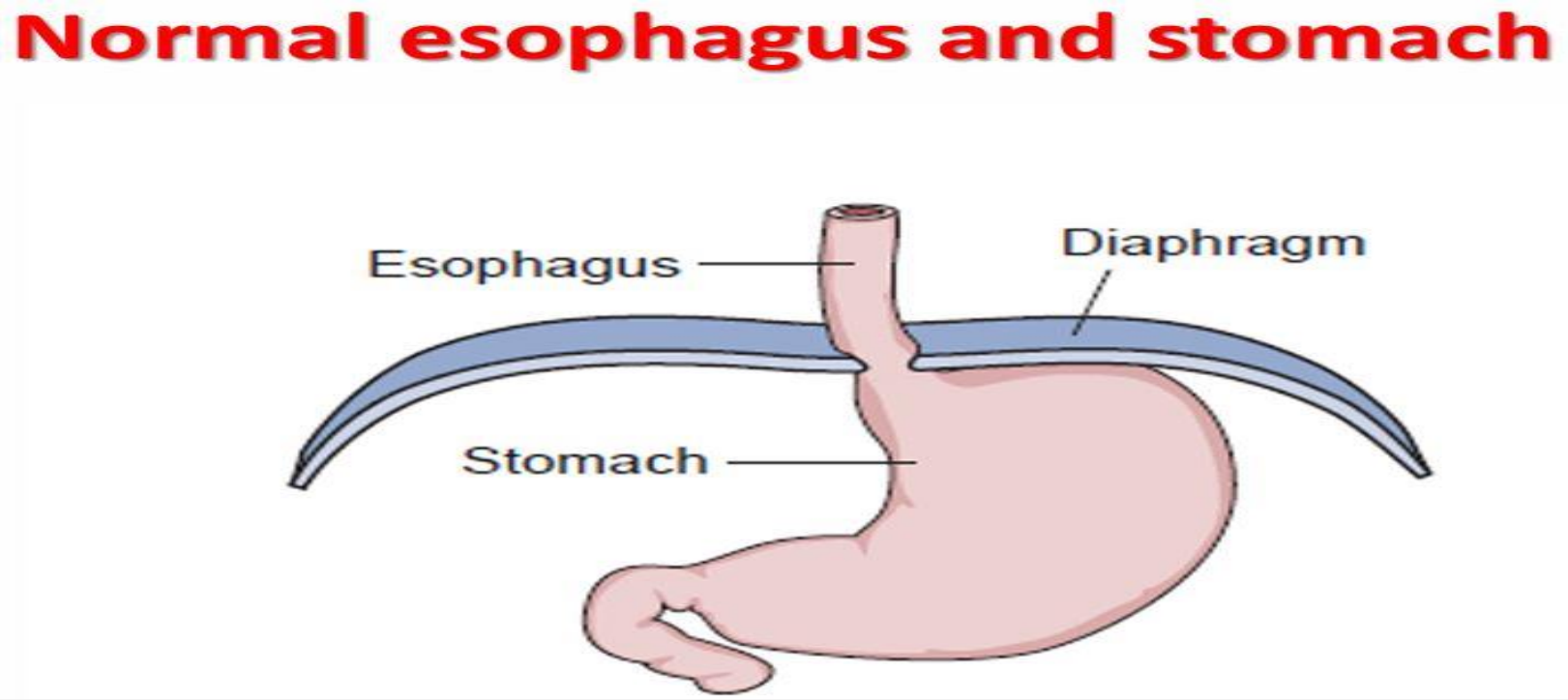


Most Common Condition in GIT

- Hernia:is a protrusion of a viscus or part of a viscus through an abnormal opening in the walls of its containing cavity .

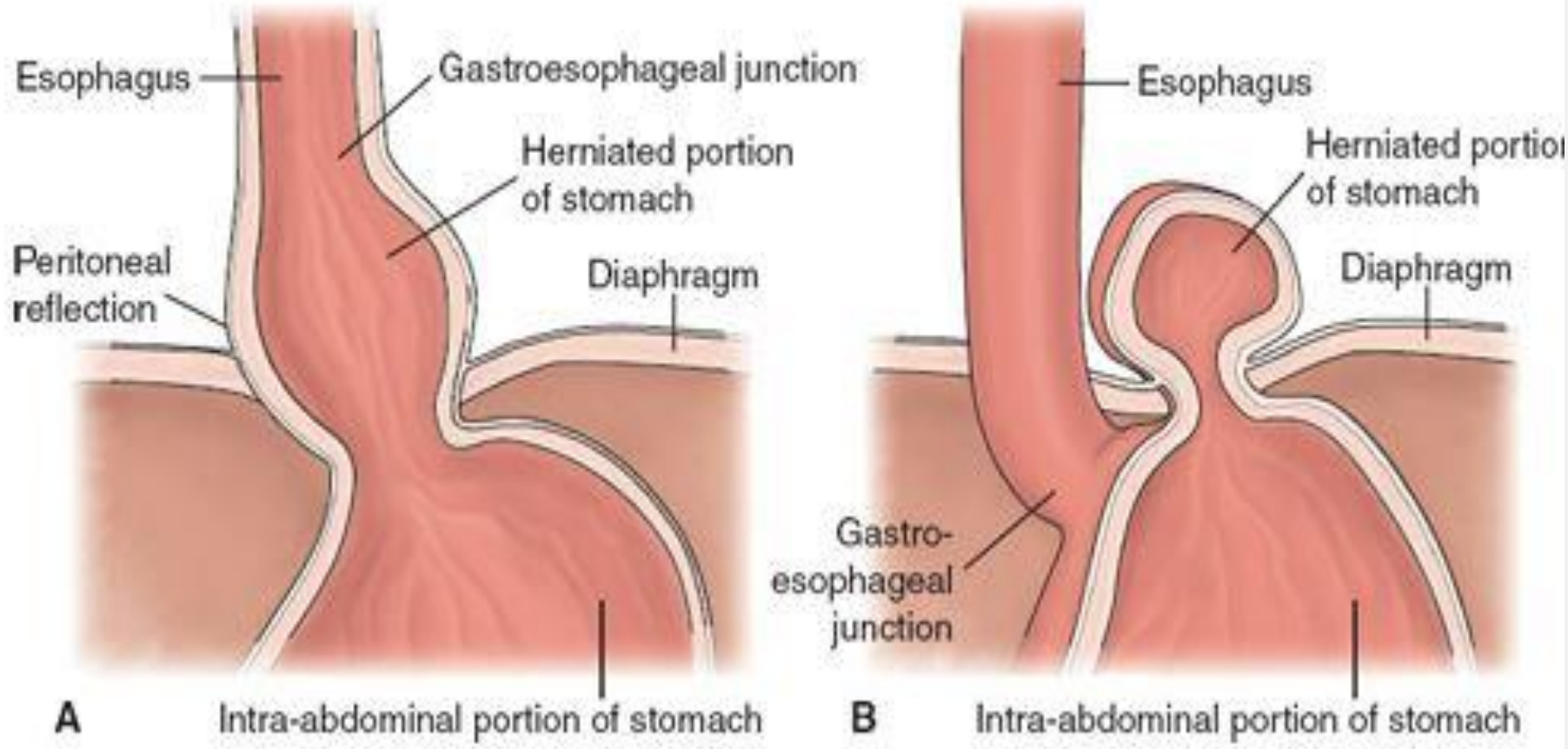
HIATAL HERNIA

- The esophagus passes through an opening in the diaphragm called the hiatus.
- **A hiatal hernia** is a condition in which part of the upper stomach moves up into the lower portion of the thorax.



Types of hiatal hernias

- **A. Sliding esophageal hernia:**The upper stomach and gastroesophageal junction have moved upward and slide in and out of the thorax.
- **B. Paraesophageal hernia:** All or part of the stomach pushes through the diaphragm next to the gastroesophageal junction.



NOTE:Between 90% and 95% of patients with esophageal hiatal hernia have a sliding hernia.

Clinical Manifestations of Sliding hernia

- The patient with a sliding hernia may have pyrosis, regurgitation, and dysphagia, but many patients are asymptomatic.
- The patient may present with vague symptoms of intermittent epigastric pain or fullness after eating.
- Large hiatal hernias may lead to intolerance to food, nausea, and vomiting.
- Sliding hiatal hernias are commonly associated with GERD.

Clinical Manifestations of Paraesophageal hernia

- Its symptoms may be more severe and varied.

- Complications of hemorrhage, obstruction, and strangulation possible.

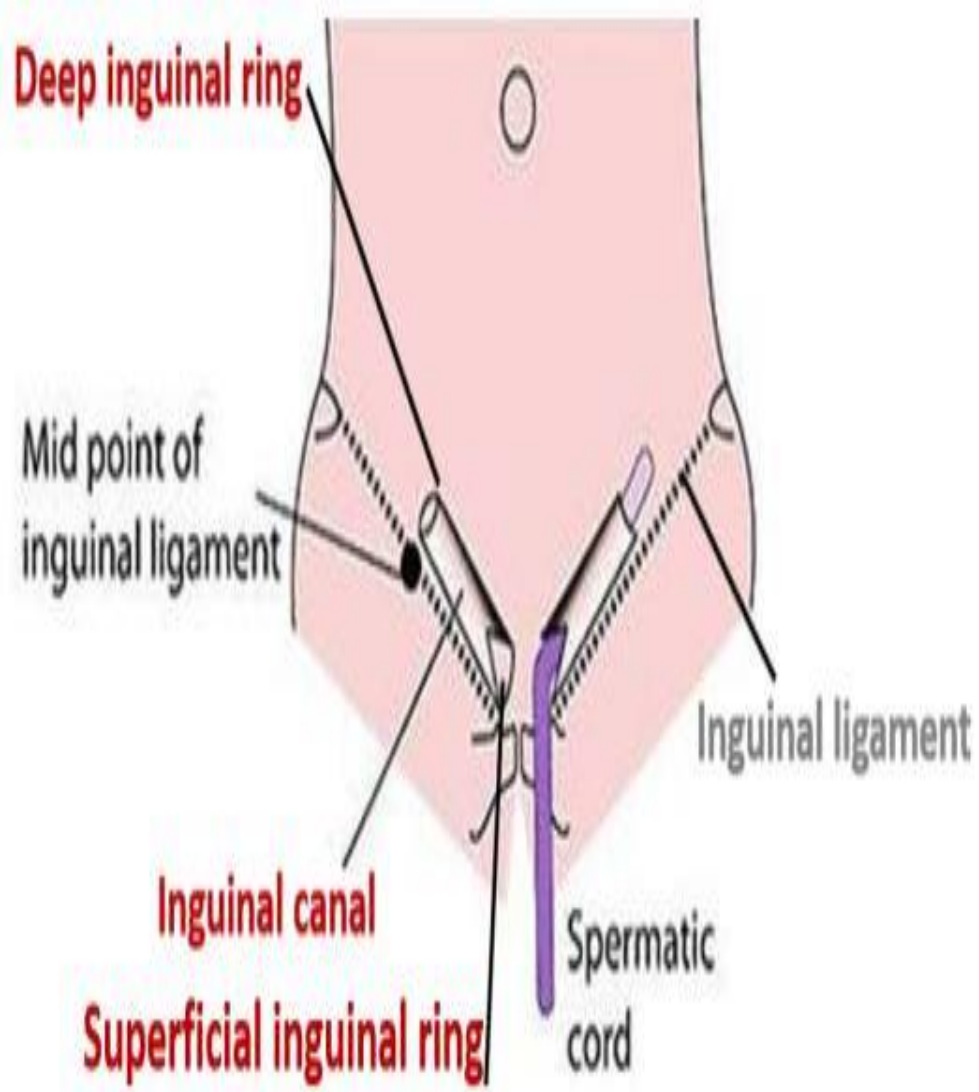
Inguinal Hernia

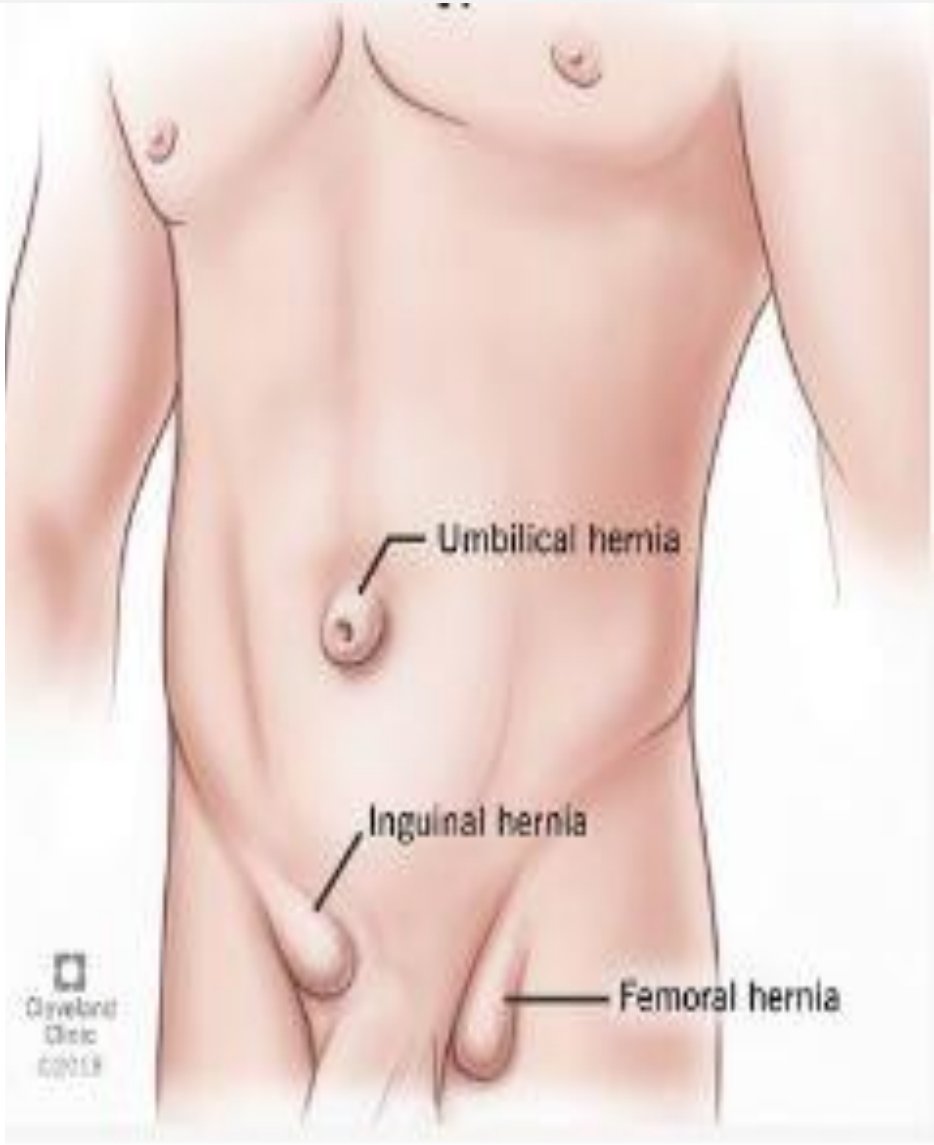
- Inguinal hernias are the most common type of hernia. They make up about 70 percent of all hernias.
- These hernias occur when the intestines push through a weak spot or tear in the lower abdominal wall, often in the inguinal canal.

- located in the groin where the spermatic cord in males or the round ligament in females

Cause Inguinal Hernia

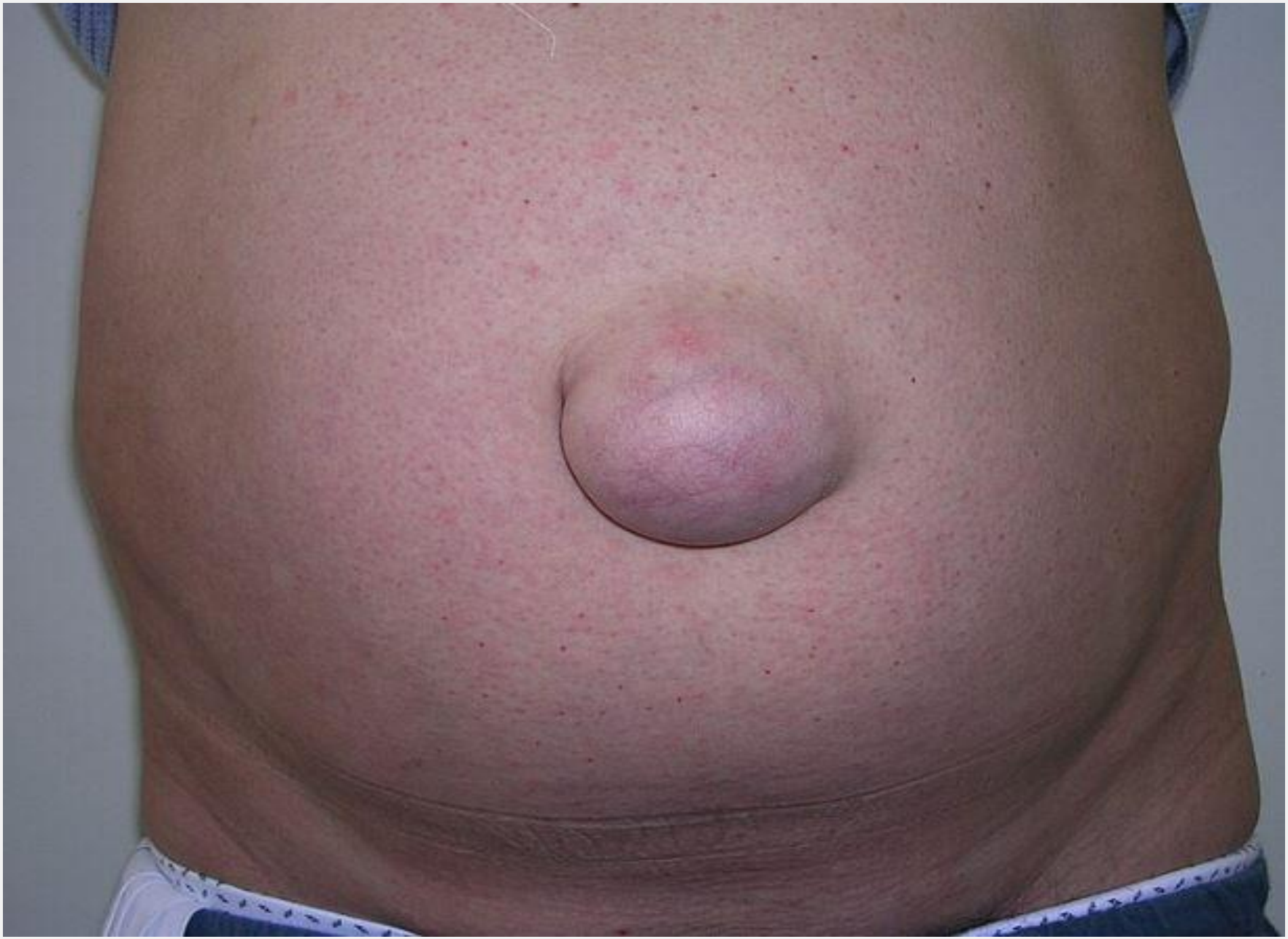
- Indirect hernias are caused by a defect of structural closure and it is most common
- Direct hernias are acquired and arise from a weakness in the abdominal wall, usually at old incisional sites


Deep inguinal ring
Mid point of inguinal ligament
Inguinal ligament
Inguinal canal
Spermatic cord
Superficial inguinal ring


Umbilical hernia
Inguinal hernia
Femoral hernia

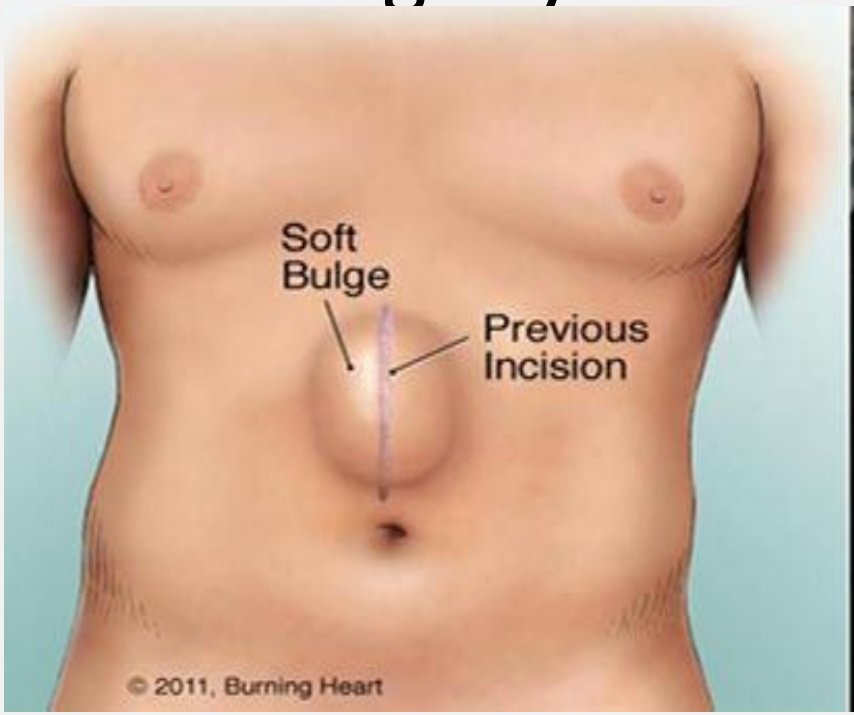
Umbilical hernias

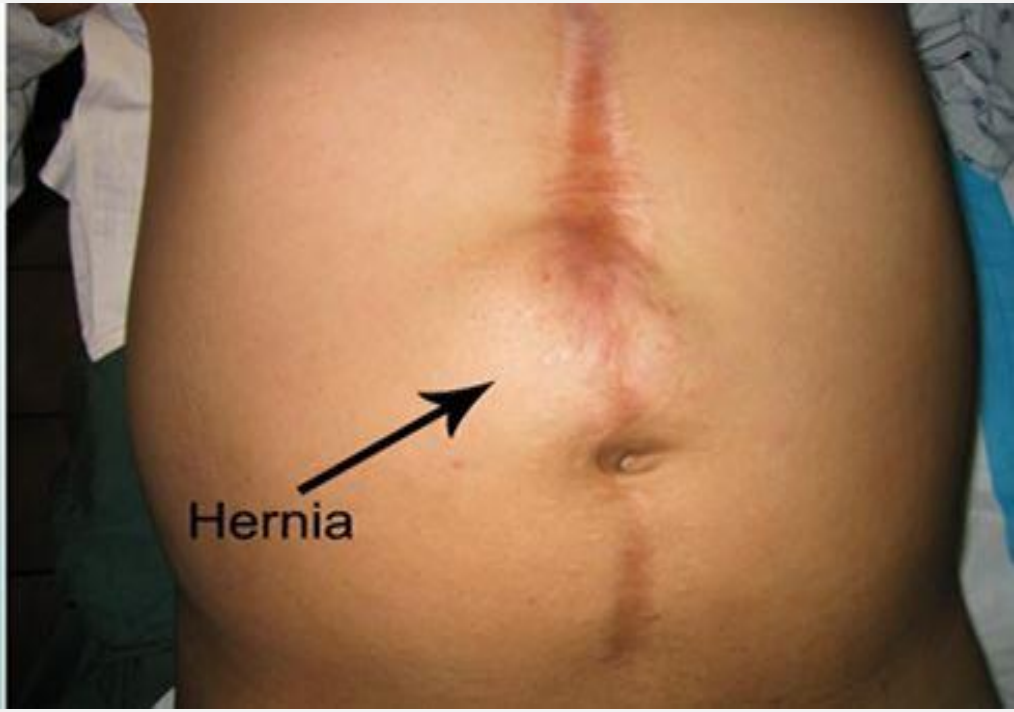
- Umbilical hernias are seen most often in obese women and in children. They are caused by a failure of the umbilical orifice to close.
- This happens when their intestines bulge through their abdominal wall near their belly button.



Ventral (incisional) hernias

- usually result from a weakness in the abdominal wall after abdominal surgery, especially in the obese patient, if a drainage system was used.





Treatment options for a hernia

- Whether or not you need treatment depends on the size of your hernia and the severity of your symptoms. Your doctor may simply monitor your hernia for possible complications.-
- Treatment options for a hernia include:
  - lifestyle changes
  - medication
  - surgery.

Lifestyle changes

changes can often treat the symptoms of a hiatal hernia:

- **Frequent, small meals:** Eating smaller portions more often helps food pass through the esophagus more easily.

- **Avoid reclining after eating:** Patients are advised to remain upright for at least an hour after meals to prevent reflux and the hernia from moving.

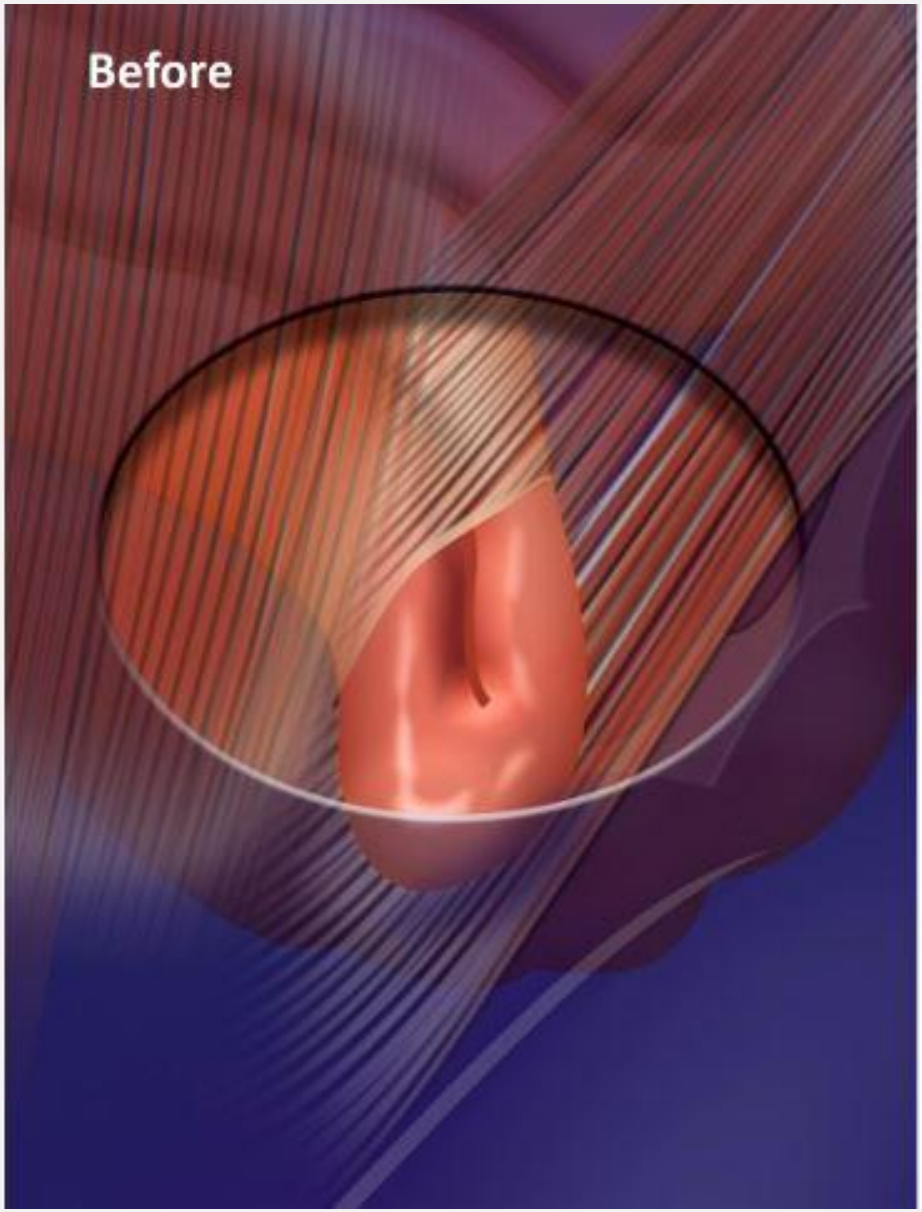
- **Elevate the head of the bed:** Raising the head of the bed by 4 to 8 inches (10 to 20 cm) can help prevent the hernia from sliding upwards during sleep.

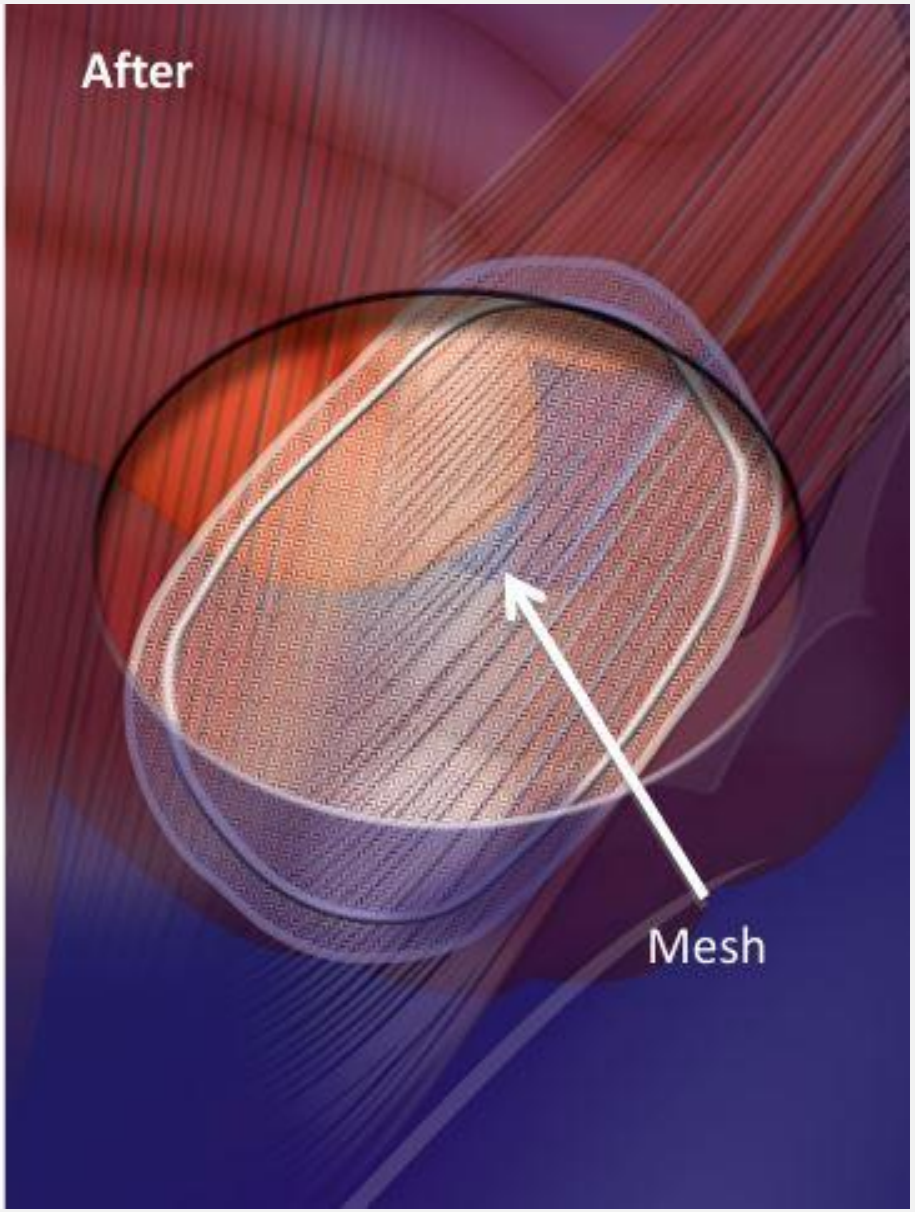
Lifestyle changes

- Avoid giving up cigarettes.
- Certain exercises may help strengthen the muscles around the hernia site, which may reduce some symptoms.
- If these changes don’t eliminate your discomfort, you may need surgery to correct the hernia.

Surgery

- **Hernia Repair Considerations**
- **When is surgery recommended?** Your doctor might advise surgery if your hernia is:
  - **Growing larger**
  - **Causing pain**
- **How is the repair done?** During surgery, your doctor will:
  - **Sew the hole** in the abdominal wall closed.
  - Most commonly, **patch the hole with surgical mesh** to reinforce the repair


Before


After
Mesh

Surgery

❖ Hernias can be repaired using two main surgical methods: open surgery or laparoscopic surgery.

➢ Laparoscopic Surgery

✓ Less Invasive

✓ This method causes less damage to the surrounding tissues.Faster Recovery

✓ Not Always Suitable:For example, hernias where a portion of the intestines has moved down into the scrotum (a specific type of inguinal hernia) are generally not suitable for this approach.

Surgery

- Open Surgery

✓ Longer Recovery: This method requires a more extended healing process.

✓ Restricted Movement: Patients may find their normal movement limited for up to six weeks after open surgery.

Postoperative Nursing Care after surgery

- Diet progression: The diet is slowly advanced from liquids to solids due to potential early postoperative dysphagia (difficulty swallowing).
- Nausea and vomiting management: Nurses manage these common postoperative issues.
- Monitoring: Nutritional intake and weight are tracked.
- Monitor for signs that might indicate the need for further surgical revision, such as excessive belching, vomiting, gagging, abdominal distention, or epigastric chest pain and reported to the healthcare provider.

Most Common Condition in GIT

Peptic Ulcer Disease: is a hollowed-out area or excavation that forms in the protective lining (mucosa) of the digestive tract.

❖ These ulcers are named based on their location:

- **Gastric ulcer:** Located in the stomach.
- **Duodenal ulcer:** Found in the duodenum (the first part of the small intestine, just after the stomach). These are generally **more common than gastric ulcers**.
- in the pylorus (the opening between the stomach and duodenum)
- **Esophageal ulcer:** Occurs in the esophagus

cause

❖ Peptic ulcer disease is caused most often by :

1. Bacterial infection with H. pylori .
2. NSAIDs (e.g., ibuprofen and aspirin).
3. Smoking and alcohol consumption may be risks
4. Familial tendency: People with blood type O are more susceptible to the development of peptic ulcers than are those with blood type A, B, or AB.
5. Exposure of the mucosa to gastric acid (HCl), pepsin, and other irritating agents.
6. **Stress ulcer** is the term given to the acute mucosal ulceration of the duodenal or gastric area that occurs after physiologically stressful events, such as burns, shock, sepsis, and multiple organ dysfunction syndrome

Clinical Manifestations

Duodenal ulcer	Gastric ulcer
Epigastric pain 2-3 hours after eating	Epigastric pain occurs immediately after eating
Abdominal pain can be relieved by eating	Abdominal pain cannot be relieved by eating
Pain often awaken patient during the night	Pain are less likely awaken patient at night

- Other nonspecific symptoms of either gastric ulcers or duodenal ulcers may include pyrosis, vomiting, constipation or diarrhea, and bleeding.

Complications

- Hemorrhage
- Perforation
- Penetration
- Gastric outlet obstruction
- Hypotension and tachycardia may occur, indicating the onset of shock.

Diagnosis

- Physical examination may reveal pain, epigastric tenderness, or abdominal distention.
- H. pylori can be diagnosed with several tests.
- Biopsy specimens during esophagogastroduodenoscopy (EGD).
- Blood test

Management

- **Life style change.**
- **Dietary Modification.**
- **Medications:**

- Triple therapy with two antibiotics (e.g., metronidazole or amoxicillin and clarithromycin) plus a proton pump inhibitor (e.g., lansoprazole, omeprazole, or rabeprazole) or H2 receptor antagonist

Types of Surgical Procedures for Peptic Ulcers:

1. Vagotomy

- **Purpose:** To reduce gastric acid secretion.
- **Procedure:** Involves cutting the **vagus nerves** which send signals to stimulate acid production in the stomach. This significantly reduces acid output.

2. With or without Pyloroplasty

- Vagotomy is often combined with **pyloroplasty**, a procedure to open the pylorus (the opening between the stomach and duodenum) to facilitate food passage, as vagotomy can slow gastric emptying

Types of Surgical Procedures for Peptic Ulcers:

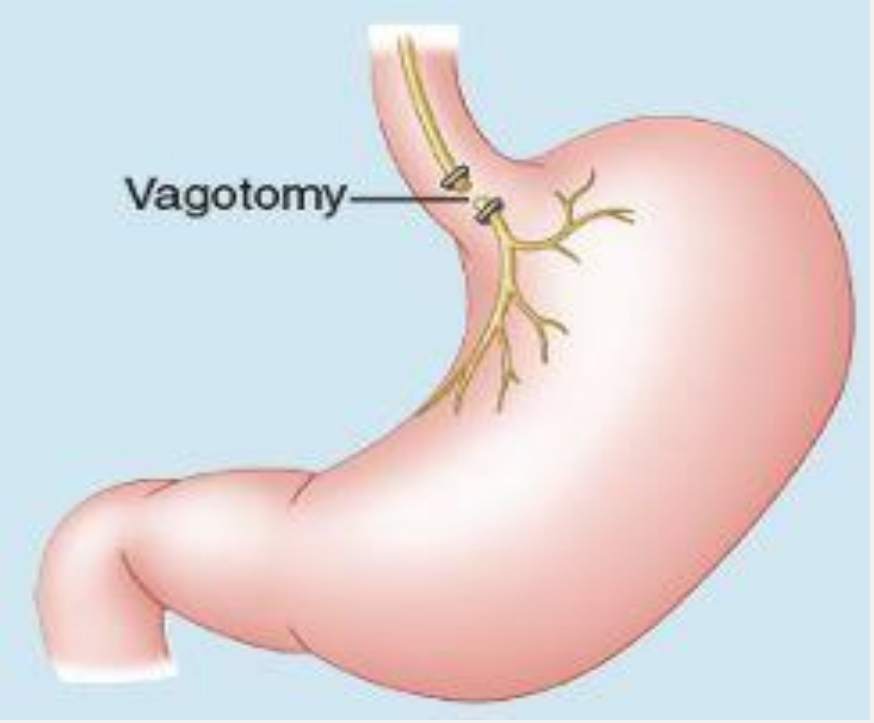
3. Antrectomy:

- **Purpose:** To remove the portion of the stomach responsible for secreting acid-stimulating hormones.
- **Procedure:** Involves removing the lower part of the stomach, known as the **antrum**. This section contains cells that produce the hormone gastrin, which stimulates stomach acid production

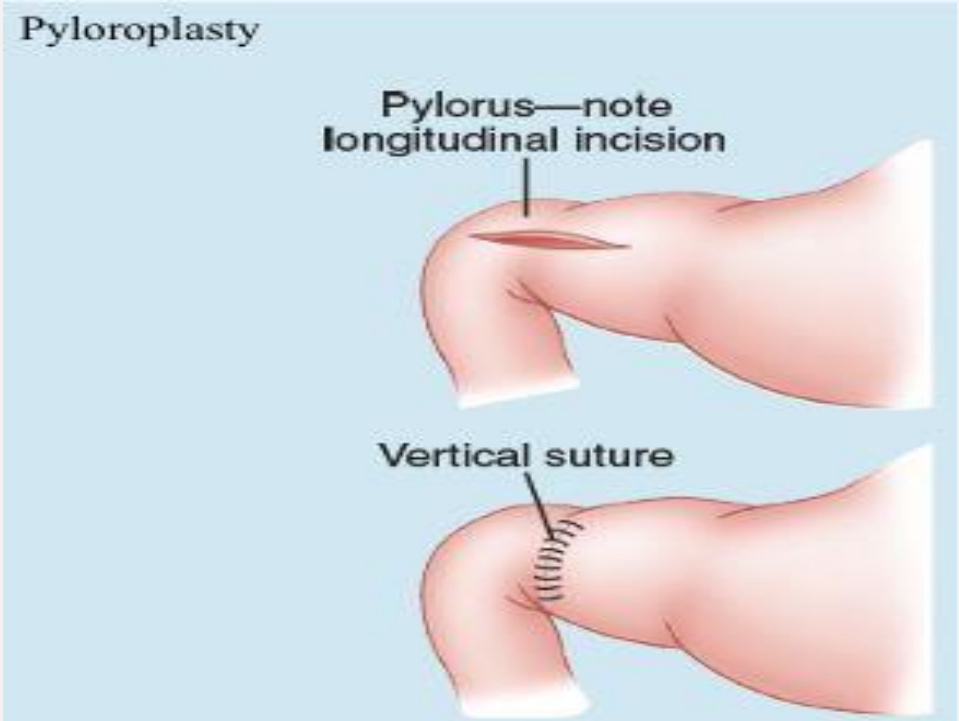
Types of Surgical Procedures for Peptic Ulcers:

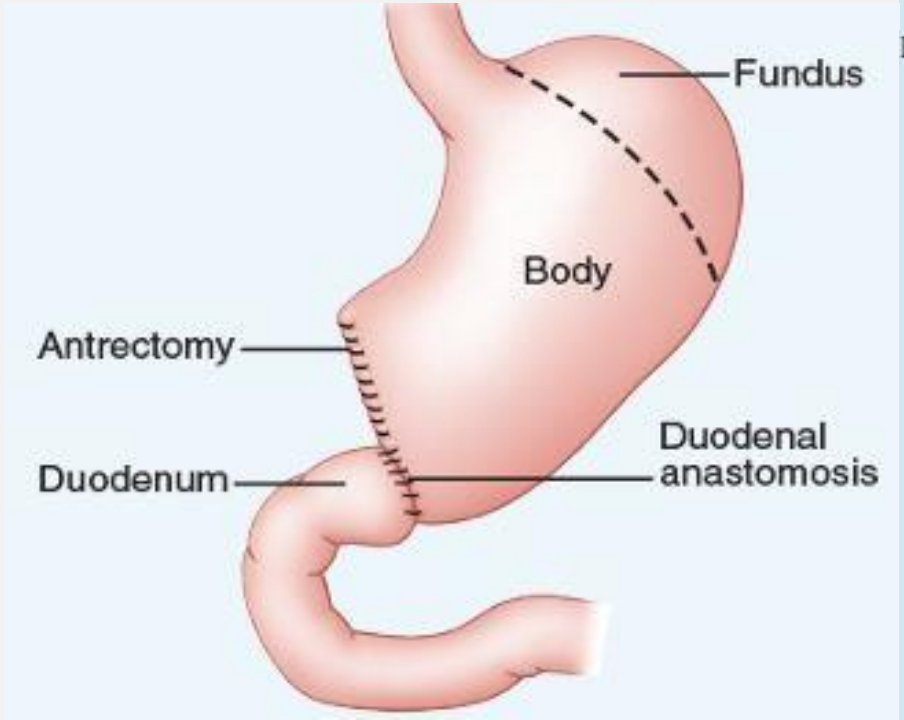
- **Anastomosis (Surgical Connection):** After removing the antrum, the remaining part of the stomach is surgically reconnected to the digestive tract in one of two main ways:

- ✓ **Gastroduodenostomy (Billroth I):** The stomach is connected directly to the duodenum.
- ✓ **Gastrojejunostomy (Billroth II):** The stomach is connected to the jejunum (the middle part of the small intestine)

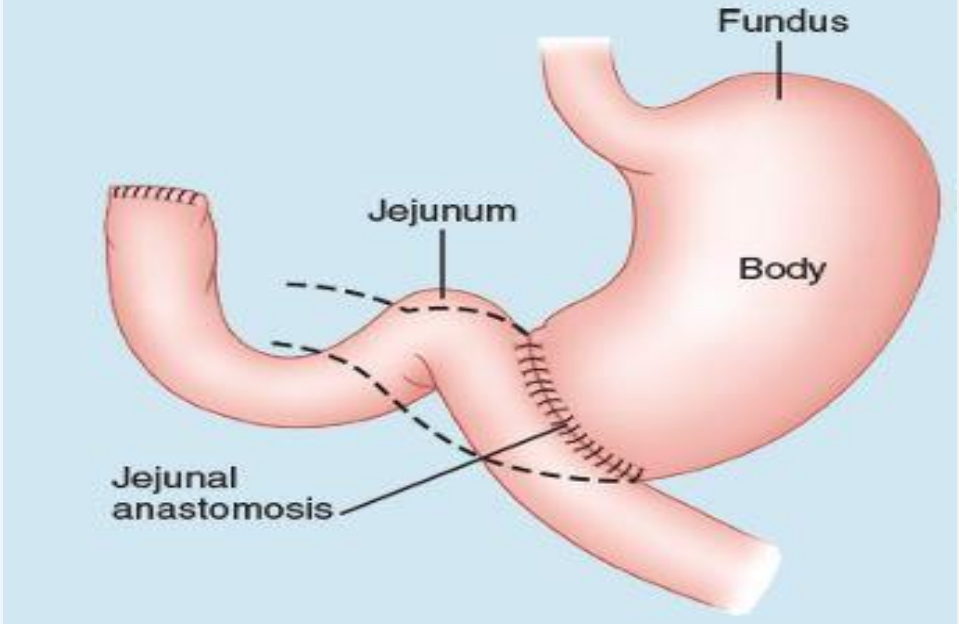


Pyloroplasty





Billroth II (gastrojejunostomy)



Nursing Diagnosis

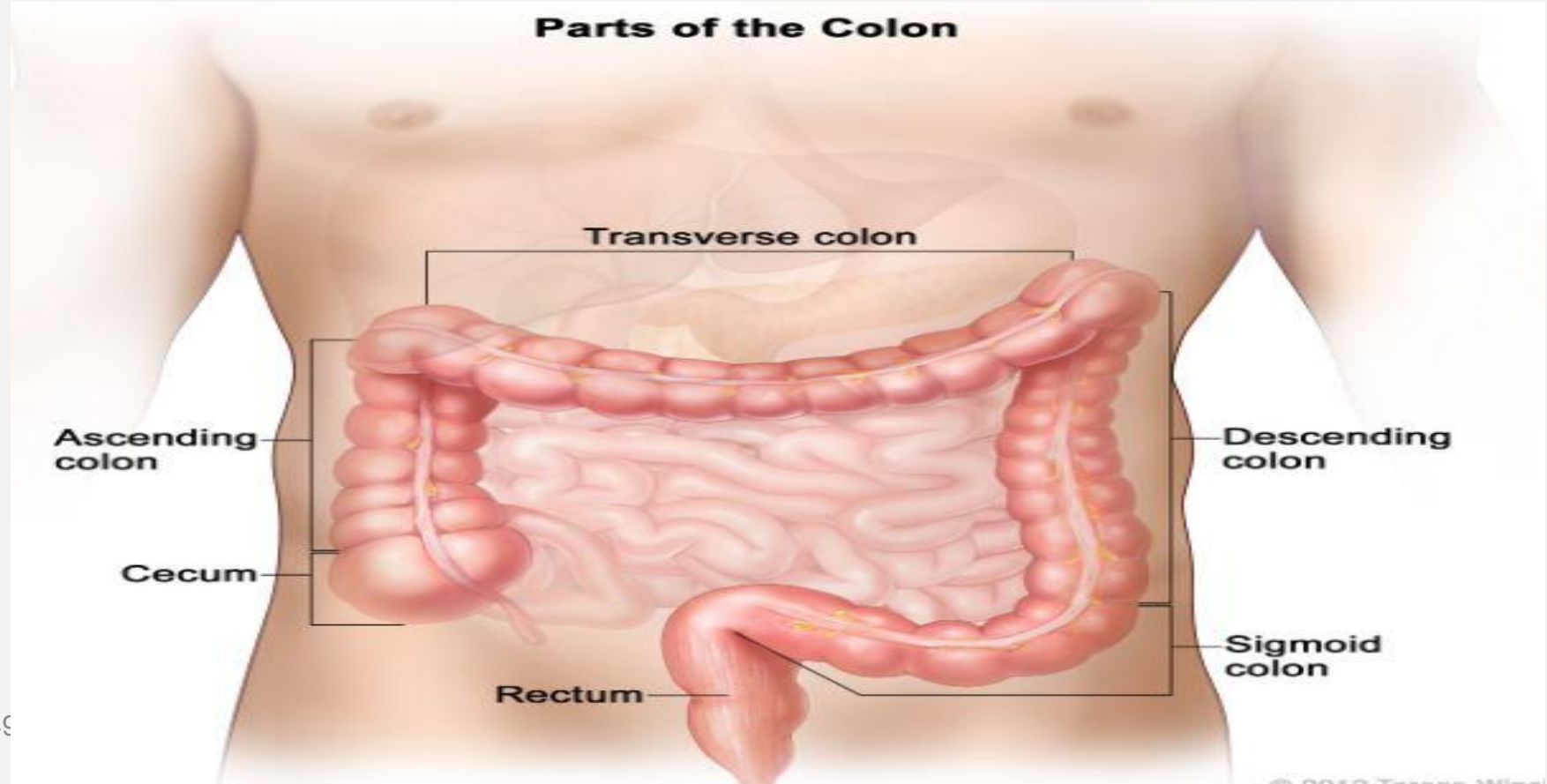
1. Acute pain related to the effect of gastric acid secretion on damaged tissue.
2. Anxiety related to an acute illness.
3. Imbalanced nutrition related to changes in diet.
4. Deficient knowledge about prevention of symptoms and management of the condition.

Nursing Interventions

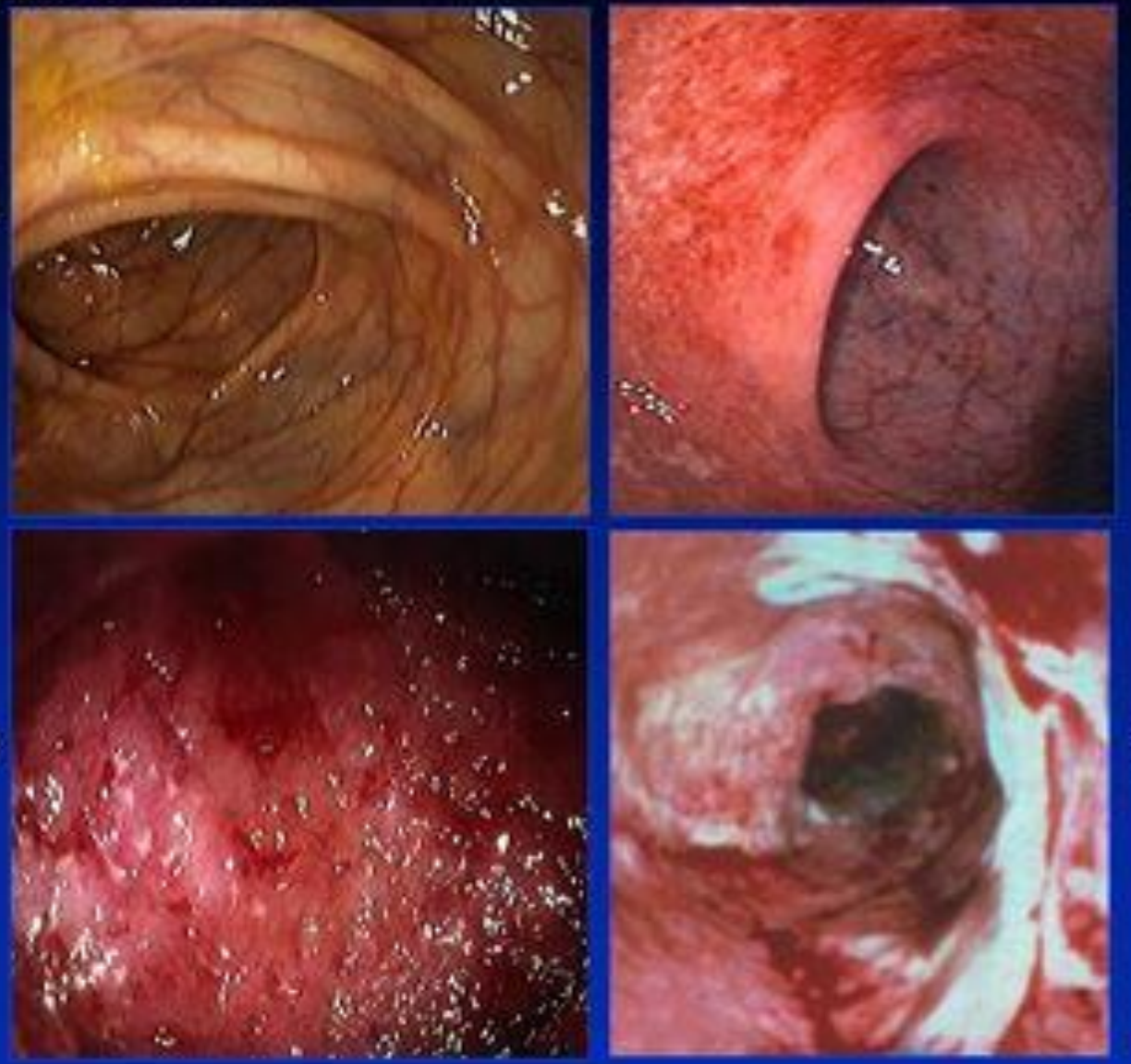
- Administer prescribed medications.
- Avoid aspirin, which is an anticoagulant, and foods and beverages that contain acid-enhancing caffeine (colas, tea, coffee, chocolate), along with decaffeinated coffee.
- Encourage relaxation techniques.
- Explain diagnostic tests and administering medications on schedule.
- Explain diagnostic tests and administering medications on schedule.
- Monitoring and Managing Complications

Most Common Condition in GIT

- **Ulcerative colitis:** is a chronic ulcerative and inflammatory disease of the mucosal and submucosal layers of the colon and rectum.



UC - Spectrum of Disease



Etiology

- Infection
- Allergy
- Aautoimmuneresponse.
- Environmental agents such as ,Pesticides tobacco and radiation
- food additives may precipitate an exacerbation.
- Diet or psychological stress may trigger or worsen an attack of symptoms.

Clinical Manifestations for Ulcerative colitis

- The disease is characterized by periods of **remission**, where symptoms are mild or absent, followed by periods of **exacerbations** (flares), where symptoms worsen significantly.

- **Predominant Intestinal Symptoms:**

✓ **Diarrhea:** Often accompanied by the passage of **mucus, pus, or blood**.

✓ **Left lower quadrant abdominal pain:** A common location for pain in this condition.

✓ **Intermittent tenesmus:** A painful, urgent feeling of needing to defecate, even if the bowel is empty.

Clinical Manifestations for Ulcerative colitis

- **Bleeding and Related Consequences:**
  - ✓ Bleeding can range from **mild to severe**.
  - ✓ Chronic bleeding often leads to **pallor**, **anemia**, and **fatigue**
- **Systemic and General Symptoms:**
  - ✓ **Anorexia** and **weight loss**.
  - ✓ **Fever**, **vomiting**, and **dehydration**.
  - ✓ **Cramping** abdominal pain

Complications

- Toxic Megacolon
- Perforation
- Bleeding
- increased risk of osteoporotic fractures
- increased risk for colon cancer

Managements

- Along with the potential for parenteral nutrition may be needed to meet nutritional needs during acute exacerbations.
- As with Crohn's disease, antidiarrheal, anti-inflammatory, and immunosuppressant agents may be given.
- Corticosteroids are used if needed to reduce inflammation.
- If medical treatment is ineffective, surgery is considered.
- Because ulcerative colitis usually involves the entire large intestine, the surgery of choice is total proctocolectomy with formation of an ileostomy.

Most Common Condition in GIT

- **Irritable Bowel Syndrome (IBS):** is a chronic functional disorder characterized by recurrent abdominal pain associated with disordered bowel movements, which may include diarrhea, constipation, or both, without an identifiable cause

Risk Factors for (IBS)

Family history of IBS

Being a member of the female sex

Being less than 50 years old

History of mental health conditions

Use of antibiotics

Prior GI infections

Clinical Manifestations for **IBS**

- Alteration in bowel patterns: constipation, diarrhea, or a combination of both.

- Pain, bloating, and abdominal distention often accompany changes in bowel pattern.

- The abdominal pain is sometimes precipitated by eating and is frequently relieved by defecation.

Assessment and Diagnostic Findings for **IBS**

- the diagnosis of irritable bowel syndrome require that patients have had recurrent abdominal pain or discomfort at least 3 days per month during the previous 3 months that is associated with 2 or more of the following:

(1) Improvement with defecation

(2) Change in frequency of stool

(3) Change in appearance (form) of stool.

Diagnostic Findings for IBS

- ✓ Stool studies
- ✓ Contrast x-ray studies
- ✓ Proctoscopy
- ✓ Barium enema and colonoscopy

Nursing Management IBS

- Patient and family education about good dietary habits.
- Patient Identify problem foods is to keep a 1- to 2-week food diary.
- Alcohol and cigarette smoking are discouraged
- Stress management via relaxation techniques, yoga, or exercise can be recommended
- Prevent symptoms by eliminating milk and milk substances.
- Recognize that milk and milk products are rich sources of calcium and vitamin D; elimination of milk from the diet may result in calcium and vitamin D deficiencies

Medical Management IBS

- The goals of treatment are relieving abdominal pain, controlling the diarrhea or constipation, and reducing stress.
- Restriction and then gradual reintroduction of irritating foods (e.g., beans, caffeinated products , dairy lactose, fried foods, alcohol and spicy foods).
- A high-fibre diet .
- Medications: Antidiarrheal agents (e.g., loperamide) - Antidepressants - Anticholinergics or antispasmodics.


THANK
YOU