جامعة المستقبل
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Medical Terminology

Lecture :11th Medical terms concerning the Gastrointestinal Tract

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Medical terms concerning the Gastrointestinal Tract

The gastrointestinal tract: known as the **digestive** system,

The gastrointestinal (GI) tract is a

long,

muscular tube that runs from the mouth to the anus.

It is responsible for

breaking down food and

absorbing nutrients.

And eliminating **waste** products from the body.

Oral Cavity:

The oral cavity, or **mouth**, is the entryway of the gastrointestinal tract.

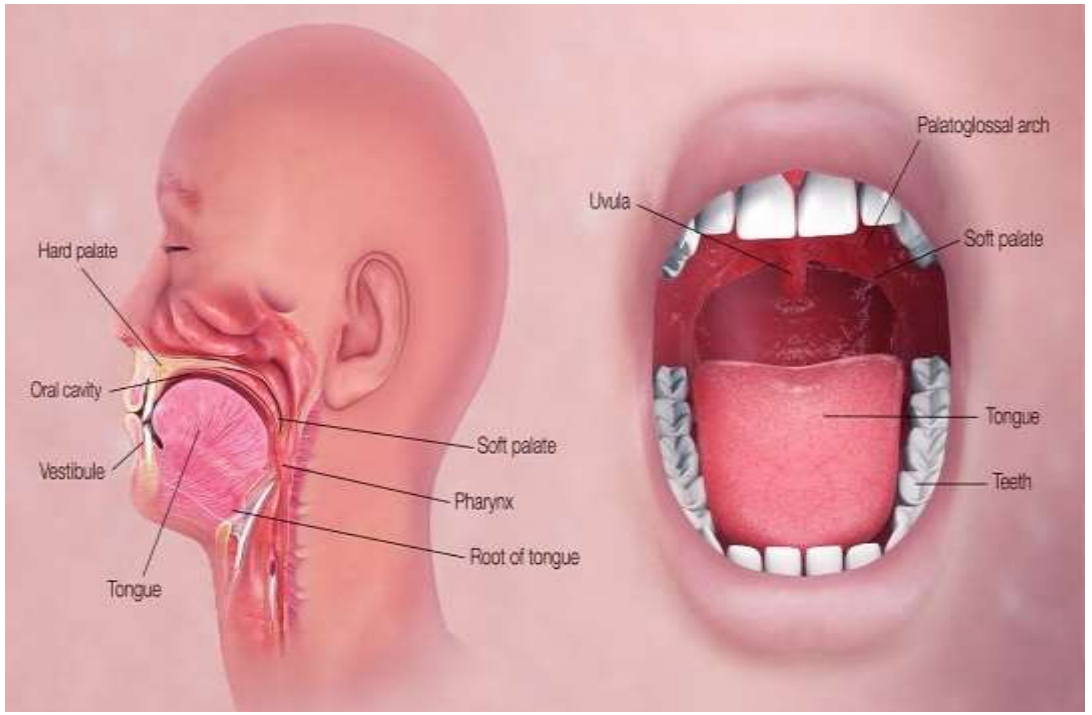
It comprises the **lips**, **teeth**, **tongue**, **salivary** glands, and **palate**.

Common conditions affecting the oral cavity include

tooth decay (dental caries),

gum disease (**periodontitis**), and

oral ulcers.



The organs of the GI tract include:

I. **Mouth:** The mouth is responsible for chewing food and breaking it down into smaller pieces.
II. **Esophagus**: The esophagus is a muscular tube that transports food from the mouth to the stomach.
III. **Stomach**: The stomach is a J-shaped organ that stores food and breaks it down into chyme.
IV. **Small intestine**: The small intestine is the longest part of the GI tract. It is responsible for absorbing nutrients from food.
V. **Large intestine**: The large intestine is responsible for absorbing water from chyme and forming feces.
VI. **Anus**: The anus is the opening at the end of the large intestine through which feces are eliminated from the body.

The functions of the GI tract include:

A. **Ingestion**: The process of taking food into the body.
B. **Digestion**: The process of breaking down food into smaller molecules that can be absorbed by the body.
C. **Absorption**: The process of taking nutrients from food into the bloodstream.
D. **Elimination**: The process of removing waste products from the body.

Esophagus:

The esophagus is a muscular tube that connects the mouth to the stomach.

It facilitates the movement of chewed food through **peristalsis**, a series of muscle contractions.

Gastroesophageal **reflux** disease (GERD), **esophagitis**, and **esophageal** strictures are some of the conditions that can affect this organ.

Stomach:

The stomach is located in the upper abdomen and serves as a **storage** chamber for food. It **secretes** gastric acid and enzymes to break down food into a semi-liquid substance called chyme.

Common stomach-related **issues** include I-**gastritis**, II-gastric **ulcers**, and III-stomach **cancer**.

Small Intestine:

The small intestine is a **long**, **coiled** tube where most of the digestion and nutrient **absorption** take place. Divided into **three** sections, namely the duodenum, jejunum, and ileum, it plays a vital role in the absorption of **nutrients**, **minerals**, and vitamins.

Conditions affecting the small intestine include

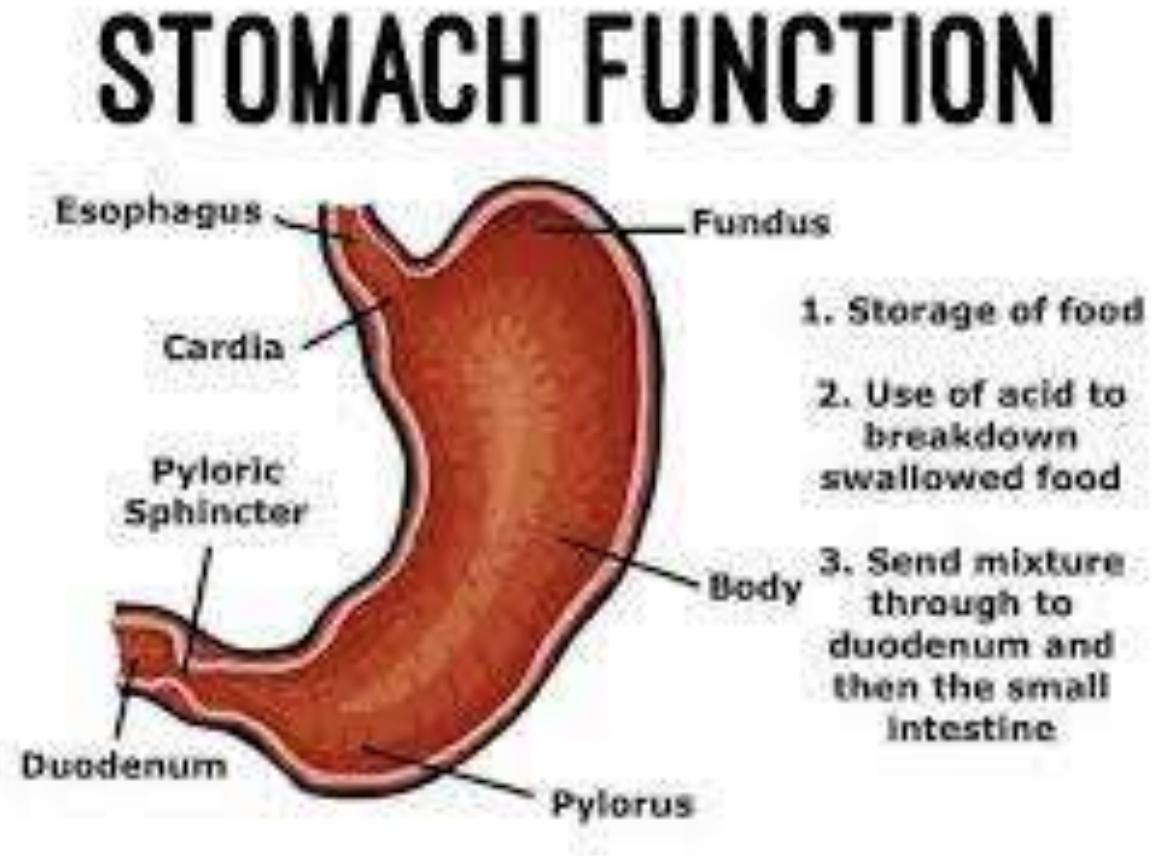
A. **celiac disease**, **Crohn's** disease, and

B. small intestinal bacterial **overgrowth** (SIBO).

Functions of the Stomach

i. Temporary **storage** (digestive enzymes, pepsins, to act).
ii. Chemical **digestion** — pepsins convert proteins to polypeptides.
iii. Mechanical **breakdown** — the three smooth muscle layers enable the contents are liquefied to chime.
iv. Performs limited absorption of **water**, alcohol and some lipid-soluble drugs
v. Non-specific **defense** against microbes — (hydrochloric acid in gastric juice).

i. **Preparation** : (solubilizes iron salts, required before iron can be absorbed
i. Production of **intrinsic** factor needed for absorption of vitamin B12 in the terminal ileum
i. **Regulation** of the passage of gastric contents into the duodenum. When the chyme is sufficiently acidified and liquefied, the pyloric antrum forces small jets of gastric contents through the pyloric sphincter into the duodenum.



Large Intestine (Colon):

The large intestine, or colon, absorbs **water** and **electrolytes** from the remaining indigestible food residue received from the small intestine. It then forms feces for elimination. **Conditions** that can impact the colon include irritable bowel syndrome (**IBS**), **ulcerative colitis**, and **colorectal cancer**. The Large Intestine

It is about 1.5 meters long, beginning at the caecum in the right iliac fossa and terminating at the rectum and anal canal deep in the pelvis.

Its lumen is larger than that of the small intestine. It forms an arch around the coiled-up small intestine.

The colon is divided into the caecum, ascending colon, transverse colon, descending colon, sigmoid colon rectum, and anal canal.

Liver:

The liver is the **largest internal organ** and is responsible for numerous functions in the body related to digestion, metabolism, and detoxification. Key conditions affecting the liver include **hepatitis**, **cirrhosis**, and **fatty** liver disease.

Gallbladder:

The gallbladder is a **small** organ located beneath the liver. It stores bile produced by the liver and releases it into the small intestine to aid in fat digestion.

Conditions like **gallstones** and **cholecystitis** can occur when the normal flow of bile is disrupted.

Pancreas:

The pancreas is both an **endocrine** and **exocrine** gland.

It produces insulin and glucagon , and secretes digestive enzymes into the small intestine to aid in food digestion.

Pancreatitis, pancreatic **cancer**, and **diabetes** are common pancreatic conditions.

Diseases of the Esophagus

Some of the most common include:

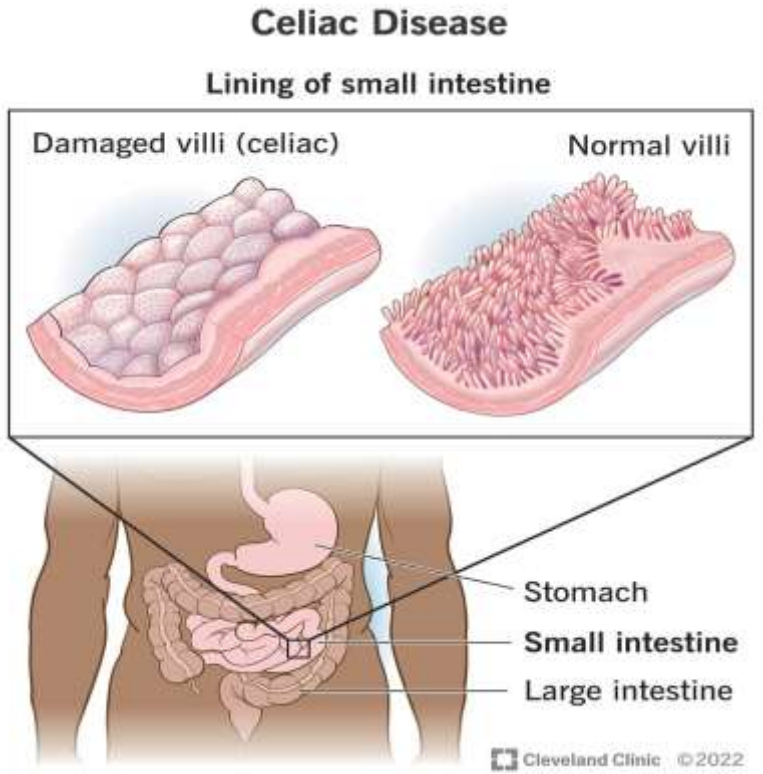
I-Gastroesophageal reflux disease (GERD): A stomach acid flows back up into the esophagus, (heartburn) and other symptoms.

II-Esophageal cancer: A type of cancer that develops in the esophagus.

III-Esophageal stricture: A narrowing of the esophagus (difficult to swallow).

Diseases of the Stomach

- **Peptic ulcers:** Open sores that develop in the lining of the stomach or duodenum.
- **Gastritis:** Inflammation of the lining of the stomach.
- **Stomach cancer**: A type of cancer that develops in the stomach.

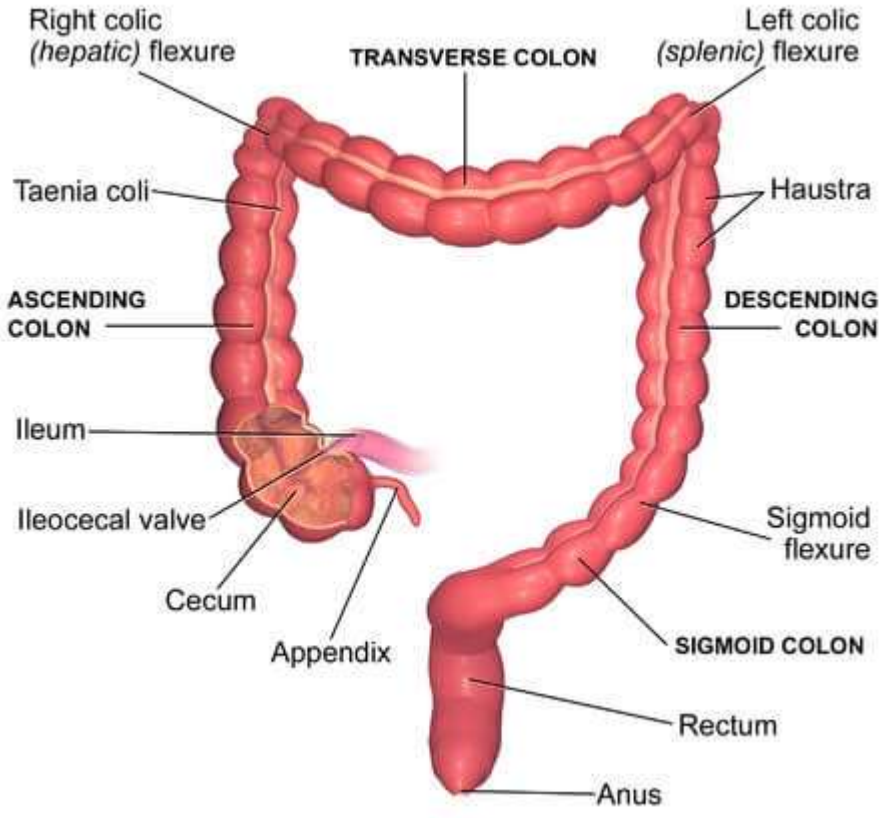


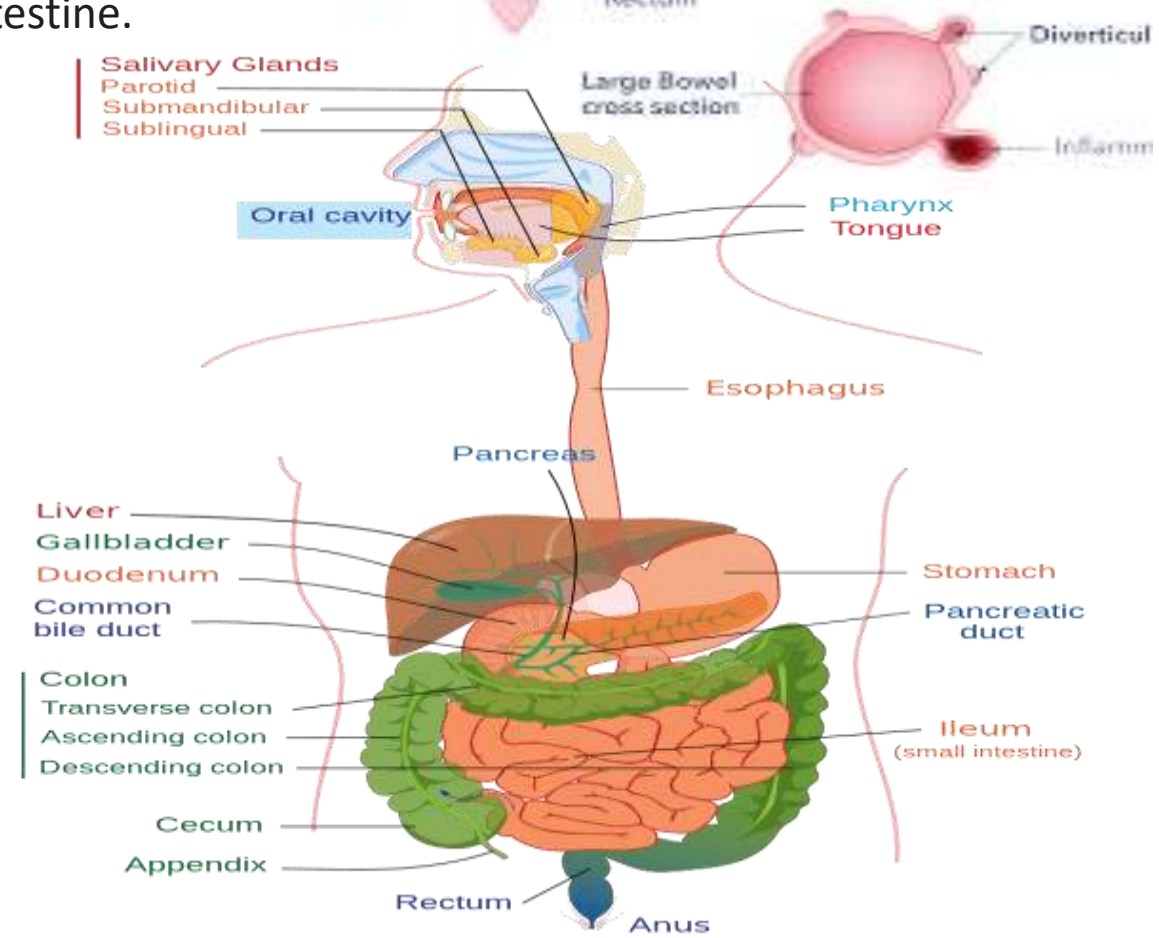
Diseases of the Small Intestine

- **Celiac disease**: An autoimmune disorder that causes damage to the small intestine when gluten is consumed.
- **Crohn's disease**: An inflammatory bowel disease that causes inflammation of the entire GI tract, but most commonly affects the small intestine.
- **Ulcerative colitis:** An inflammatory bowel disease that causes inflammation of the lining of the large intestine.

Diseases of the Large Intestine

I. **Diverticulosis**: A condition in which small pouches (diverticula) form in the wall of the large intestine.
II. **Diverticulitis**: A condition in which diverticula become inflamed or infected.
III. **Colon cancer**: A type of cancer that develops in the large intestine.





Medical Terms for Gastrointestinal Symptoms

Term	Definition
Dysphagia	Difficulty swallowing
Odynophagia	Painful swallowing
Heartburn	A burning sensation in the chest caused by stomach acid backing up into the esophagus
Regurgitation	The involuntary backflow of stomach contents into the esophagus or mouth
Nausea	Feeling sick to one's stomach
Vomiting	The forceful expulsion of stomach contents through the mouth
Diarrhea	Loose, watery stools
Constipation	Hard, dry stools that are difficult to pass
Abdominal pain	Pain anywhere in the abdomen
Flatulence	Excessive gas
Bloating	A feeling of fullness and pressure in the abdomen

Medical Imaging for the Gastrointestinal Tract

Imaging Technique	Purpose
X-ray	Used to detect blockages, foreign objects, and certain abnormalities in the GI tract
Barium swallow	Uses a special liquid containing barium to evaluate the esophagus, stomach, and upper small intestine
Upper endoscopy	Uses a thin, flexible tube with a camera and light to examine the esophagus, stomach, and duodenum
Small bowel follow-through	Uses barium and X-rays to evaluate the entire small intestine
Colonoscopy	Uses a long, flexible tube with a camera and light to examine the entire colon
CT scan	Provides detailed cross-sectional images of the abdomen and pelvis, allowing for more precise evaluation of GI structures
MRI	Uses magnetic fields and radio waves to produce detailed images of the abdomen and pelvis, particularly useful for soft tissue evaluation

Medical Procedures for the Gastrointestinal Tract

In addition to imaging, various medical procedures are used to diagnose and treat conditions affecting the GI tract. These include:

Procedure	Purpose
Esophageal manometry	Measures the pressure and contractions of the esophagus to assess esophageal function
Endoscopic ultrasound (EUS)	Uses ultrasound waves transmitted through an endoscope to provide more detailed images of the GI tract walls
Capsule endoscopy	Uses a small pill-sized camera to take pictures of the small intestine as it passes through the digestive system
Biopsies	Removal of small tissue samples for examination under a microscope to diagnose or rule out certain conditions
Polypectomy	Removal of polyps (abnormal growths) from the GI tract during endoscopy
Endoscopic stenting	Placement of a small tube (stent) to keep a narrowed or obstructed passage open
Gastrostomy	Surgical creation of an opening in the stomach to allow for feeding or drainage
Colectomy	Surgical removal of a portion or all of the colon

Medication for Gastrointestinal Disorders

Medication Class Examples	Purpose
Antacids	Neutralize stomach acid to relieve heartburn and indigestion
Proton pump inhibitors (PPIs)	Reduce stomach acid production to treat peptic ulcers, GERD, and esophagitis
H2 blockers	Block histamine receptors to reduce stomach acid production
Prokinetics	Stimulate intestinal contractions to treat constipation
Antispasmodics	Relax muscles in the GI tract to relieve pain and cramps
Antibiotics	Treat bacterial infections that can cause GI symptoms
Anti-inflammatory drugs	Reduce inflammation in the GI tract to treat inflammatory bowel diseases like Crohn's disease and ulcerative colitis
Immunomodulators	Regulate the immune system to treat inflammatory bowel diseases

Gastroesophageal Reflux Disease (GERD):

GERD occurs when stomach acid flows back into the esophagus, causing heartburn and acid indigestion. Diagnosis often involves a detailed medical history evaluation and may include an endoscopy or an ambulatory acid (pH) test. Treatment may involve lifestyle changes (e.g., avoiding trigger foods, weight management), medications (e.g., proton pump inhibitors), or in severe cases, surgical intervention.

Peptic Ulcer Disease (PUD):

PUD refers to open sores in the lining of the stomach or small intestine, typically caused by infection with Helicobacter pylori bacteria or prolonged use of nonsteroidal anti-inflammatory drugs (NSAIDs). Diagnosis may involve an endoscopy, urea breath test, or stool antigen test. The treatment includes antibiotics to eradicate H. pylori, acid-suppressing medications, and discontinuation of NSAIDs.

Inflammatory Bowel Disease (IBD):

IBD encompasses two main conditions: Crohn's disease and ulcerative colitis. Both cause chronic inflammation in the digestive tract, leading to symptoms like abdominal pain, diarrhea, and weight loss. Diagnosis involves a combination of physical examination, blood tests, stool tests, endoscopy, and imaging studies. Treatments range from medications (e.g., corticosteroids, immunomodulators), lifestyle modifications, and in severe cases, surgery to remove a diseased portion of the intestine.

Irritable Bowel Syndrome (IBS):

IBS is a functional disorder characterized by abdominal pain, bloating, and changes in bowel habits without any specific structural abnormalities.

Diagnosis is based on symptom patterns and exclusion of other conditions.

Treatment involves dietary modifications, stress management techniques, and medications to alleviate specific symptoms (e.g., antispasmodics for abdominal pain).

Gastrointestinal Cancers:

Gastrointestinal cancers can occur in various parts of the digestive system, including the esophagus, stomach, liver, pancreas, colon, and rectum.

Diagnosis typically involves a combination of imaging tests (e.g., CT scan, MRI), endoscopy, biopsies, and blood tests (tumor markers).

Treatment options depend on the specific cancer type and stage and may include surgery, radiation, chemotherapy, targeted therapies, or immunotherapy.

Gallbladder Disorders:

Gallbladder disorders such as **gallstones** or **cholecystitis** can cause severe abdominal pain and digestive disturbances. Diagnostic tests include **ultrasound**, **CT** scan, or gallbladder function **tests**.

Treatment options range from medications to dissolve gallstones, surgical removal of the gallbladder (cholecystectomy), or endoscopic procedures to remove gallstones.

Liver Diseases:

Liver diseases, such as **hepatitis**, **cirrhosis**, or **fatty** liver disease, can significantly impact liver function.

Diagnosis involves blood **tests**, **imaging** studies (ultrasound, CT scan), and liver **biopsy**.

Treatment may include lifestyle modifications (e.g., alcohol cessation, weight loss), medications to manage underlying causes or complications, and, in advanced cases, liver transplantation.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