

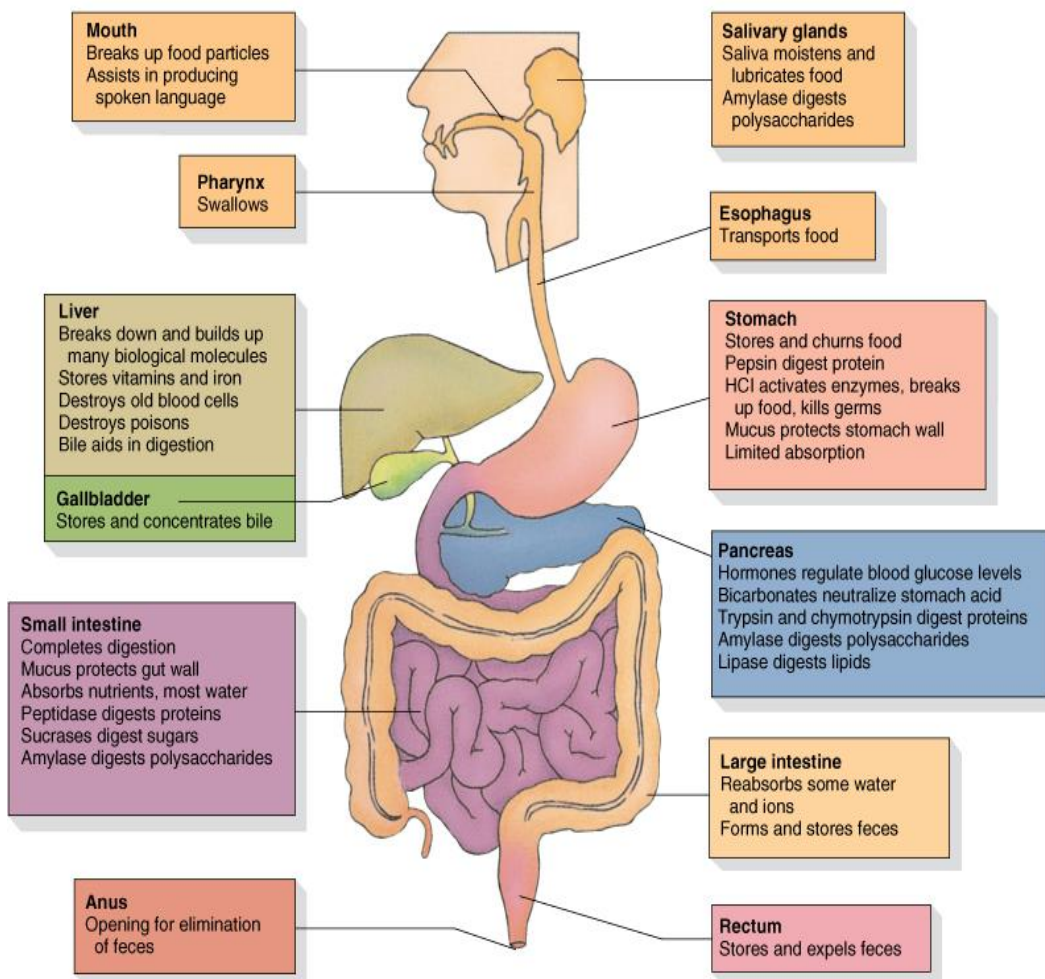
Medical terminology :

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### The digestive system (Alimentary canal , Gastrointestinal tract )

The system that involved in food possessing, absorption of necessary nutrients and elimination of west products.

- Gastroenterology : the science that study the digestive system.
- Gastroenterologist : Medical doctors who treat diseases and disorders of the **digestive system**



## Anatomy & Physiology :

The GIT system include:

- Mouth
- Pharynx (throat)
- Esophagus
- Stomach
- Small intestine
- Large intestine
- Rectum
- anus

The accessory digestive organs : liver, gall bladder , pancreas, and salivary glands.

✚ **Mouth = oral cavity= buccal cavity:**

**Function : *mechanical breakdown of food & mixed with saliva to form bolus .***

***Chewing\_ = mastication : breaks the food into pieces that are more easily digested.***

The oral cavity include:

- Cheeks (bucca)
- Lips
- Teeth
- Tongue
- Hard and soft palates
- Salivary glands

**Throat = pharynx** : is the next destination for food you've eaten, where food travels to the **esophagus** by **swallowing / deglutition** process.( with the help of the tongue).

- Oral cavity is the mouth.
- ✓ Palate separates the nasal cavity from the oral cavity.
- ✓ Uvula closes off the nasal passage during swallowing.
- ✓ Tongue is for speech, taste, and swallowing.
- ✓ Teeth are made up of pulp, dentin, and enamel.
- Function: mastication.

summery

❖ **Salivary glands:** parotid, submandibular, sublingual.

✓ **Function:** produce saliva ; **Saliva** starts digestion .

✚ **Esophagus :** is a muscular tube extending from the pharynx to the stomach.

• **Function:** delivers food to the stomach by means of a series of **contractions**, called **peristalsis**.

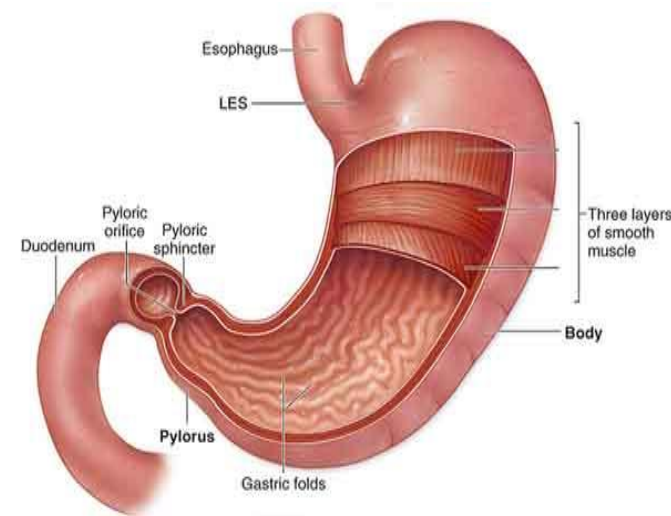
• Just before the connection to the stomach there is a "zone of high pressure," called the lower esophageal **sphincter**:( circular band of muscles constrict a passage or close a natural opening of the body) this is a "**valve**" meant to keep food from passing backwards into the esophagus.

➤ **Stomach = gastric :** is a sac-like organ with strong muscular walls.

• In addition to holding the food, it's also a mixer and grinder.

• The stomach secretes acid and powerful enzymes that continue the process of breaking down the food.

• When it leaves the stomach, food has consistency of a liquid or paste ( **chyme**). From there the food moves to the small intestine.



- **Pharynx** is also known as the throat.
- **Peristalsis** pushes the bolus through the esophagus.
- **Esophagus** is located between the pharynx and stomach.
- **Esophageal hiatus** is a normal opening in the diaphragm.
- **Sphincters** are circular muscles that keep food moving in one direction.
- **Stomach regions** are the **cardia, antrum, body, and fundus**.
- **Bolus** is a wet ball of food.
- **Chyme** is partially digested food.
- **Rugae** are folds in stomach.
- **Function** of stomach: breaks down food

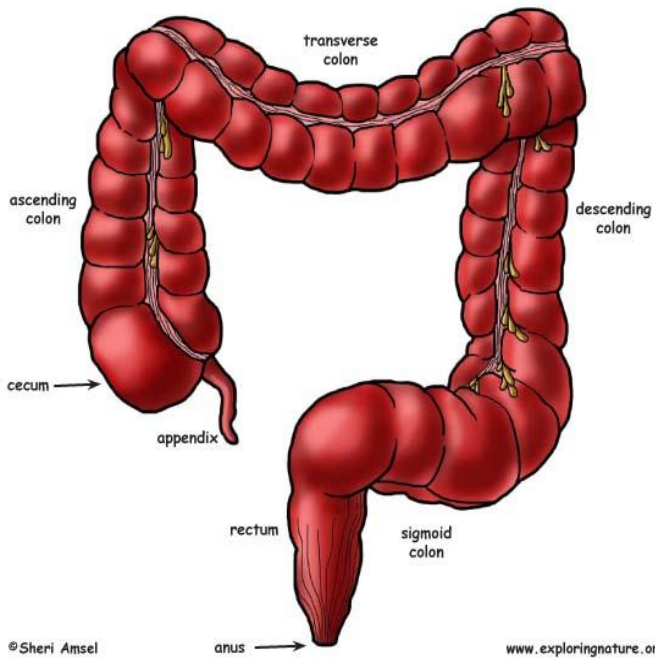
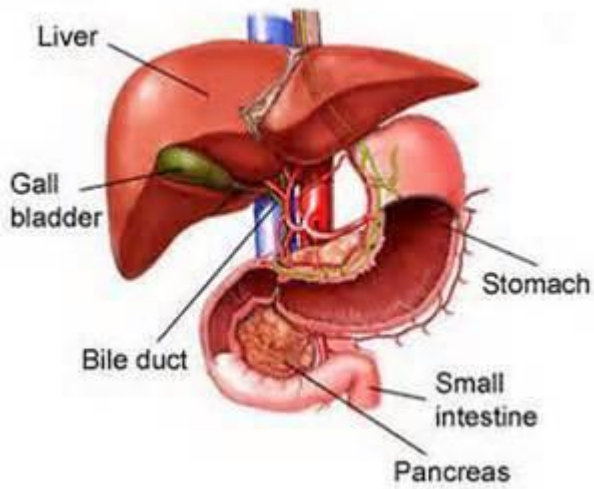
✚ **Small intestine** : is a long tube loosely coiled in the abdomen (spread out, it would be more than 20 feet long).

- The small intestine continues the process of breaking down food by using enzymes released by the pancreas and bile from the liver.
- **Bile** is a compound that aids in the digestion of fat and eliminates waste products from the blood.
- **Peristalsis (contractions)** is moving food through and mixing it up with digestive secretions.
- The duodenum is largely responsible for continuing the process of breaking down food.
- The jejunum and ileum being mainly responsible for the absorption of nutrients into the blood stream.

✚ **Colon (Large Intestine)**

- The colon is a 5- to 6-foot-long muscular tube that connects the **cecum** (the first part of the large intestine) to the **rectum** (the last part of the large intestine).
- **cecum,**
- **the ascending (right) colon,**
- **the transverse (across) colon,**
- **the descending (left) colon,**

- **Sigmoid colon** (so-called for its "S" shape; the Greek letter for S is called the sigma), which connects to the rectum.
- **Bowel** : refers to the large and small intestines.
- ✓ **Functions:** **Absorption of water, Vitamin K and B; Defecation.**
- ✓ Stool/ feces or waste left over from the digestive process ,is stored in the sigmoid colon until a "mass movement" empties it into the rectum once or twice a day.



### ✚ The liver = Hepato

- is the largest gland of the body
- located in the upper right-hand portion of the abdominal cavity, beneath the diaphragm.

#### Function:

- ✓ Production of bile, which helps carry away waste and break down fats in the small intestine during digestion.
- ✓ Store and release glucose as needed.
- ✓ Processing of hemoglobin for use of its iron content (the liver stores iron).
- ✓ Clearance of bilirubin ( from break- down of hemoglobin).
- ✓ Conversion of harmful ammonia to urea (urea is one of the end products of protein metabolism that is excreted in the urine)
- ✓ Production of cholesterol and special proteins to help carry fats through the body
- ✓ Clearing the blood of drugs and other harmful substances.
- ✓ Metabolism of proteins.

### ✚ The **gallbladder** : is a pear-shaped reservoir that sits just under the liver and stores bile.

- Bile is made in the liver then if it needs to be stored travels to the **gall bladder** through a channel called the **cystic duct**.
- During a meal, the gallbladder contracts, sending bile to the small intestine.

### ✚ Liver

- ✓ **Location:** RUQ
- ✓ **Functions:** produces bile; breaks down proteins, carbohydrates, and fats; eliminates toxic waste

### ✚ Gallbladder

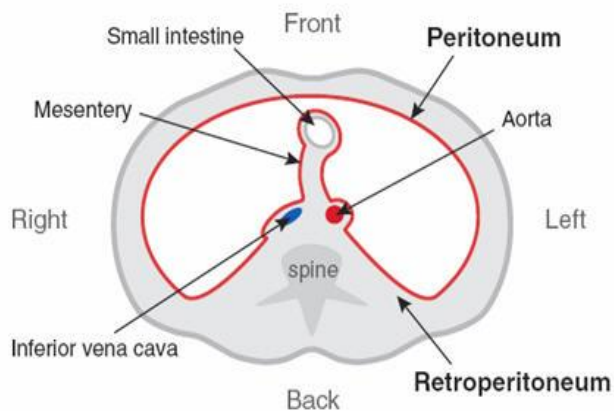
- ✓ **Location:** Under the liver
- ✓ **Function:** Stores bile

### ✚ Pancreas

- ✓ **Location:** Lies behind the stomach
- ✓ **Function:** Secretes enzymes and hormones( insulin)

## ✚ Peritoneum

- Membrane lining the abdominal and pelvic cavities and covering its organs
- Peritoneal fluid fills the peritoneal cavity.



## GIT related terms:

- Esophag\o\scope : instrument for examining the esophagus
- Pharyng\ ..... Pharynx ( throat)
- Gastro\ = stomach
- Pylor\o = pylorus (pylorospasm \ contraction of pylorus)
- Enter \o = intestine (enteropathy - disease)
- Rrhaphy = suture
- Ileum .... Ile ostomy
- Appendix ... append ic itis ..... append ectomy
- Colon ... col \o .... Colostomy .... Colonoscopy
- Proct \o = anus \ rectum
- Hepato = liver .... Hepat o megaly
- Cholangio = bile vessel ... cholecyst (gall bladder .... Cholecystectomy)
- Chol\e = bile .... Cholelith (bill\gall stone)
- -asis = abnormal condition ( cholelithiasis \ choledocholithiasis)
- -pepsia = digestion .... Dyspepsia\epigastric discomfort after eating
- -orexia = appetite .... Anorexia( loss of appetite)
- -phagia = swallowing , eating ... dysphagia ( difficulty in swallowing)
- Prandial = meal .... Post prandial( after meal)

- -rrhea = discharge, flow ( dia\ rrhea = abnormal frequent discharge of fluid fecal matter from the bowel)
- Peri- = around
- Sub- = below\ under (sub\lingu\al)

### **Symptoms & signs related to GIT**

- **Nausea** : is a sensation of unease and discomfort in the upper stomach with an involuntary urge to vomit. It may precede **vomiting**.
- **Vomiting** = **emesis** : is the involuntary, forceful expulsion of the contents of one's stomach through the mouth. ( hyperemesis)
- **Weight loss**
- **Cachexia**: is loss of weight, muscle atrophy, fatigue, weakness state of ill health and malnutrition; wasting away
- **Xerostomia**: dryness of the mouth due to a dysfunction of the salivary glands, as they fail to produce sufficient saliva; often seen as a side effect to medication.
- **Dysphagia**: difficulty in swallowing.
- **Dyspepsia**: indigestion
- **Aphagia** : inability to swallow.
- **Diarrhea**: frequent and watery excretion of stool.
- **Constipation**: infrequent passage of stool or difficulty .
- **Melaena** = black stool due to altered blood
- **Steatorrhea**: passage of fat in large amounts in feces due to failure to digest & absorb it.
- -**algia** = pain
- Bleeding
- Abdominal distention
- Obesity
- Malabsorption
- Jaundice = icterus = yellow pigmentation of skin, sclerae , and mucosa due to raised plasma bilirubin.
- Cholestatic jaundice = obstructive
- Edema: accumulation of fluid .
- Ascites: accumulation of fluid in the abdomen.
- Haematemesis = vomiting of blood



## Pathology

- Ulcer .... Peptic ulcer , ulcerative colitis (Wearing away of the mucous membrane lining the digestive tract).
- Hernia : protrusion of any organ ... inguinal hernia ... strangulated hernia ... hiatal hernia
- Intestinal obstruction : blockage
- Adhesions: stick together
- Volvulus : twisting of the intestine
- Intussusception: a telescoping of one segment of bowel into another
- Hemorrhoids: Varicose veins in the anal canal
- Naso-gastric intubation : placement of a tube through the nose and into the stomach for feeding purposes.
- gastroesophageal reflux disease(GERD) : backward flow of stomach contents into the esophagus.
- Hepatitis : inflammation of the liver ( e.g viral A, B, C)
- Cirrhosis = irreversible liver damage due to fibrosis
- Diverticulosis: Pocket(s) in the mucous membrane. Diverticulum / diverticula
- Varices = dilated veins
- Polyps
- Tumors ( carcinoma)

## *Urinary system medical terms*

- Urologist = specialist in the study of the urinary system in females and the urinary and reproductive systems in males.
- Urology : science that deal with study of the urinary system ( kidney , uereter , bladder, and urethra) in females and the urinary and reproductive systems in males.
- Nephrologists : provide diagnostic evaluation and ongoing care of patients with medical disorders related to the kidneys.

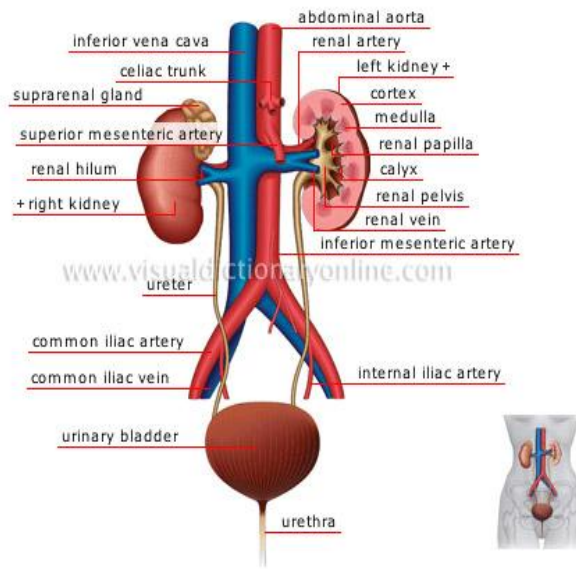


Fig. parts of the urinary system

### Structure and Function of the Urinary System:

#### ✚ Kidneys / Renal / Nephro

- The kidneys are a bean like & about the size of your fist.
- They are located at the back of the abdomen, one on each side of the lumbar vertebrae.
- **Function: filter the blood to remove waste products.**
- These waste products combine with water to form urine.
- Urine flows out of the kidneys into the renal pelvis which is the dilated portion of the ureter.
- The kidneys also maintain a proper balance of electrolytes, water, and acids within body fluids.
- Electrolytes, such as sodium (Na<sup>+</sup>), potassium (K<sup>+</sup>), and calcium (Ca<sup>+</sup>), are important to muscle and nerve function. When the level of these electrolytes is too high, the kidney secretes them into the urine. When the body needs these products, they are held back in the body fluid.

#### ✚ Ureters, Bladder, and Urethra

- The ureters are long, narrow tubes that connect the kidneys to a sac called the urinary bladder.
- Urine constantly flows through the ureters to the urinary bladder.

- The urine enters the bladder through ureteral orifices in the wall of the urinary bladder (Orifice means opening).
- **The bladder stores urine.**
- When the bladder is full, the urine is squeezed out into the urethra.
- The act of emptying the bladder is called voiding, urination, or micturition .
- This action is regulated by the nervous system.
- Any dysfunction of the urinary bladder due to disease of the nervous system is called neurogenic bladder.
- The **urethra** carries urine out of the body.
- In the male, the urethra also serves as part of the reproductive system ( for the transport of sperm).
- The external opening of the urethra is called the urinary meatus .

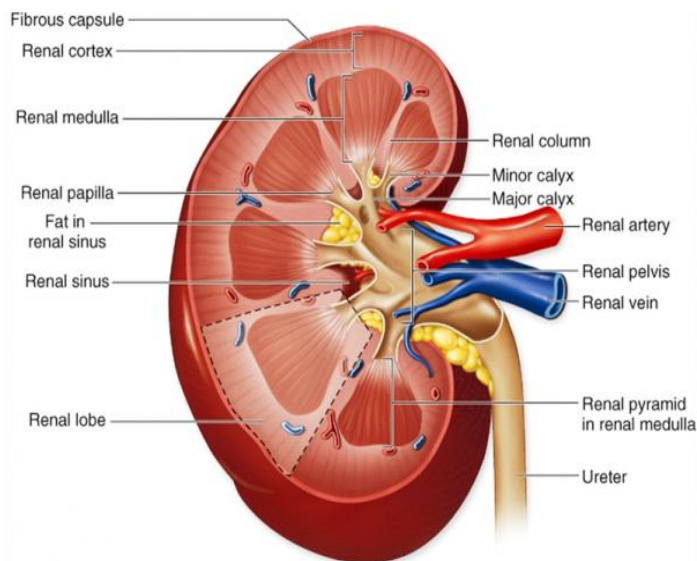


Fig. longitudinal cut-section of the kidney

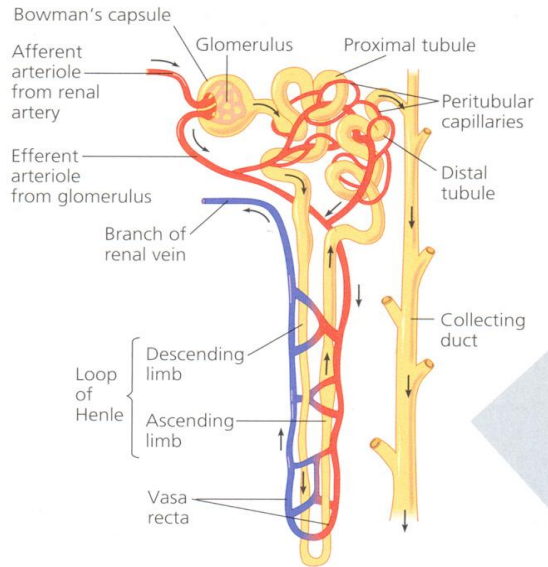


Fig. show the nephron structure

### Urine Production in the Kidney

- Each kidney has about one million nephrons.
- **Nephrons** : are microscopic structures are responsible for filtering the blood and producing urine.
- **Glomerulus** the first part of the nephron ; It filters the blood of waste products and unnecessary nutrients.

The urine travels the length of the nephron and is excreted through the collecting ducts

- **Reno / nephro = kidney**
- **noct/o ..... Night ..... nocturia**
- **ureter / ureterectasis (dilatation).**
- **Urethera ..... urethrostenosis (narrowing)**

### Pathology

- **Polycystic kidneys** = cysts gradually replace normal renal tissue ; with many cysts, the kidney is unable to function, resulting in renal failure.
- **Glomerulonephritis** = inflammation of the glomerulus and kidney.
- **Hydronephrosis** = accumulation of urine in the renal pelvis ; This abnormality is due to a blockage of urine flowing through the ureters ; caused by a renal stone or a stricture (narrowing) of the ureter.

- Nephrolithiasis = kidney stones, also known as renal calculi.
- Pyelonephritis = inflammation of the renal pelvis and kidney because of a urinary tract infection that spreads to the kidneys.
- Uremia = accumulation of waste products ( urea & creatinine ) in the blood; also known as azotemia
- Nephrotic Syndrome : A group of conditions involving damaged glomeruli and abnormal protein filtration.
- Renal Failure: Loss of kidney function.
- Urinary Retention: Inability of the bladder to empty completely during urination.
- Incontinence : no control over excretory functions

✚ Root Vesic/o = bladder

- Vesical ..... pertaining to the bladder.
- vesicovaginal fistula = abnormal passage between the bladder and vagina
- Cystitis = inflammation of the bladder
- Cystoscopy = process of visually examining the bladder
- Dialysis = mechanical replacement of kidney function when the kidney is not working.
- Urinalysis = laboratory analysis of urine.
- Lithotripsy = uses ultrasound waves to crush the stones, which are then passed into the urine.(Extracorporeal means outside the body)
- intravenous pyelogram (IVP) : an x-ray of the kidneys and ureters following administration of a contrast medium that highlights internal structures to improve visibility.

✚ Root urin/o ..... Urine

✚ Anuria: no urine formation

✚ Dysuria : painful urination

✚ Hematuria : blood in the urine

✚ Oliguria : decreased urination

✚ Polyuria : excretion of large amounts of urine

