



عنوان المحاضرة

المحاضرة الثامنة : الجهاز الهضمي

Digestive System

ZUHEIR ALSHEHABI

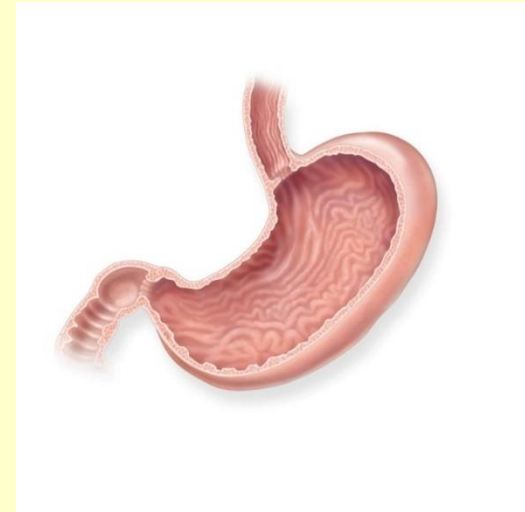
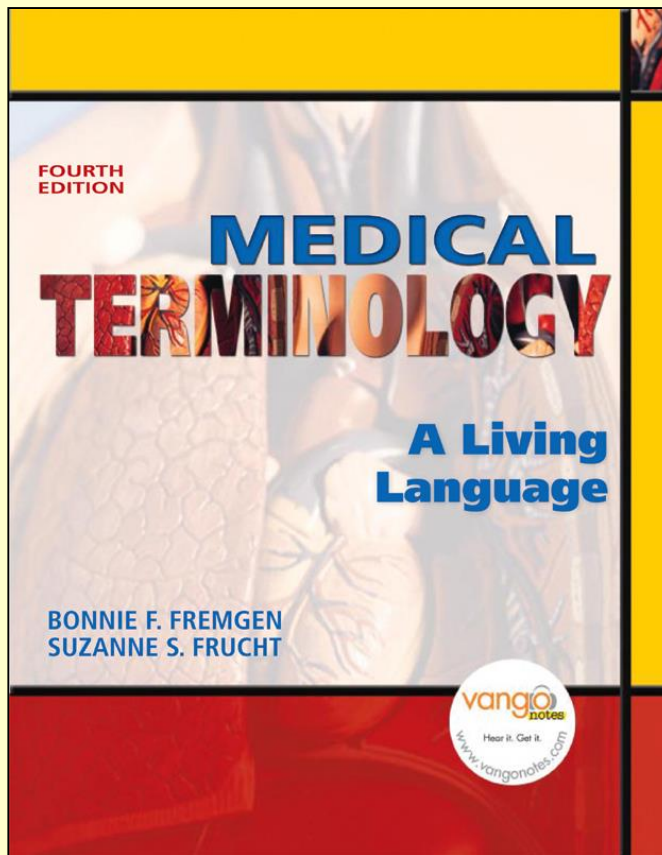
MD, PHD, FASCP

2022

<https://manara.edu.sy/>

Medical Terminology

A Living Language

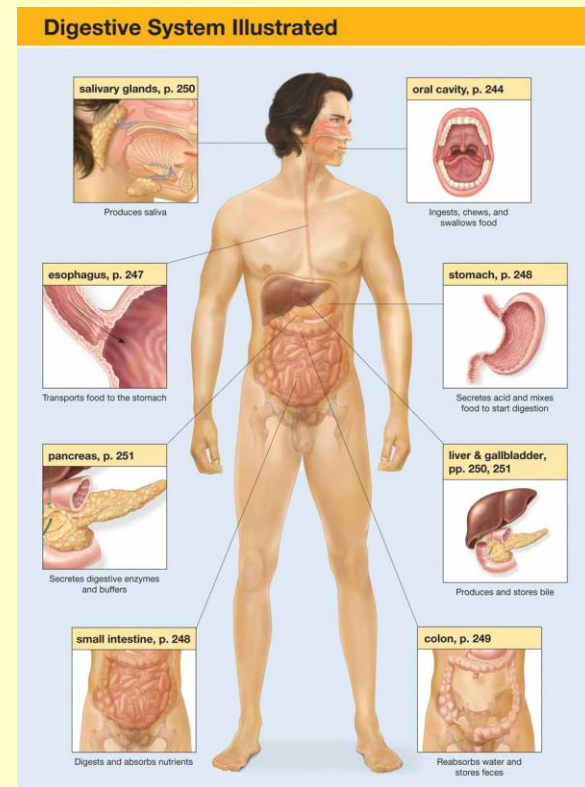


جهاز الهضم
Digestive System

Digestive System at a Glance

- Organs of the Gastrointestinal tract

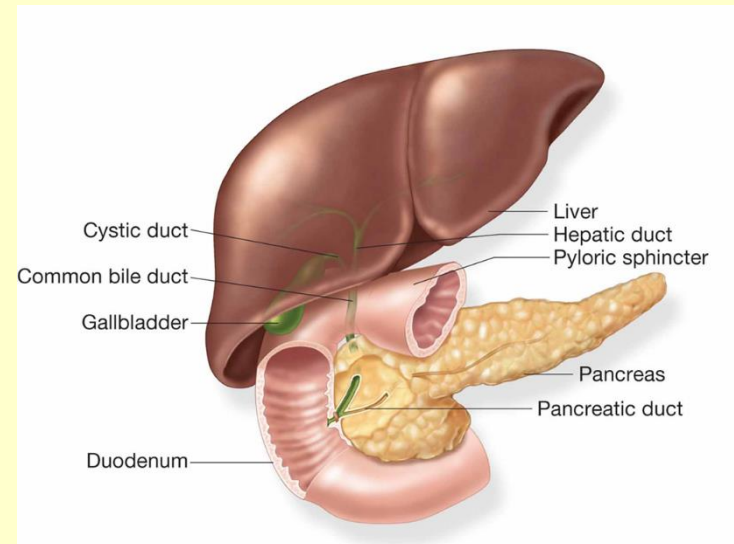
- Oral cavity جوف الفم
- Pharynx البلعوم
- Esophagus المري
- Stomach المعدة
- Small intestine الأمعاء الدقيقة
- Colon الكولون



Digestive System at a Glance

- Accessory Organs

- Pancreas البنكرياس
- Liver الكبد
- Gallbladder الحويصل الصفراوي
- Salivary glands الغدد اللعابية



Digestive System Combining Forms

الأشكال المولفة

- an/o الشرج anus
- append/o الزائدة appendix
- appendic/o appendix
- chol/e الصفراء bile, gall

Digestive System Combining Forms

- | | | |
|-------------|-------------|-----------------|
| ● enter/o | أمعاء دقيقة | small intestine |
| ● esophag/o | المرى | esophagus |
| ● gastr/o | المعدة | stomach |
| ● hepat/o | الكبد | liver |
| ● ile/o | الدقاق | ileum |

Digestive System Suffixes

- –emesis قيء vomit
- –lithiasis حصيات stone
- –orexia شهية appetite
- –pepsia هضم digestion

Anatomy and Physiology

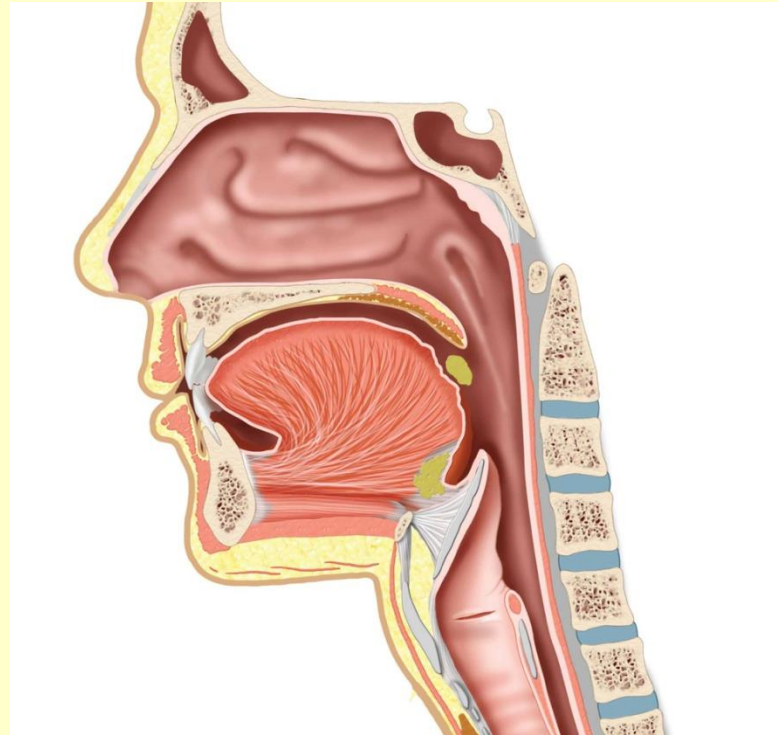
- Organs of the continuous gut tube in order:
 - **Oral cavity**
 - **Pharynx**
 - **Esophagus**
 - **Stomach**
 - **Small intestine**
 - **Colon (including rectum and anus)**

Anatomy and Physiology

- **Accessory organs** are connected to gut tube by ducts
- Include:
 - **Salivary glands**
 - **Pancreas**
 - **Liver**
 - **Gallbladder**

Pharynx البلعوم

- Swallowed food enters **oropharynx**
- Proceeds down pharynx into **laryngopharynx**
- **Epiglottis**
 - Covers larynx and trachea
 - Shunts food away from lungs & into esophagus

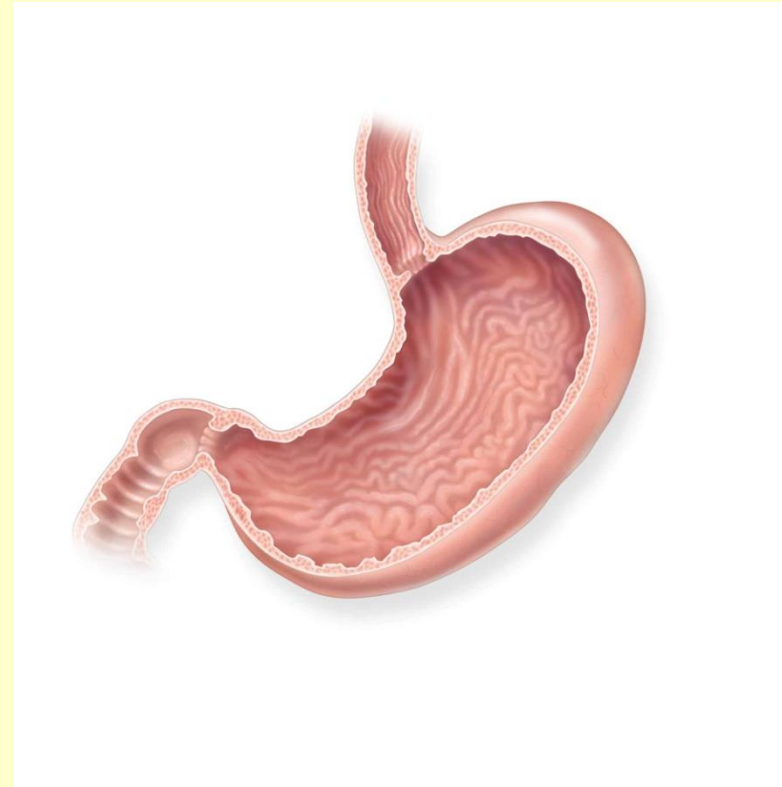


Esophagus المري

- 10-inch long muscular tube
- Food enters from pharynx
- Delivered to stomach
- Propelled along by wavelike muscular movements
 - Called **peristalsis**
 - Pushes food through entire gut tube

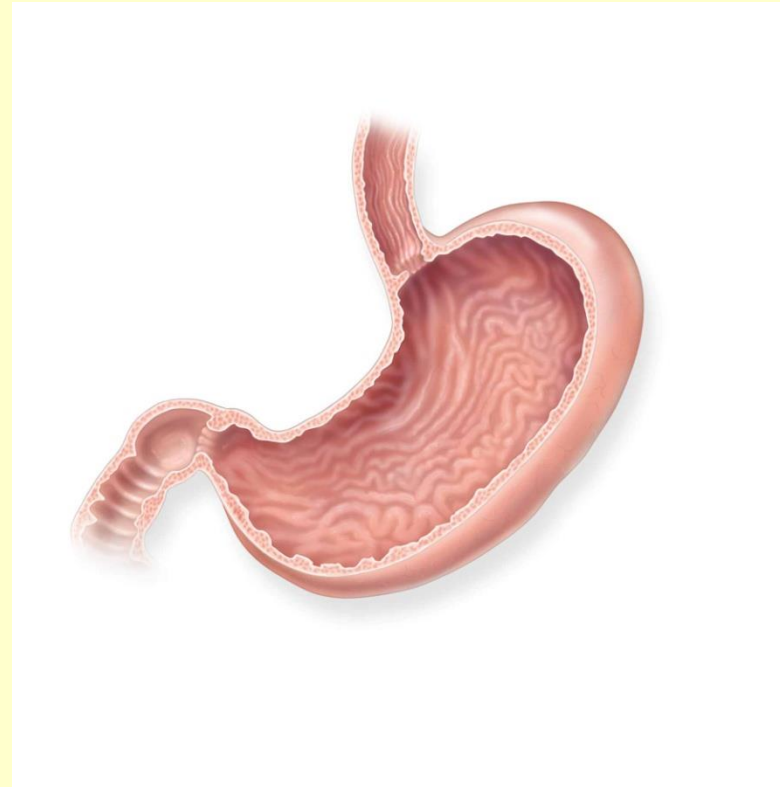
The Stomach المعدة

- J-shaped muscular organ
- Collects & churns food
 - Mixes it with **hydrochloric acid (HCl)**
- Forms **chyme**
 - Watery mix of food and digestive juices



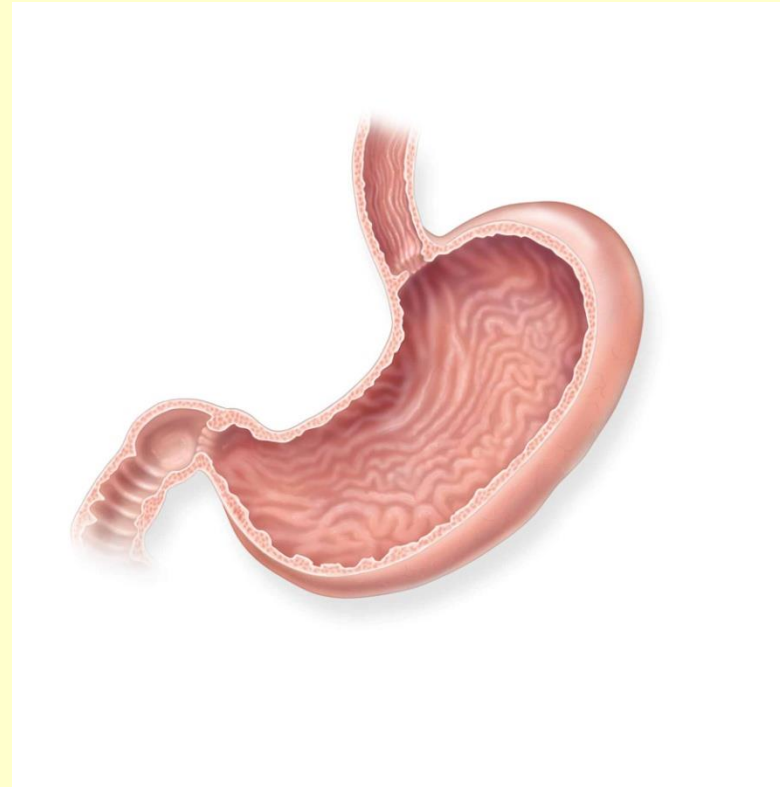
The Stomach

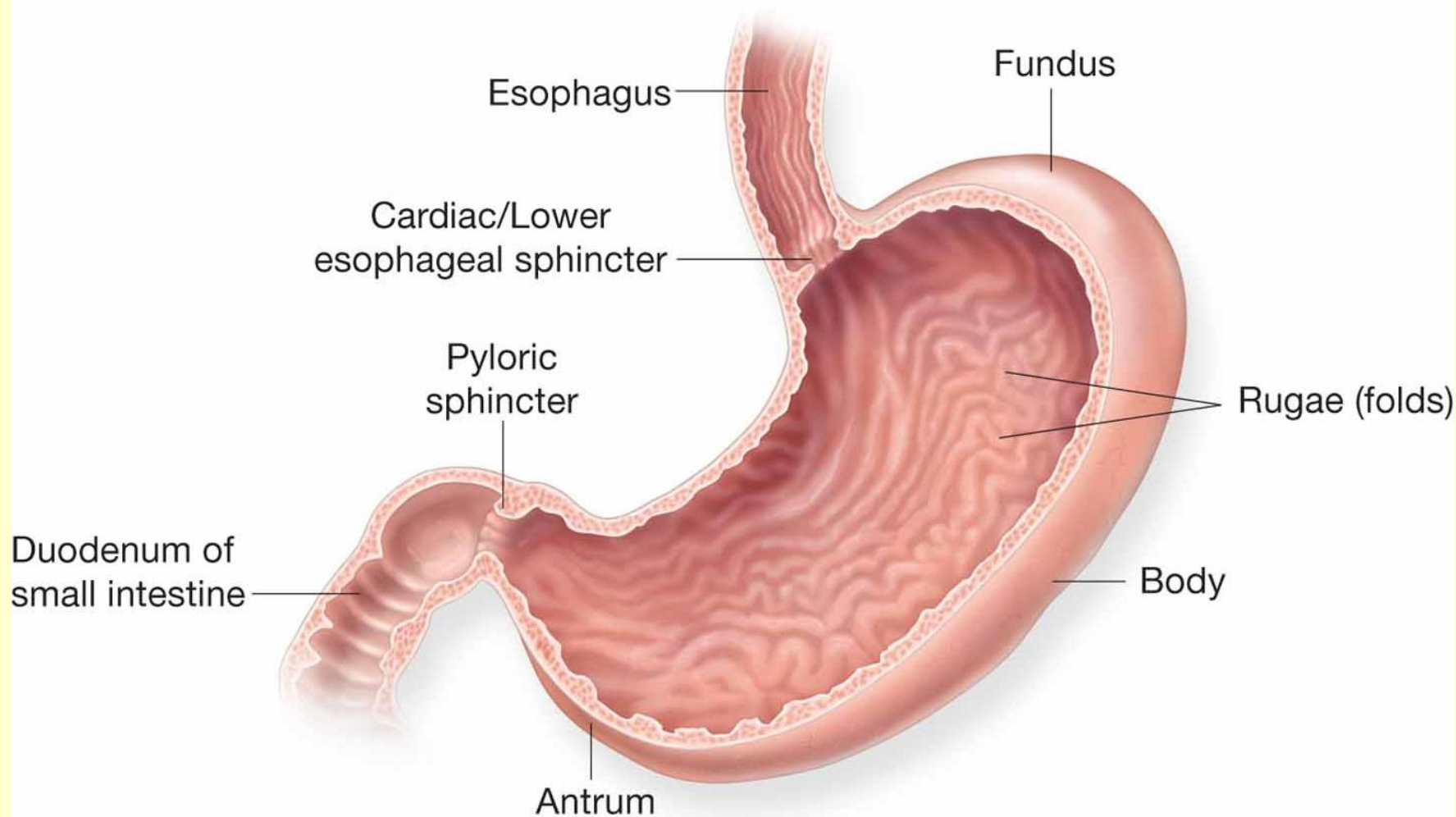
- Three regions
 - **Fundus** – upper
 - **Body** – main
 - **Antrum** – lower
- **Rugae** are folds in stomach lining
 - Stretch out to allow stomach to expand with food



Sphincters المعصرات

- Muscular valves
 - Control flow of food
- **Lower esophageal (cardiac) sphincter**
 - Keeps food from backing up into esophagus
- **Pyloric sphincter**
 - Allows highly acidic chyme to enter small intestine

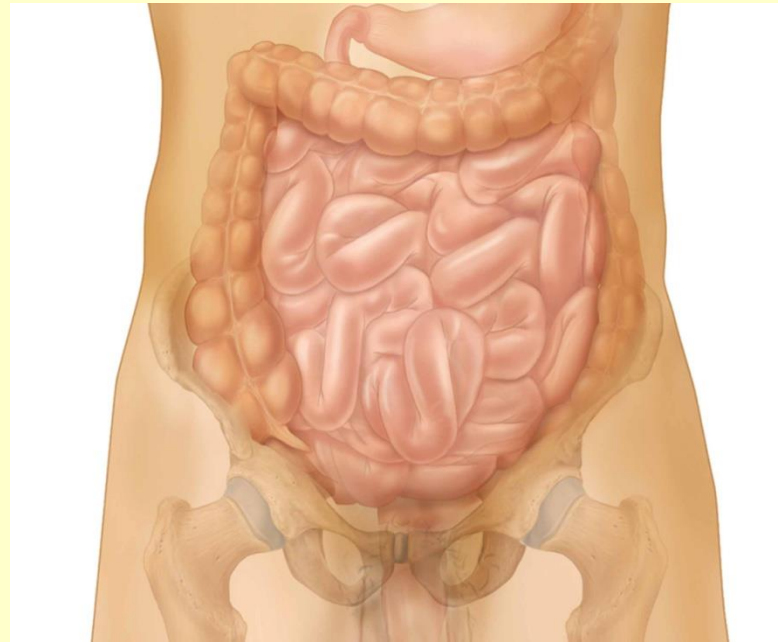




The regions and internal structures of the stomach.

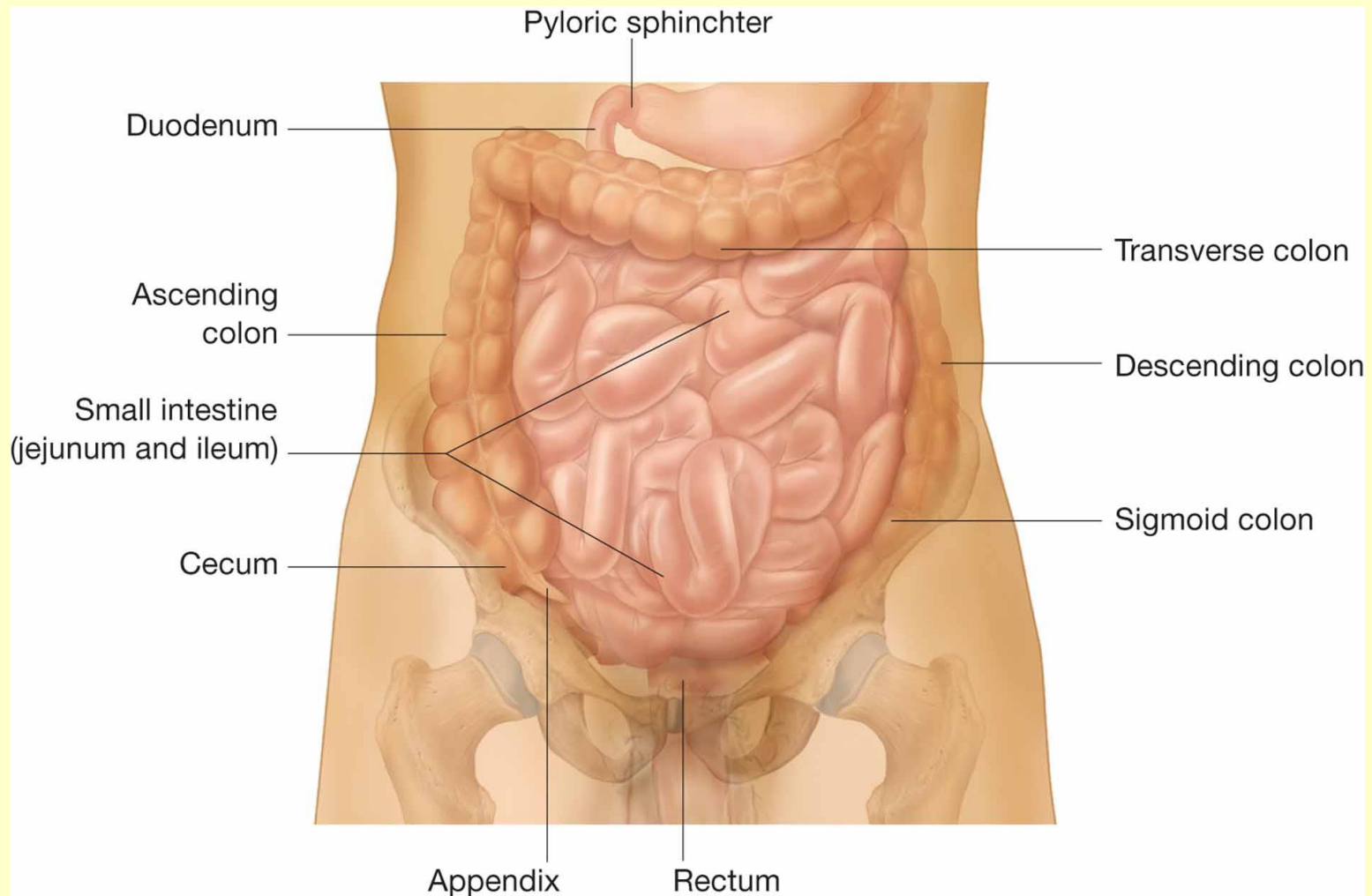
Small Intestine الأمعاء الدقيقة

- Longest portion of alimentary canal
 - Averages 20 feet
 - Between pyloric sphincter and colon
- Site of:
 - Completion of digestion
 - Majority of absorption



Three Sections of Small Intestine

- Duodenum
 - First section – about 10-12 inches long
 - Starts at pyloric sphincter
- Jejunum
 - Second section – about 8 feet long
- Ileum
 - Third section – about 12 feet long
 - Connects to colon at ileocecal valve



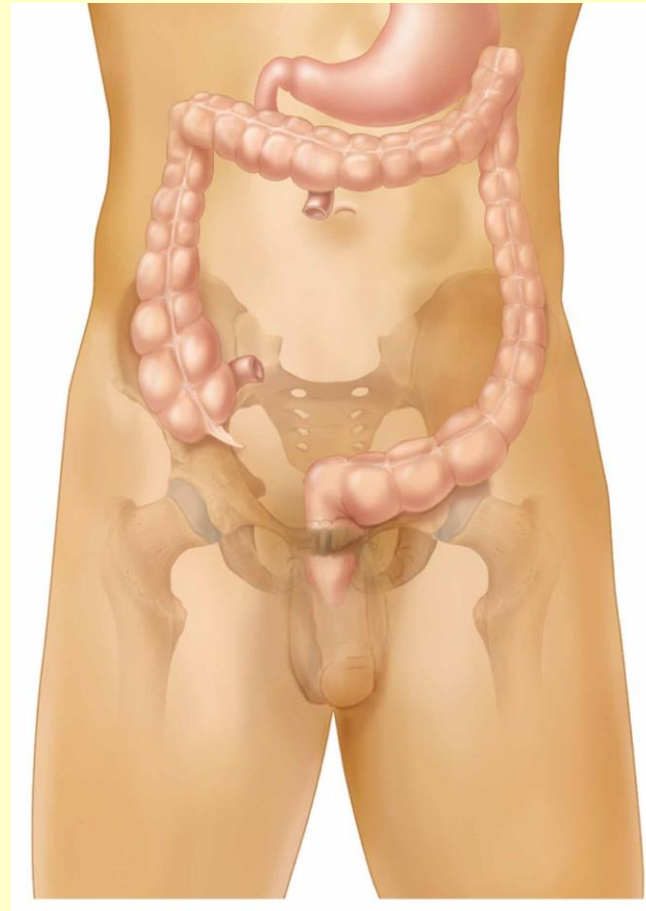
The small intestine – duodenum, jejunum, ileum – begins at the pyloric sphincter and ends at the colon.

Colon الكولون

- 5 feet long
- Extends from **ileocecal valve** to **anus**
- Fluid that remains after digestion and absorption enters colon
- Most is water and is reabsorbed into body
- Solid waste left over is **feces**
- Evacuated in bowel movements

Regions of the Colon

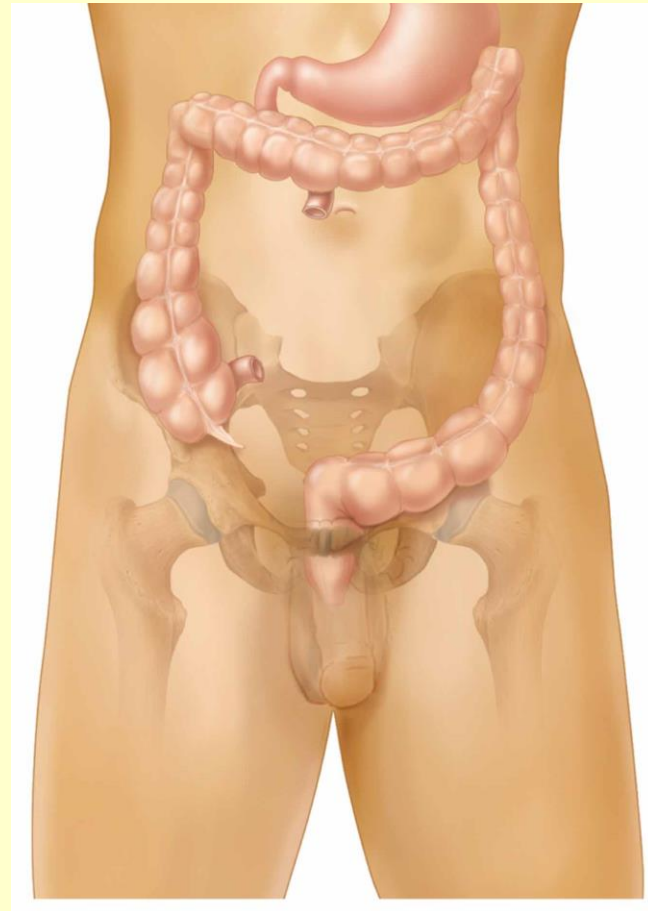
- **Cecum**
 - **Appendix**
- **Ascending colon**
- **Transverse colon**
- **Descending colon**
- **Sigmoid colon**



المستقيم والشرج Rectum and Anus

- **Rectum** is area for storage of feces
- Leads to anus
 - External opening of alimentary canal
- Feces are evacuated
 - Called **defecation**

التغوط

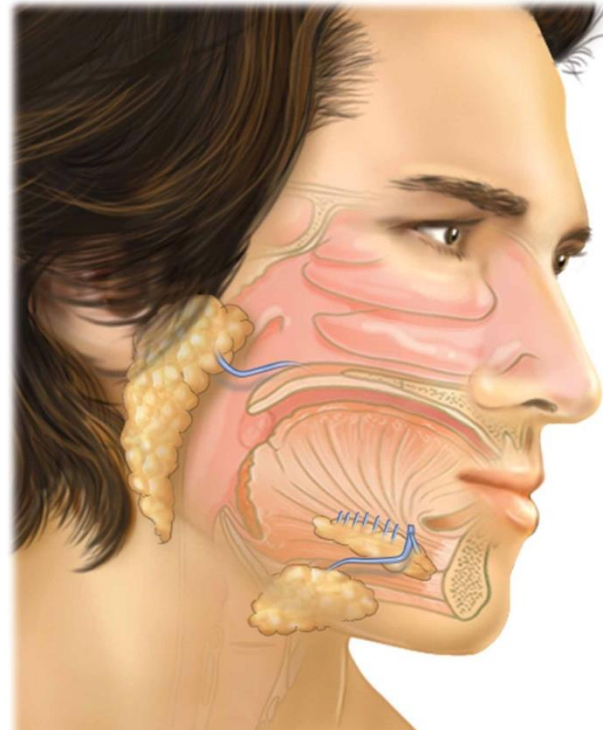


Accessory Organs الأعضاء الملحقة

- Generally function by producing substances necessary for chemical breakdown of food
- Salivary glands الغدد اللعابية
- Liver الكبد
- Gallbladder الحويصل الصفراوي
- Pancreas البنكرياس

Salivary Glands الغدد اللعابية

- Three pairs
 - Parotid glands
 - Sublingual glands
 - Submandibular glands

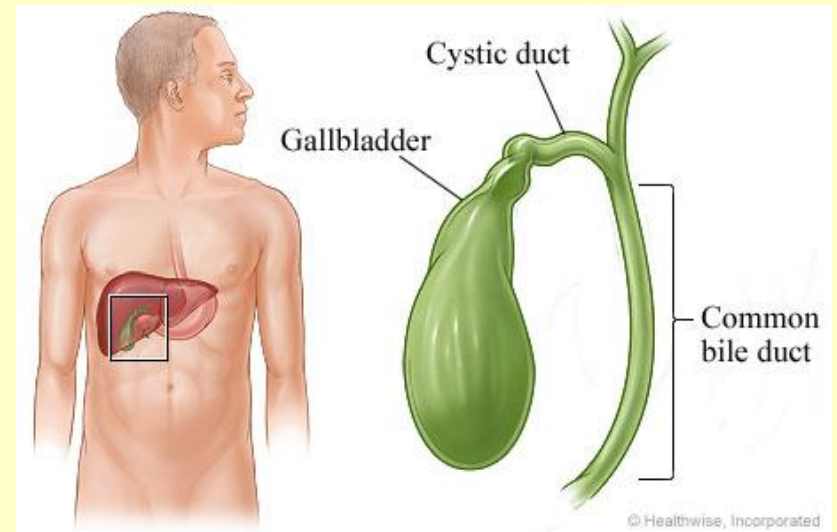


Liver الكبد

- Located in right upper quadrant of abdomen
- Processes nutrients
- Detoxifies harmful substances
- Produces **bile**
 - **Emulsification**
 - Breaks up large fat globules into smaller droplets

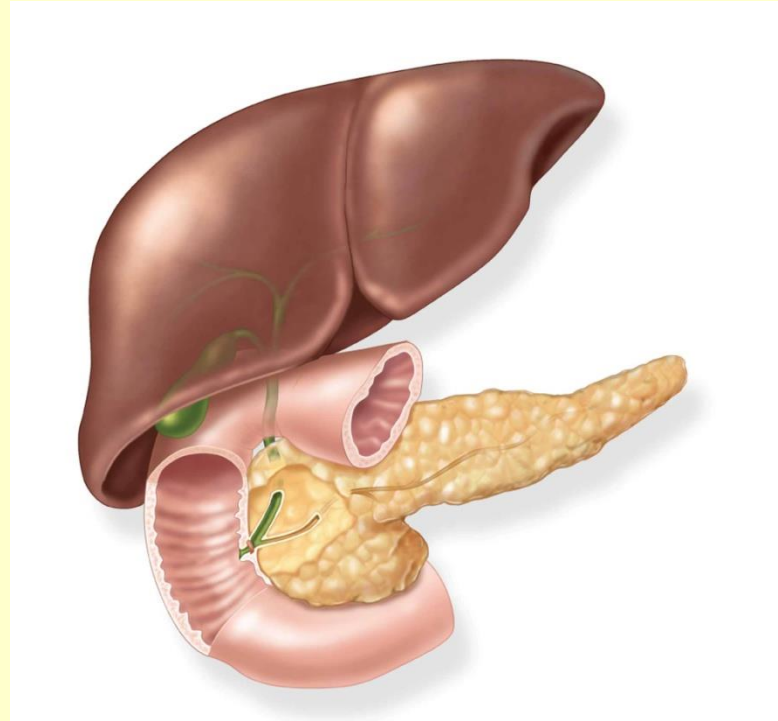
Gallbladder الحويصل الصفراوي

- Lies under liver
- Stores bile produced by liver
 - **Hepatic duct**
 - **Cystic duct**
- **Common bile duct** carries bile to duodenum



Pancreas البنكرياس

- Digestive juices include:
 - **Buffers** – neutralize acidic chyme
 - **Enzymes** – digest carbohydrates, lipids, and proteins

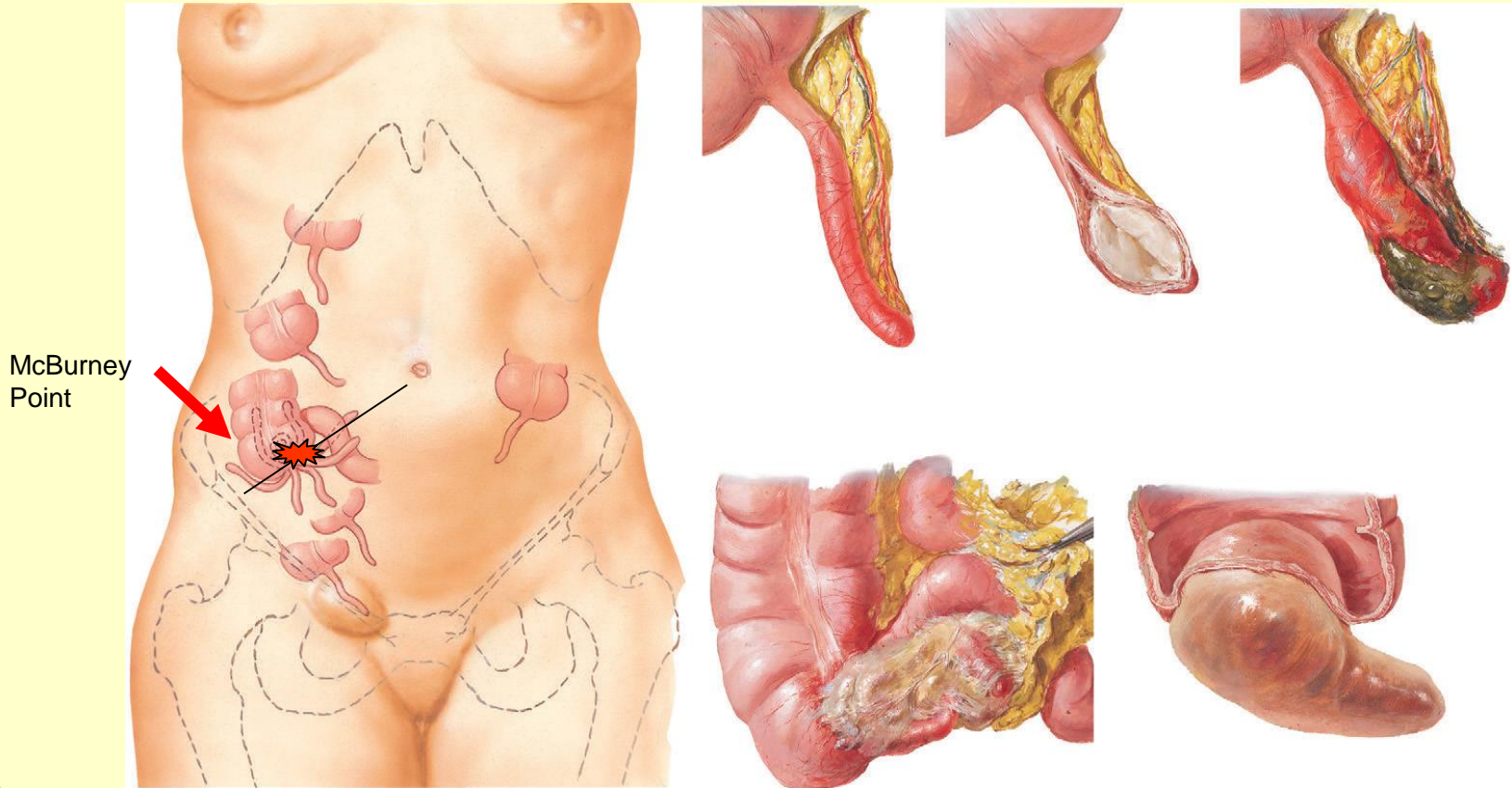


Word Building with append/o & appendic/o

–ectomy	Appendectomy استئصال الزائدة الدودية	surgical removal of appendix
–itis	Appendicitis التهاب الزائدة الدودية	inflammation of appendix



التهاب الزائدة الدودية Appendicitis

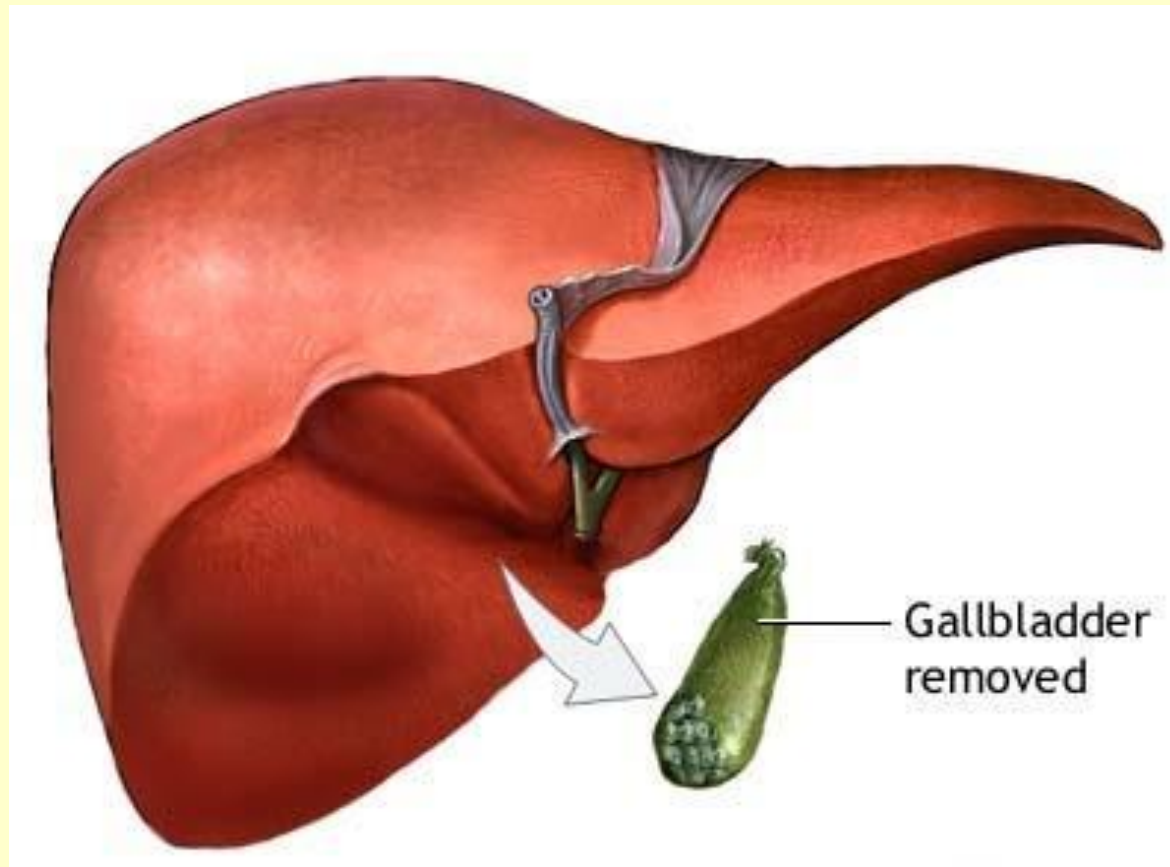


قاعدة ذهبية : كل ألم في البطن هو التهاب زائدة دودية حتى يثبت العكس

Word Building with cholecyst/o & dent/o

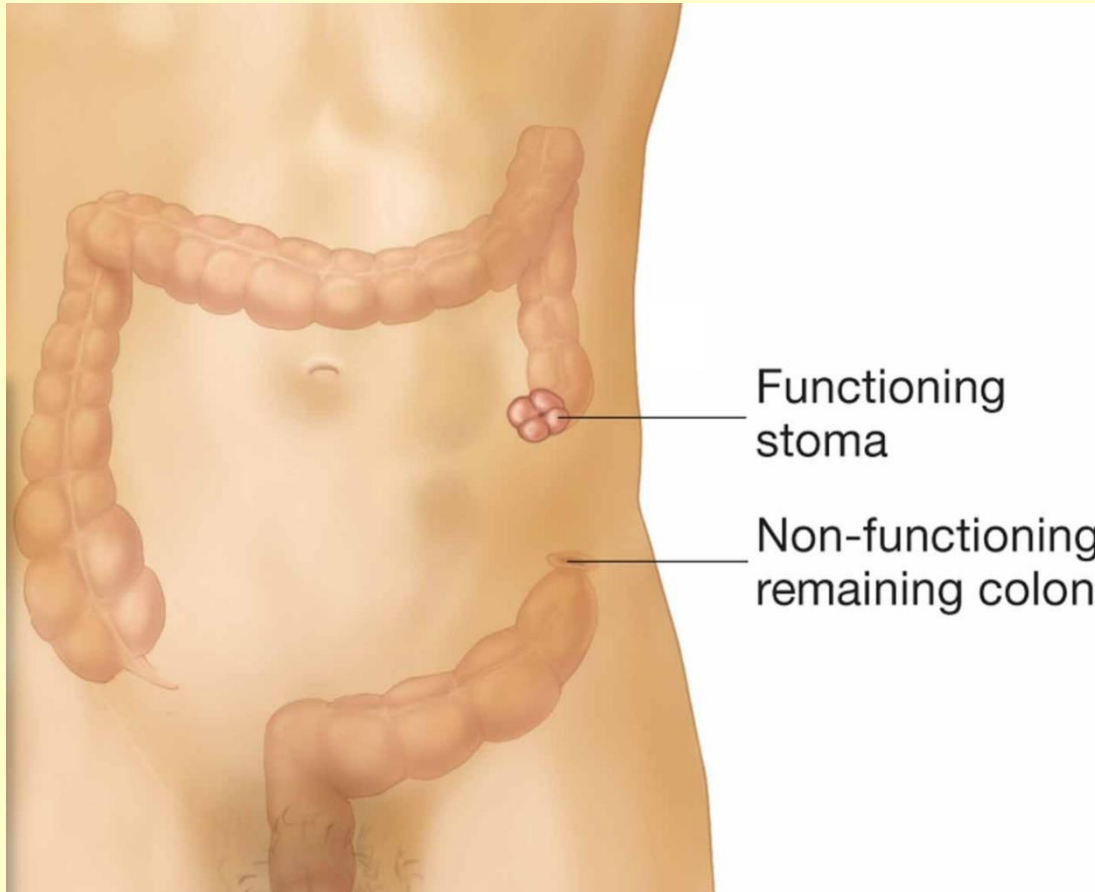
–ectomy	Cholecystectomy استئصال الحويصل الصفراوي	removal of gallbladder
–gram	cholecystogram	X-ray record of gallbladder
–ic	cholecystic	pertaining to gallbladder
–algia	cholecystalgia	gallbladder pain

Cholecystectomy



Word Building with col/o & colon/o

–ectomy	Colectomy استئصال الكولون	removal of colon
–ostomy	Colostomy ستوما الكولون	new opening into colon
–scope	Colonoscope تنظير الكولون	instrument to view colon
–ic	colonic	pertaining to colon



Colostomy in the descending colon

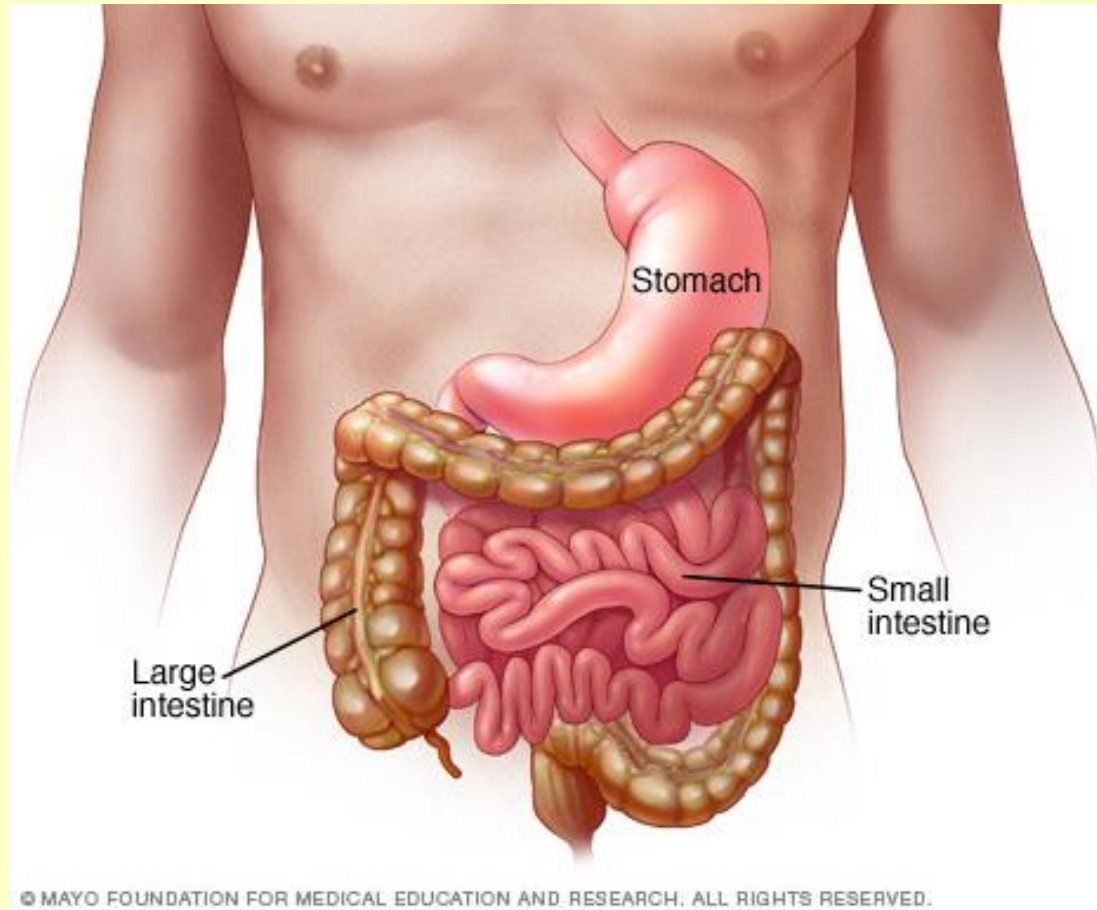
Word Building with duoden/o, enter/o, & esophag/o

–al	Duodenal اثني عشري	pertaining to duodenum
–ic	Enteric معوي	pertaining to intestine
–itis	Enteritis التهاب امعاء	inflammation of intestine
–eal	Esophageal مريئي	pertaining to esophagus

Word Building with gastr/o

–algia	Gastralgia الم المعدة	stomach pain
–ic	Gastric معدي	pertaining to stomach
enter/o –itis	Gastroenteritis التهاب المعدة وأمعاء	inflammation of stomach
enter/o –ologist	gastroenterologist اخصائي هضمية	stomach specialist

التهاب المعدة وأمعاء Gastroenteritis

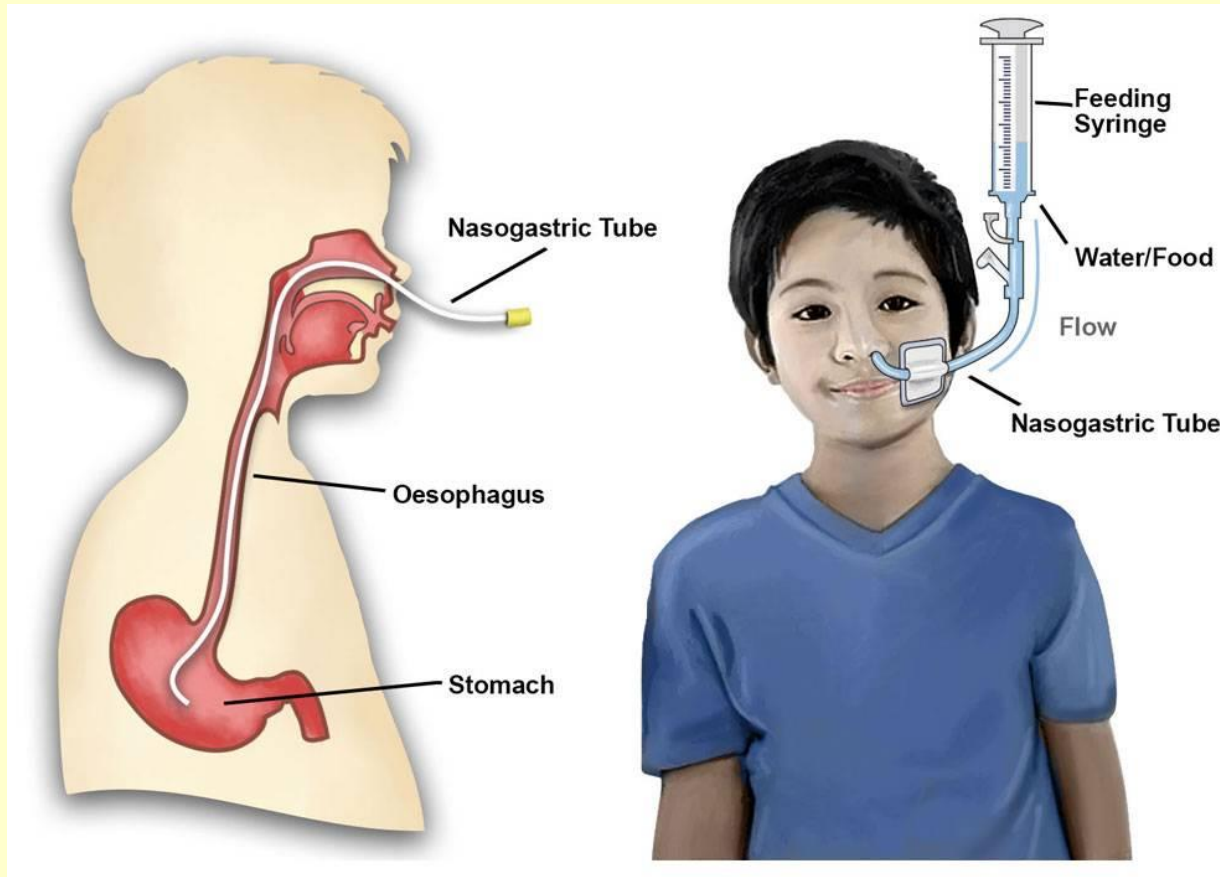


Word Building with gastr/o

nas/o –ic	Nasogastric أنفي – معدي	pertaining to nose & stomach
–scope	Gastroscope تنظير المعدة	instrument to view stomach
–itis	Gastritis التهاب المعدة	inflammation of stomach
–ectomy	Gastrectomy استئصال المعدة	surgical removal of stomach

Word Building with gastr/o:

Nasogastric tube أنبوب أنفي – معدي



Word Building with gastr/o : Gastroscope تنظير المعدة



Word Building with gastr/o



التهاب المعدة
Gastritis

**Inflammation Of
The Stomach Lining**

Word Building with gastr/o



H. Pylori الملوية البوابية



Treatment of H. Pylori associated gastritis

Medications:

- Clarithromycin
- [Proton-pump inhibitors](#) (PPI),
- Metronidazole (7 -14 days)
- Amoxicillin (7 to 14 days)

Lifestyle and diet

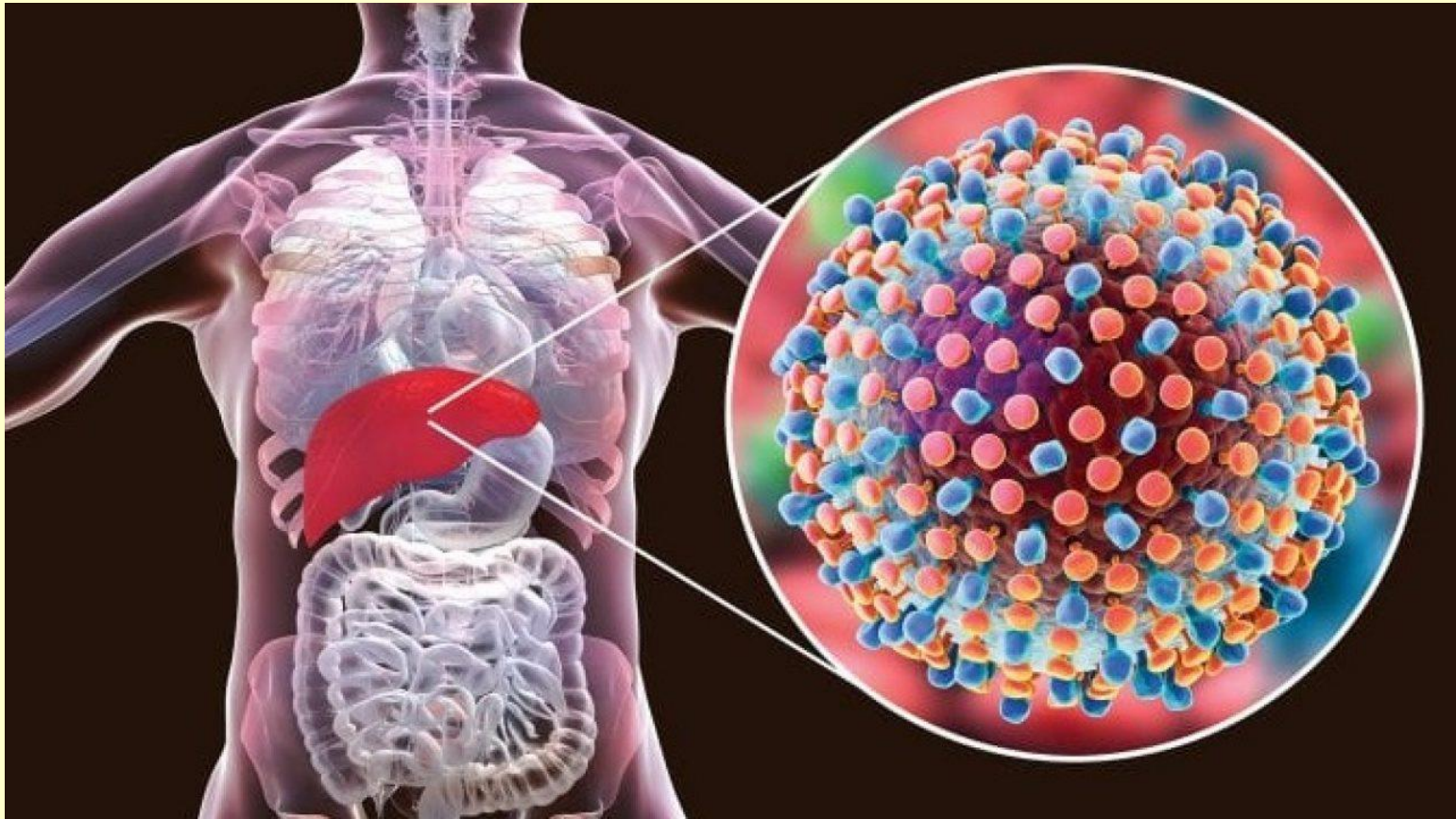
- spicy foods,
- [alcohol](#)
- [smoking](#)

may worsen disease

Word Building with hepat/o

–itis	Hepatitis التهاب الكبد	inflammation of liver
–oma	Hepatoma ورم الكبد	liver tumor
–ic	Hepatic كبدي	pertaining to liver

Word Building with hepat/o



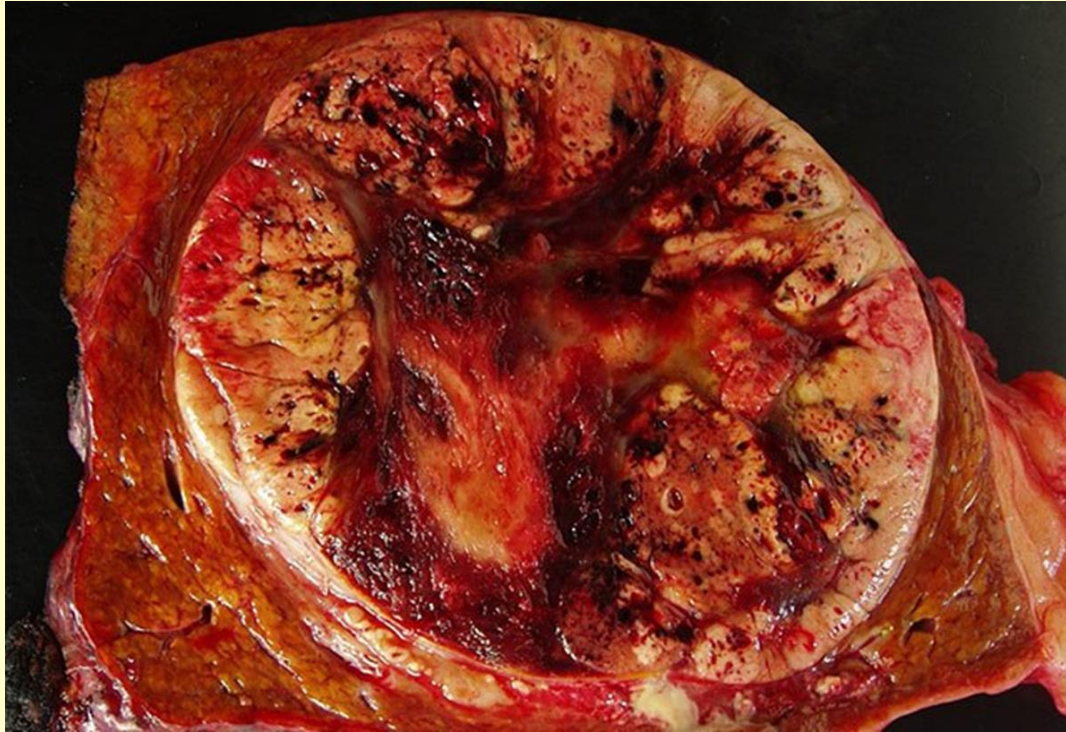
Hepatitis التهاب الكبد

Word Building with hepat/o



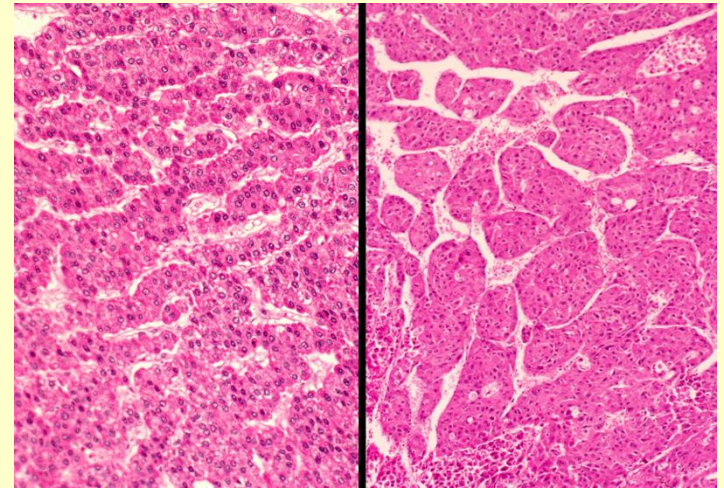
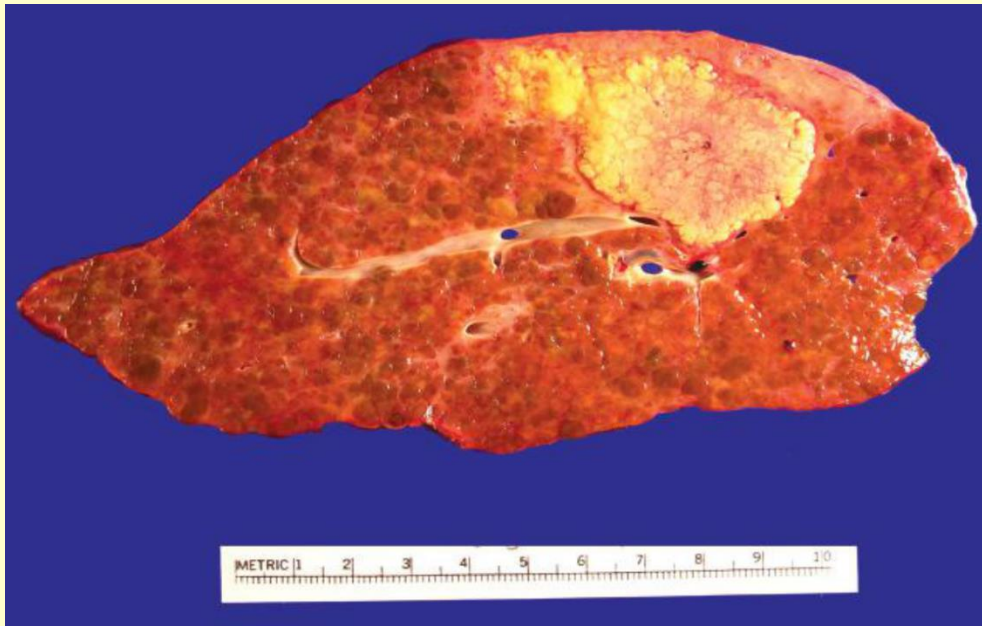
Word Building with hepat/oma

الورم الغدي الكبدي السليم لدى مستخدمات حبوب منع الحمل



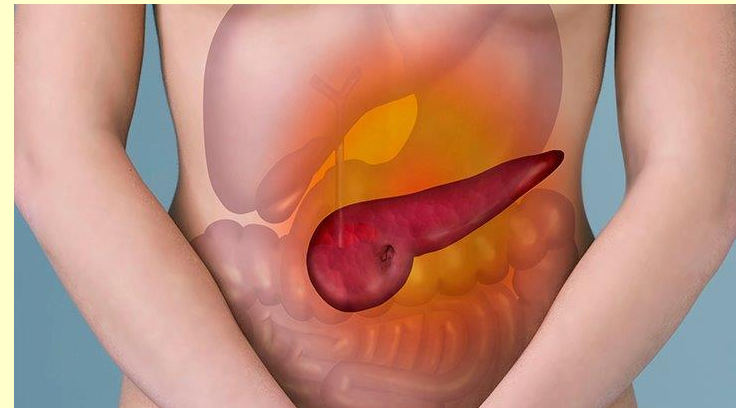
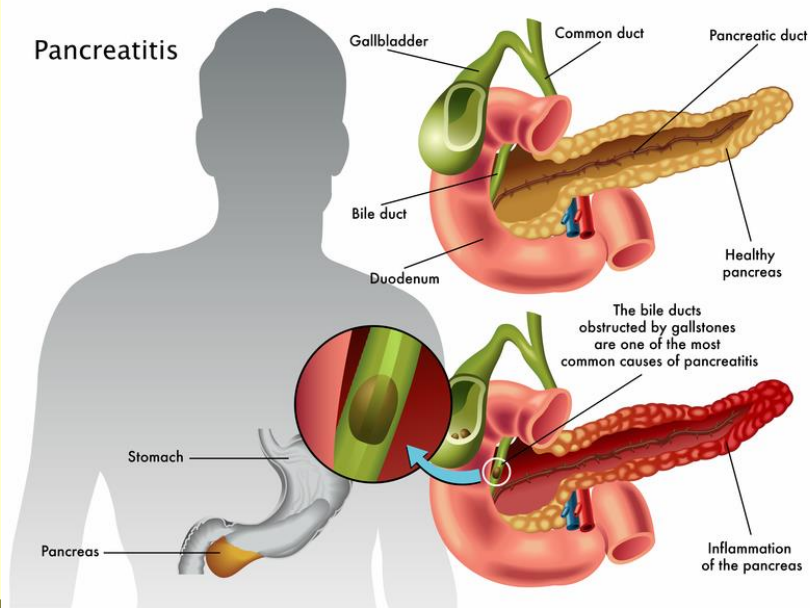
Word Building with hepat/oma

Hepatocellular carcinoma سرطان الخلية الكبدية



Word Building with pancreat/o

–itis	Pancreatitis التهاب البنكرياس	inflammation of pancreas
–ic	pancreatic	pertaining to pancreas



Word Building with pancreat/o

Pancreatitis التهاب البنكرياس

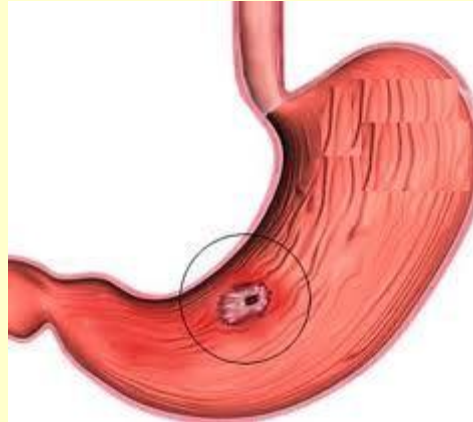


Word Building with –emesis, –orexia, & –prandial

hemat/o

hematemesis قيء الدم

vomit blood



an–

Anorexia نقص الشهية

lack of appetite

Word Building with –pepsia & –phagia

brady–	bradypepsia	slow digestion
dys–	Dyspepsia عسر هضم	painful digestion
dys–	dysphagia	abnormal eating
poly–	Polyphagia النهم	too much eating

Digestive System Vocabulary

Anorexia قهيم	loss of appetite with other conditions; different from anorexia nervosa
ascites	collection of fluid in peritoneal cavity
bowel incontinence	inability to control defecation
bridge	dental appliance attached to adjacent teeth to replace missing teeth
Cachexia	loss of weight and wasting occurring during chronic disease

القهم العصبي Anorexia Nervosa



هو مرض نفسي يتصف بالاضطراب في الأكل والانخفاض الشديد في وزن الجسم، مع الخوف من زيادة الوزن.

Digestive System Vocabulary

Constipation الإمساك	difficult or infrequent defecation
Diarrhea الاسهال	frequent, watery bowel movements

Emesis قيء	vomiting
gastroenterology	diagnosis and treatment of diseases of the digestive system

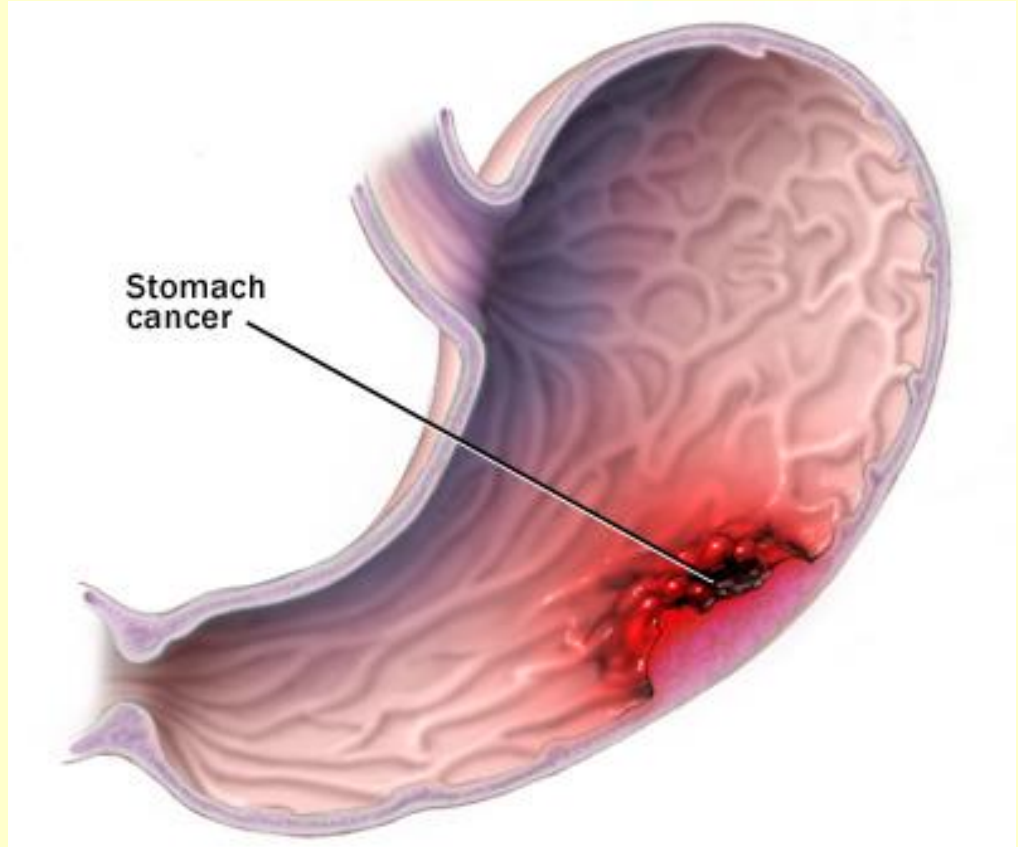
Digestive System Vocabulary

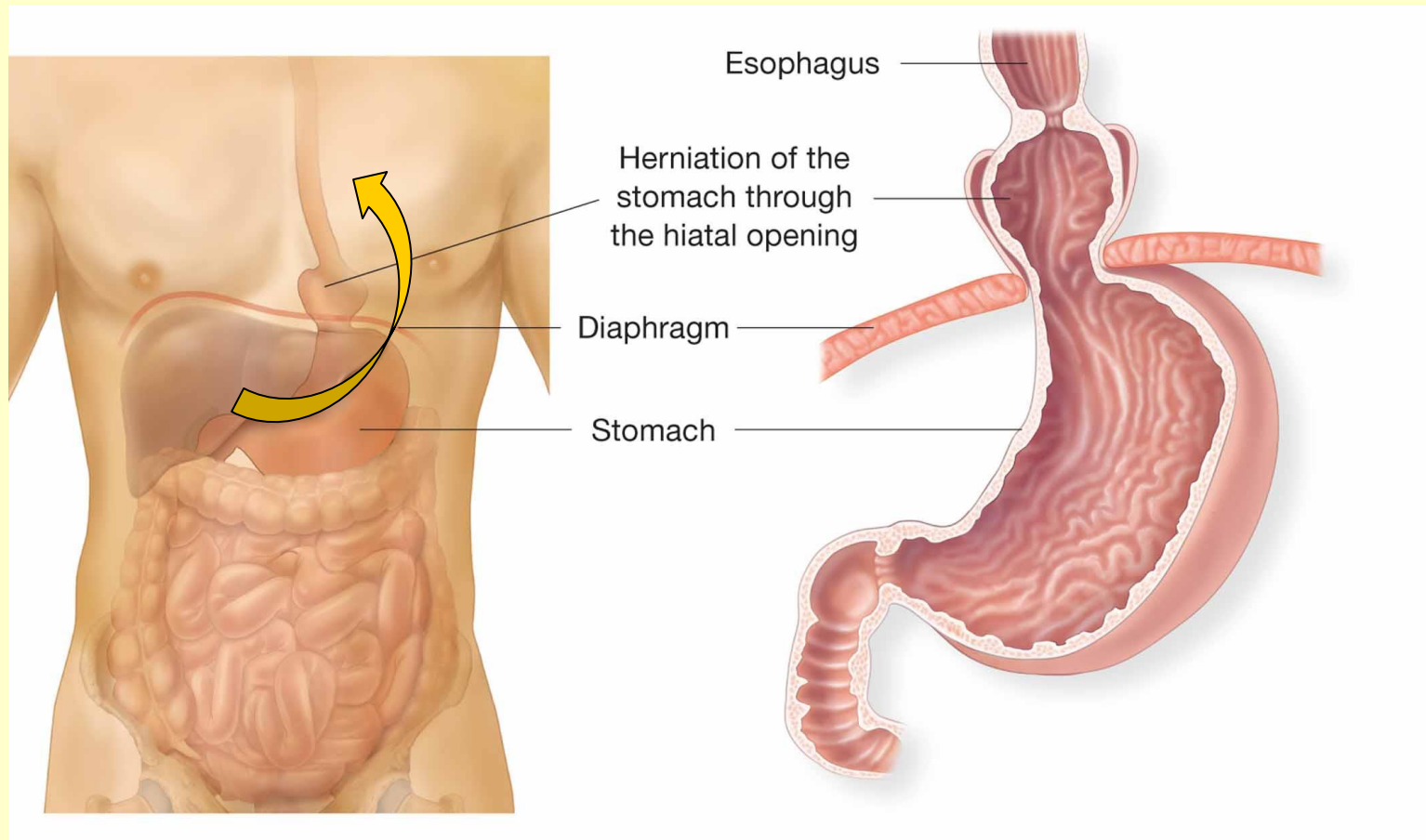
Jaundice يرقان	yellow cast to skin; caused by deposit of bile pigment; often caused by liver disease
Nausea غثيان	urge to vomit
Obesity سمنة	weight above healthy levels

Stomach Pathology

gastric carcinoma سرطان المعدة	malignant tumor in stomach
hiatal hernia الفتق الحجابي	protrusion of stomach through diaphragm into thoracic cavity; also called diaphragmatocele
peptic ulcer disease (PUD) القرحة الهضمية	ulcer in the lower portion of esophagus, stomach, and/or duodenum; caused by high acid of stomach juices; may be a result of <i>Helicobacter pylori</i> infection

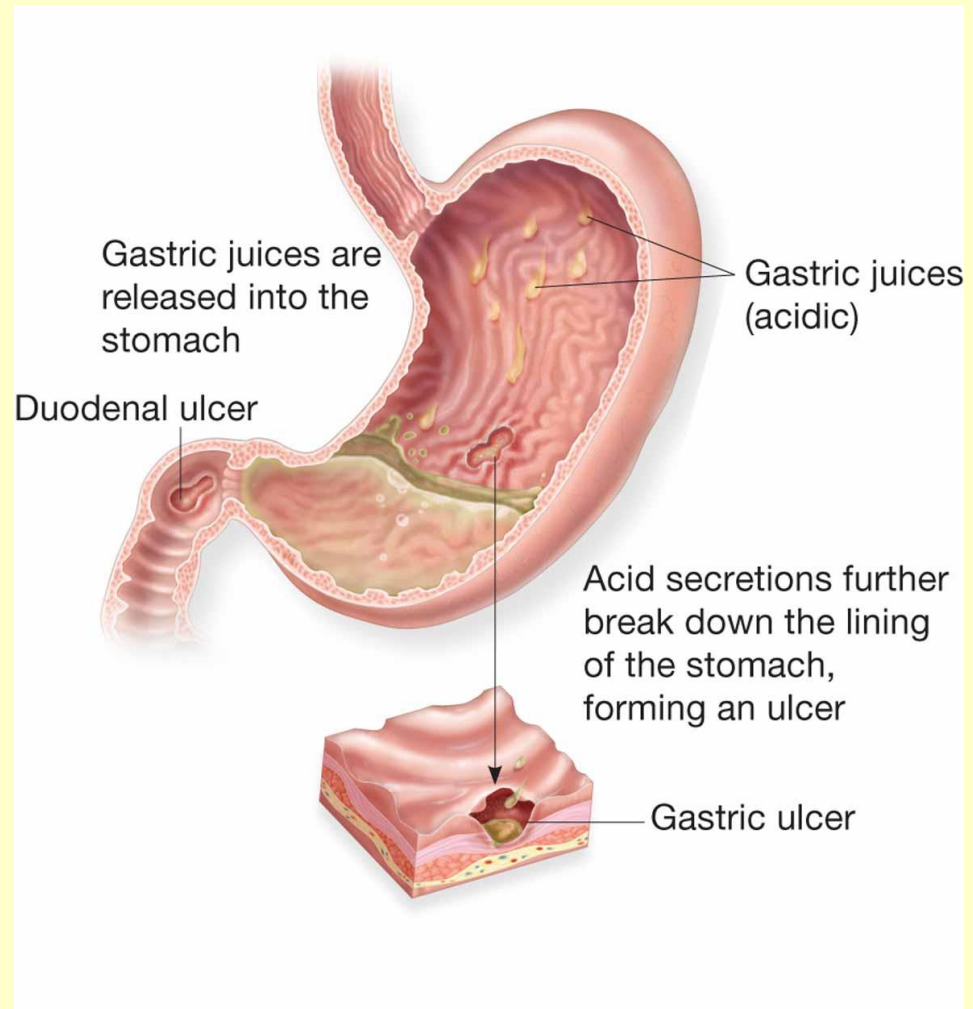
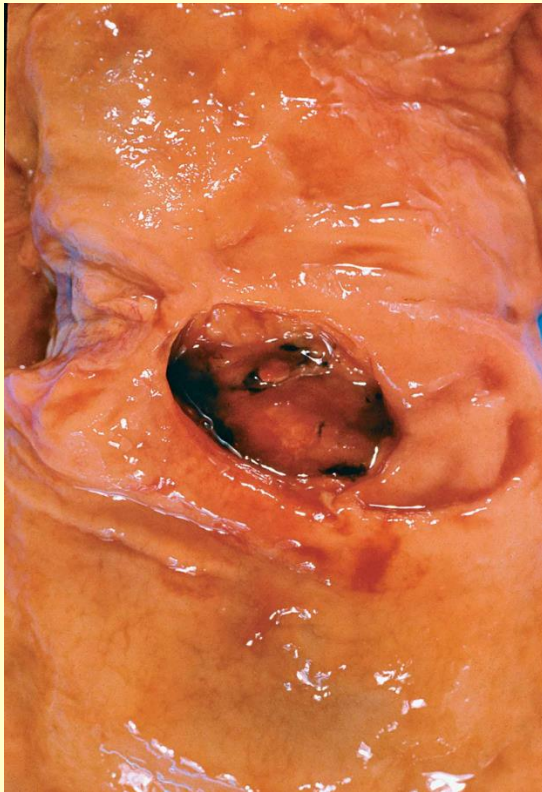
Stomach Pathology





A hiatal hernia or diaphragmatocele
GERD = Gastro-esophageal Reflex Disease

داء القلس المعدي – المريئي



The location and appearance of a peptic ulcer in both the stomach and the duodenum.

Small Intestine & Colon Pathology

irritable bowel
syndrome (IBS)

متلازمة الأمعاء الهیوجة

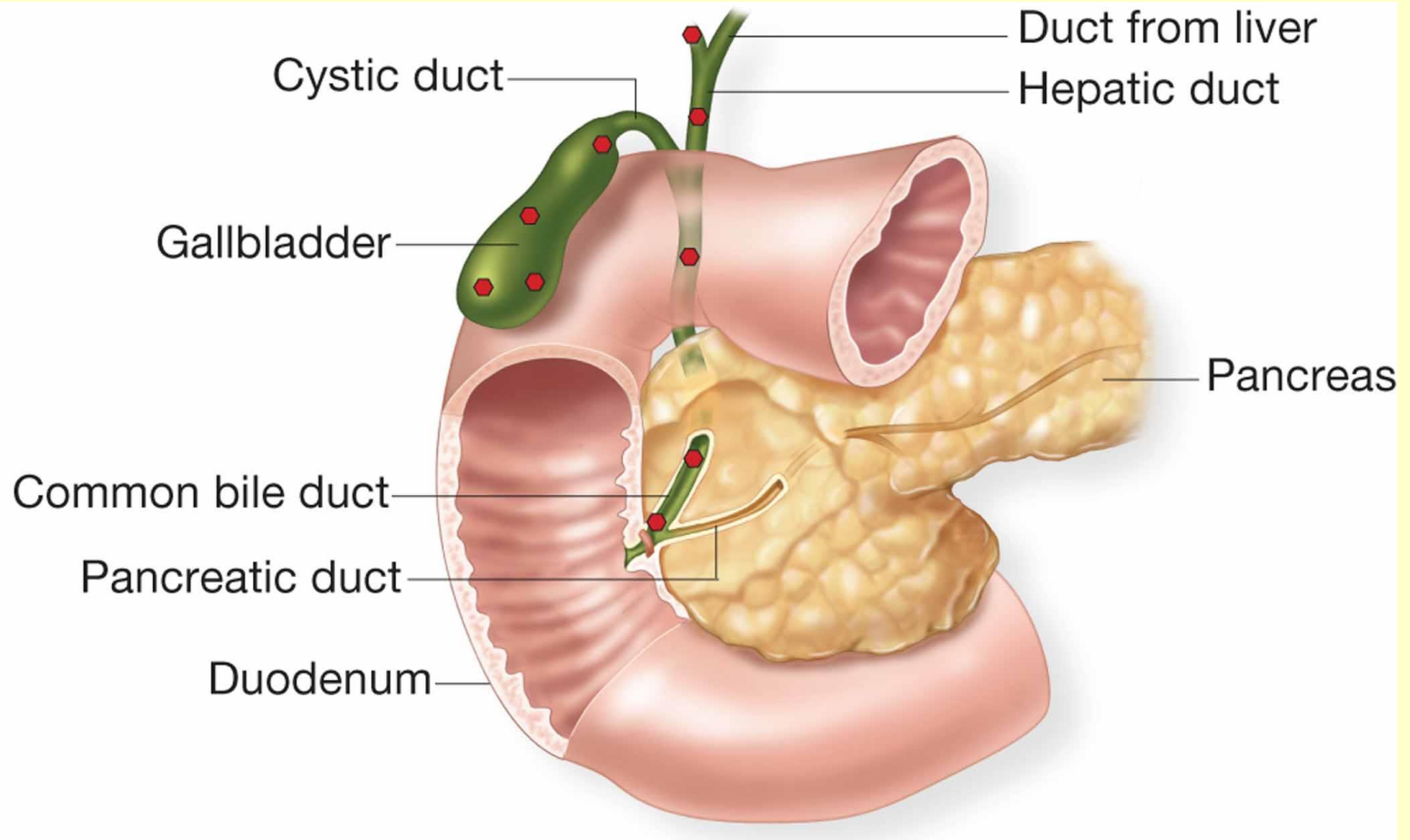
disturbance in function of intestine
for unknown reason; causes
abdominal cramping and alternating
diarrhea and constipation; also
called functional bowel syndrome

Small Intestine & Colon Pathology



Accessory Organ Pathology

Cholecystitis التهاب الحويصل الصفراوي	inflammation of gallbladder; commonly caused by gallstones
Cholelithiasis الحصيات الصفراوية	presence of gallstones; may or may not cause symptoms
Cirrhosis تشمع الكبد	chronic liver disease due to liver failure
Hepatitis التهاب الكبد	inflammation of liver; usually due to a viral infection



. أماكن توضع الحصيات الصفراوية Common sites for cholelithiasis



A gallbladder specimen with multiple gallstones.

الحصىات الصفراوية

Cholelithiasis الحصىات الصفراوية

Gall Stone Risk Factor

5F

Fat

Female

Family history

Fertile

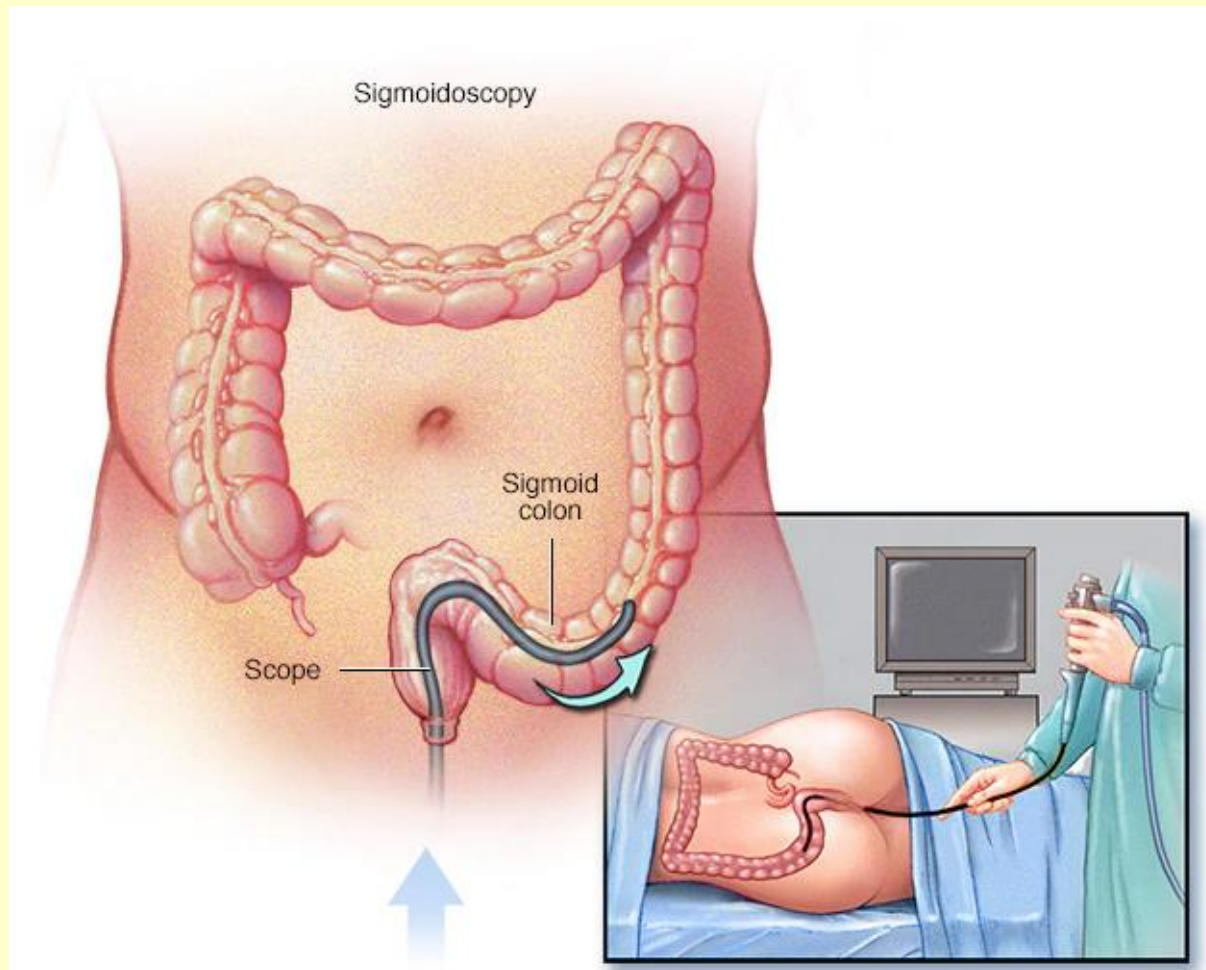
Forty



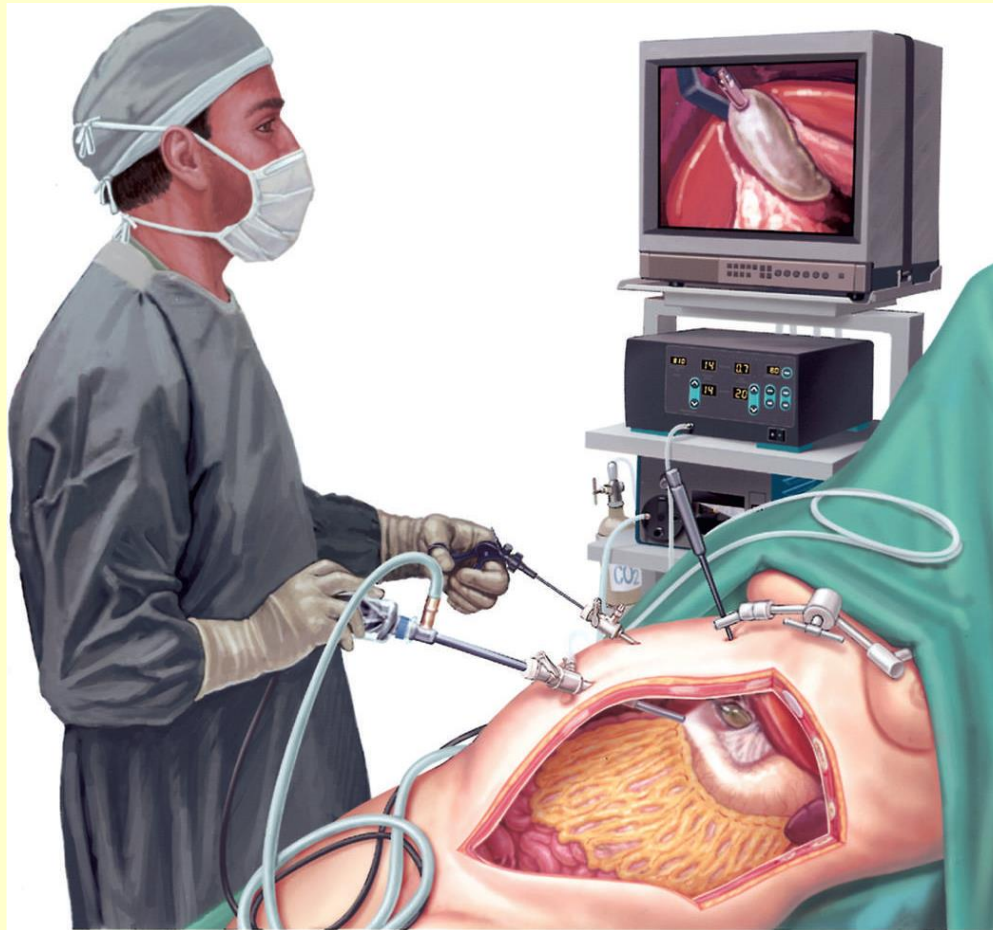
Endoscopic Procedures

Colonoscopy تنظير الكولون	visual examination inside of colon and rectum using a colonoscope
Gastrosocopy تنظير المعدة	visual examination inside of stomach using a gastroscope
Laparoscopy تنظير البطن	visual examination inside of abdominal cavity using a laparoscope
Sigmoidoscopy تنظير السين	visual examination inside of sigmoid colon using a sigmoidoscope

Sigmoidoscopy تنظير السين



Laparoscopy



Digestive System Pharmacology

Antacid مضاد حموضة	neutralizes stomach acid	Tums, Maalox, Mylanta
Antidiarrheal مضاد اسهال	used to control diarrhea	Imodium, Lomotil
Antiemetic مضاد قيء	treats nausea and vomiting	Compazine, Phenergan

Digestive System Pharmacology

H ₂ -receptor antagonist مضاد مستقبلات H2	blocks the production of stomach acid	Zantac, Pepcid, Tagament
Laxative ملين	stimulates a bowel movement	Senokot, Metamucil
proton pump inhibitor مثبط مضخة البروتون	blocks stomach's ability to secrete acid	Nexium, Prilosec

Digestive System Abbreviations

ac	before meals قبل الطعام
pc	after meals
PO	by mouth
PUD	peptic ulcer disease
IBS متلازمة الأمعاء الهیوجة	irritable bowel syndrome
NPO لا شيء بالفم	nothing by mouth
n&v غثیان واقیاء	nausea and vomiting

Digestive System Abbreviations

HAV	hepatitis A virus
HBV	hepatitis B virus
HCV	hepatitis C virus
HDV	hepatitis D virus
HEV	hepatitis E virus

Thank You

