

# Understanding Gastroenterology: What it is and why it Matters

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## INTRODUCTION

Gastroenterology is a branch of medicine that deals with the digestive system, including the gastrointestinal tract and related organs. It is a field that has been around for centuries, with a rich history of research and discovery. Today, it remains a critical area of medical research, as digestive disorders and diseases are prevalent in many parts of the world. In this article, we will explore the basics of gastroenterology, including its history, what it entails, and why it matters.

### A brief history of gastroenterology

Gastroenterology is the study of the digestive system and its disorders. This branch of medicine focuses on the diagnosis, treatment, and prevention of diseases and conditions that affect the gastrointestinal tract, liver, and pancreas. Gastroenterology is a complex and fascinating field that requires extensive knowledge of anatomy, physiology, and pathology.

The study of the digestive system dates back to ancient times, with the ancient Greeks and Romans making significant contributions to the field. However, it was not until the 18<sup>th</sup> century that the field of gastroenterology began to take shape. In 1728, a German anatomist named Johann Georg Kratzenstein published a paper describing the physiology of the digestive system. This work laid the foundation for future research in the field.

The Gastro Intestinal (GI) tract is a long, muscular tube that begins at the mouth and ends at the anus. It includes the esophagus, stomach, small intestine, large intestine, rectum, and anus. The liver and pancreas are two important accessory organs that are closely connected to the GI tract. The liver produces bile, which is necessary for the digestion and absorption of fats. The pancreas produces enzymes that aid in the digestion of carbohydrates, proteins, and fats.

During the 19<sup>th</sup> century, advances in microscopy and other scientific technologies led to significant breakthroughs in gastroenterology. In 1822, French physiologist Francois Magendie discovered that the stomach produces hydrochloric acid, which aids in the digestion of food. Later in the century,

German physiologist Ivan Pavlov conducted groundbreaking research on the role of the nervous system in digestion. These discoveries paved the way for further research in the 20<sup>th</sup> century, including the development of new diagnostic tools and treatments for digestive disorders.

Gastroenterologists are physicians who specialize in the diagnosis and treatment of diseases and conditions that affect the digestive system. They use a variety of diagnostic tools and techniques to evaluate the GI tract and other organs involved in digestion. Some of these tools include endoscopy, imaging tests (such as ultrasound, CT scans, and MRI), and blood tests.

**Endoscopy:** Endoscopy is a common procedure used by gastroenterologists to visualize the inside of the digestive tract. During an endoscopy, a thin, flexible tube with a camera on the end (called an endoscope) is inserted into the mouth, down the esophagus, and into the stomach and small intestine. The camera allows the gastroenterologist to see the lining of the GI tract and identify any abnormalities or signs of disease. Colonoscopy is a similar procedure that is used to examine the large intestine (colon) and rectum.

**Imaging tests:** Gastroenterologists also use imaging tests to evaluate the digestive system and other organs. Ultrasound uses sound waves to create images of the organs inside the body. CT scans and MRI use X-rays and magnetic fields, respectively, to produce detailed images of the organs and tissues. These tests can help diagnose conditions such as liver disease, gallstones, and pancreatic cancer.

**Blood tests:** Blood tests are another important diagnostic tool used by gastroenterologists. These tests can measure levels of enzymes, hormones, and other substances in the blood that are indicative of certain digestive diseases and conditions. For example, elevated levels of liver enzymes may indicate liver disease, while low levels of certain pancreatic enzymes may suggest pancreatic insufficiency.

### What does gastroenterology entail?

Gastroenterology is a broad field that encompasses a wide range of digestive disorders and diseases. Some of the most common conditions that gastroenterologists diagnose and treat include:

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**Gastroesophageal Reflux Disease (GERD):** This is a condition in which stomach acid flows back into the esophagus, causing heartburn and other symptoms.

**Inflammatory Bowel Disease (IBD):** This includes Crohn's disease and ulcerative colitis, which are chronic inflammatory conditions that affect the digestive tract.

**Irritable Bowel Syndrome (IBS):** This is a common condition characterized by abdominal pain, bloating, and changes in bowel habits.

**Pancreatitis:** This is inflammation of the pancreas, which can cause severe abdominal pain and other symptoms.

**Gallbladder disease:** This includes conditions such as gallstones and cholecystitis, which can cause pain and discomfort in the upper abdomen.

**Liver disease:** This includes conditions such as hepatitis and cirrhosis, which can cause damage to the liver and lead to serious health problems.

To diagnose these conditions, gastroenterologists use a variety of tools and techniques. These may include endoscopy, which involves using a flexible tube with a camera to examine the digestive tract, as well as imaging tests such as CT scans and MRIs. Gastroenterologists may also use blood tests, stool tests, and other diagnostic tests to help identify the underlying cause of a patient's symptoms.

### Why does gastroenterology matter?

Gastroenterology is an important field of medicine for several reasons. First, digestive disorders and diseases are common,

affecting millions of people worldwide. These conditions can cause significant discomfort and pain, and in some cases, they can lead to serious health problems.

Second, advances in gastroenterology have led to significant improvements in the diagnosis and treatment of digestive disorders. New diagnostic tools, such as capsule endoscopy, have made it easier to visualize the digestive tract and identify potential problems. Meanwhile, new treatments, such as biologic therapies for IBD, have improved outcomes for patients with these conditions.

Third, gastroenterology is closely linked to other areas of medicine.

### Treatment

Treatment for digestive disorders depends on the underlying cause and severity of the condition. Gastroenterologists may prescribe medications, recommend lifestyle changes (such as dietary modifications or stress reduction techniques), or perform surgery in some cases.

In addition to treating digestive disorders, gastroenterologists also play an important role in preventing these conditions. Screening for colon cancer, for example, is a key part of gastroenterology practice. Colon cancer is the second leading cause of cancer.