SELINSGROVE AREA HIGH SCHOOL

# SEALS Health News

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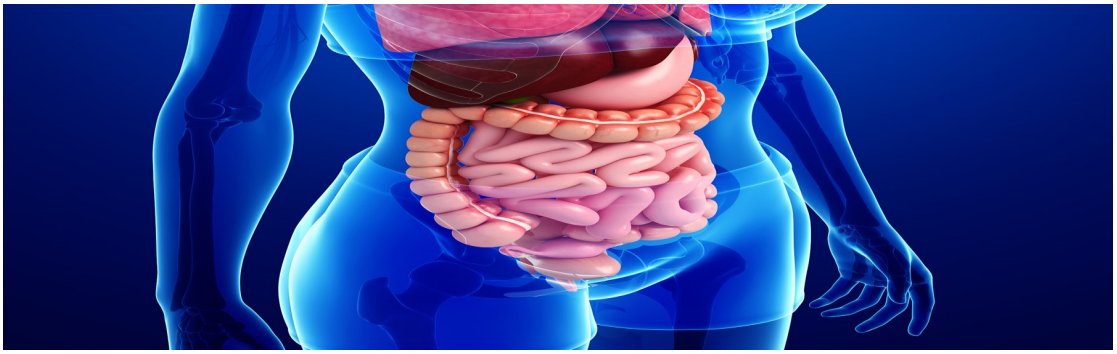
Certain food additives called emulsifiers are added to many processed foods to improve texture and extend shelf life. These may negatively affect your gut health and promote inflammatory diseases.

## Healthy Digestion



Good (healthy) digestion is a 'silent' process - digestion in some form is taking place while we rest, eat, sleep or work. We generally only become aware of digestion when something goes wrong (eg, if you eat foods that don't agree with your body or drink too much alcohol or say, if you become constipated or have gas).

Although the digestive system can withstand a lot of stress (from the foods you eat to emotional stresses), it can only do so for a limited period. Over time, the negative effects will accumulate and create health problems in the long-term. So irrespective of your lifestyle in the past, you can take some positive steps today to rejuvenate and maintain the health of your digestive system.

Maintaining a healthy digestive system - key points

⇒ Eat a healthy diet
⇒ Eat moderately, slowly and regularly
⇒ Exercise regularly
⇒ Reduce/manage stress levels
⇒ Quit smoking

**Wash your hands well after using the bathroom, AND leave your phone out of the bathroom!**

**Since phones tend to travel with us everywhere — especially places where we eat, like kitchen counters, restaurant tables, and desks, to name a few — the E. coli bacteria detected on them may play a role in spreading illness.**

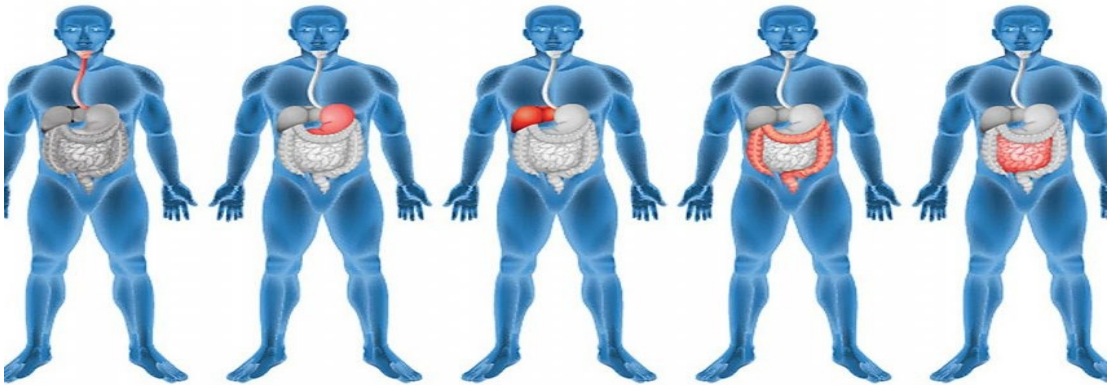
# Your Digestive System & How it Works

## What is the digestive system?

The digestive system is made up of the gastrointestinal tract—also called the GI tract or digestive tract—and the liver, pancreas, and gallbladder. The GI tract is a series of hollow organs joined in a long, twisting tube from the mouth to the anus. The hollow organs that make up the GI tract are the mouth, esophagus, stomach, small intestine, large intestine, and anus. The liver, pancreas, and gallbladder are the solid organs of the digestive system.

The small intestine has three parts. The first part is called the duodenum. The jejunum is in the middle and the ileum is at the end. The large intestine includes the appendix, cecum, colon, and rectum. The appendix is a finger-shaped pouch attached to the cecum. The cecum is the first part of the large intestine. The colon is next. The rectum is the end of the large intestine

Bacteria in your GI tract, also called gut flora or microbiome, help with digestion. Parts of your nervous and circulatory systems also help. Working together, nerves, hormones, bacteria, blood, and the organs of your digestive system digest the foods and liquids you eat or drink each day.



## Why is digestion important?

Digestion is important because your body needs nutrients from food and drink to work properly and stay healthy. Proteins, fats, carbohydrates, vitamins, minerals, and water are nutrients. Your digestive system breaks nutrients into parts small enough for your body to absorb and use for energy, growth, and cell repair.

- ◊ Proteins break into amino acids
- ◊ Fats break into fatty acids and glycerol
- ◊ Carbohydrates break into simple sugars

## How does my digestive system work?

Each part of your digestive system helps to move food and liquid through your GI tract, break food and liquid into smaller parts, or both. Once foods are broken into small enough parts, your body can absorb and move the nutrients to where they are needed. Your large intestine absorbs water, and the waste products of digestion become stool. Nerves and hormones help control the digestive process.

## How does food move through my GI tract?

Food moves through your GI tract by a process called peristalsis. The large, hollow organs of your GI tract contain a layer of muscle that enables their walls to move. The movement pushes food and liquid through your GI tract and mixes the contents within each organ. The muscle behind the food contracts and squeezes the food forward, while the muscle in front of the food relaxes to allow the food to move.

**Mouth.** Food starts to move through your GI tract when you eat. When you swallow, your tongue pushes the food into your throat. A small flap of tissue, called the epiglottis, folds over your windpipe to prevent choking and the food passes into your esophagus.

**Esophagus.** Once you begin swallowing, the process becomes automatic. Your brain signals the muscles of the esophagus and peristalsis begins.

**Lower esophageal sphincter.** When food reaches the end of your esophagus, a ringlike muscle—called the lower esophageal sphincter —relaxes and lets food pass into your stomach. This sphincter usually stays closed to keep what's in your stomach from flowing back into your esophagus.

**Stomach.** After food enters your stomach, the stomach muscles mix the food and liquid with digestive juices. The stomach slowly empties its contents, called chyme, into your small intestine.

**Small intestine.** The muscles of the small intestine mix food with digestive juices from the pancreas, liver, and intestine, and push the mixture forward for further digestion. The walls of the small intestine absorb water and the digested nutrients into your bloodstream. As peristalsis continues, the waste products of the digestive process move into the large intestine.

**Large intestine.** Waste products from the digestive process include undigested parts of food, fluid, and older cells from the lining of your GI tract. The large intestine absorbs water and changes the waste from liquid into stool. Peristalsis helps move the stool into your rectum.

**Rectum.** The lower end of your large intestine, the rectum, stores stool until it pushes stool out of your anus during a bowel movement.

## Things That Can Go Wrong

Nearly everyone has a digestive problem at one time or another. Some conditions, such as indigestion or mild diarrhea, are common; they result in mild discomfort and get better on their own or are easy to treat. Others, such as inflammatory bowel disease (IBD), can be long lasting or troublesome. GI specialists or gastroenterologists (doctors who specialize in the digestive system) can be helpful when dealing with these conditions.

# THE SCOOP ON POOP

## COLOR

| What does it look like?  | What Could that mean?  | What should I do about it?  |
|---|---|---|
| Grey/clay colored | Disorder of liver and biliary tract<br><br>Issues digesting fats. | Talk to your doctor about liver function tests. Limit fat intake until you get more information. |
| Red | Bright red: may indicate blood from a superficial hemorrhoid.<br>May also be from foods such as beets. | Talk to your Doctor, they may run a Fecal Occult Blood (FOB) test if you no longer have obvious blood visible. Hemorrhoid's often do not require treatment though in office procedures are available. |
| Brown | The normal color of feces Comes from conjugated bilirubin , from the breakdown of red blood cells, from the liver. | Keep doing what you are doing! |
| Green | Can be normal depending on diet, may indicate slight malabsorption. | Check to see if it matches the foods you are eating. |
| White | Mucous filled could mean the presence of an inflammatory reaction taking place in the gut.<br><br>White pellets may indicate a parasitic infection. | Stool tests can detect for the presence of white blood cells. A doctor can help you determine the cause of inflammation through food sensitivity testing or checking for infections. |
| Black/Very dark red | Melaena describes blood that originates higher up in the GI tract. It is dark and tarry with a distinct smell.<br>Pseodomelanosis coli is also a cause of darkened stools and is related to ingestion of certain botanicals such as aleo, senna, and drugs such as bisacodyl. It is usually self limiting. | This finding is concerning and requires further follow up with a health care practitioner to find and stop the source of bleeding. |

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## The information provided is intended solely for educational purposes and not as medical advice. It is not a substitute for care by a medical provider.

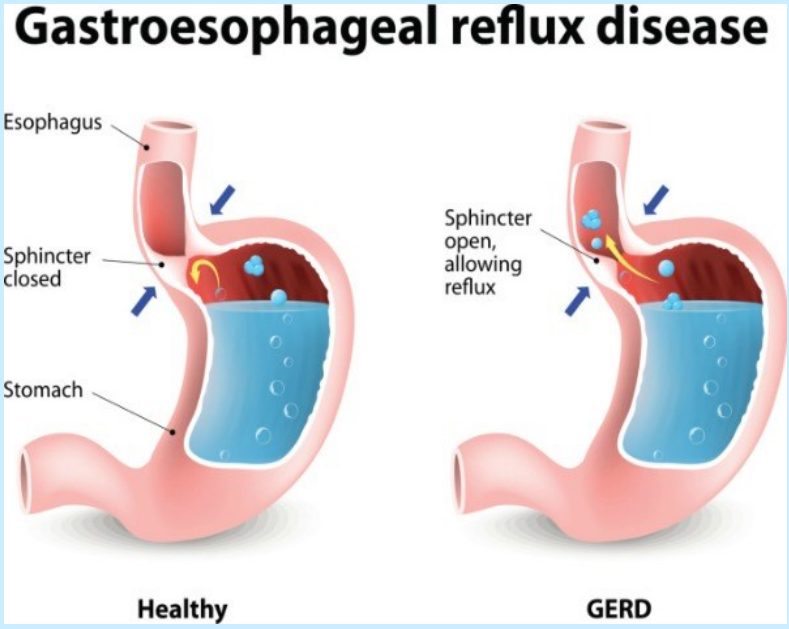
Gastrointestinal (GI) symptoms such as heartburn, indigestion/dyspepsia, bloating and constipation are common in the community. However, these symptoms may be misinterpreted and their impact and significance misunderstood both by health care providers and patients.

**Intestinal gas** is a topic that people often find difficult to discuss, but we all have gas in our intestinal tract. Gas can contribute to a sense of bloating (fullness), belching, abdominal cramps, and flatulence (gas). These symptoms are usually brief and resolve once gas is released by belching or flatulence. Some people can be more sensitive to even normal amounts of gas and develop the above symptoms. You may be able to reduce gas by avoiding or eating less of the foods that give you gas. You can use a food diary to help figure out which foods give you gas and how much of the foods you can handle.

**Nausea** is the unpleasant urge to vomit, but can occur without vomiting. Vomiting is the forceful ejection of stomach contents through the mouth. This is generally a protective mechanism to remove harmful ingested substances, but can occur from many unrelated infectious and inflammatory conditions in the body.

Acute **diarrhea** is one of the most commonly reported illnesses in the United States, second only to respiratory infections. Diarrhea that lasts less than 2 weeks is termed acute diarrhea. Most cases of acute, watery diarrhea are caused by viruses. Persistent diarrhea lasts between 2 and 4 weeks. Chronic diarrhea lasts longer than 4 weeks. Chronic diarrhea is classified as fatty or malabsorption, inflammatory or most commonly watery. In most cases, you can treat your diarrhea with over-the-counter medicines and by replacing lost fluids and electrolytes to prevent dehydration.
Diarrheal stools are those that take shape of the container, so they are often described as loose or watery. Some people consider diarrhea as an increase in the number of stools, but stool consistency is really the hallmark. Associated symptoms can include abdominal cramps fever, nausea, vomiting, fatigue and urgency.

**Constipation** is one of the most frequent gastrointestinal complaints in the USA and Western countries. There are at least 2.5 million doctor visits for constipation in the USA each year, and hundreds of millions of dollars are spent on laxatives yearly. The American College of Gastroenterology defines constipation based upon symptoms including unsatisfactory defecation with either infrequent stools, difficult stool passage or both. Your health care professional may tell you that you may be able to treat your constipation or prevent it by making changes to what you eat and drink, being more active, or taking over-the-counter medicines.




**Gastroesophageal reflux** is a physical condition in which acid from the stomach flows backward up into the esophagus. People will experience heartburn symptoms when excessive amounts of acid reflux into the esophagus. Many describe heartburn as a feeling of burning discomfort, localized behind the breastbone that moves up toward the neck and throat. All of us may have occasional heartburn. However, frequent heartburn (two or more times a week), food sticking, blood or weight loss may be associated with a more severe problem known as gastroesophageal reflux disease or GERD.

**Other common stomach and intestinal disorders include:**

## How Do Doctors Find the Cause of a Stomachache?

**To find the cause of a stomachache, doctors ask about: your symptoms illnesses you've had in the past health conditions that other family members have**

**Be honest with your doctor, even if a symptom seems embarrassing.**

**The doctor will do an exam and sometimes might order tests, such as an X-ray, ultrasound, or blood test. It all depends on what the doctor thinks is causing the problem.**

**Celiac disease** is a digestive disorder caused by the abnormal response of the immune system to a protein called gluten, which is found in certain foods. People with celiac disease have difficulty digesting the nutrients from their food because eating things with gluten damages the lining of the intestines over time. Some of the symptoms are diarrhea, abdominal pain, and bloating. The disease can be managed by following a gluten-free diet.

**Irritable bowel syndrome (IBS)** is a common intestinal disorder that affects the colon. When the muscles in the colon don't work smoothly, a person can feel the abdominal cramps, bloating, constipation, and diarrhea that may be signs of IBS. There's no cure for IBS, but it can be managed by making some dietary and lifestyle changes. Occasionally, medications may be used as well.

**Gastritis and peptic ulcers.** Under normal conditions, the stomach and duodenum are extremely resistant to irritation by the strong acids produced in the stomach. Sometimes, though, a bacterium called Helicobacter pylori or the chronic use of certain medications weakens the protective mucous coating of the stomach and duodenum, allowing acid to get through to the sensitive lining beneath. This can irritate and inflame the lining of the stomach (a condition known as gastritis) or cause peptic ulcers, which are sores or holes that form in the lining of the stomach or the duodenum and cause pain or bleeding. Medications are usually successful in treating these conditions.

**Inflammatory bowel disease (IBD)** is chronic inflammation of the intestines that affects older kids, teens, and adults. There are two major types: ulcerative colitis, which usually affects just the rectum and the large intestine, and Crohn's disease, which can affect the whole gastrointestinal tract from the mouth to the anus as well as other parts of the body. They are treated with medications, but in some cases, surgery may be necessary to remove inflamed or damaged areas of the intestine.

### FOR BETTER GUT HEALTH

- **Eat slower.** Chew your food well before swallowing. It may help you swallow less air and better sense when you're full.
- **Enjoy smaller meals.** Eat in moderation to avoid overfilling your stomach and encourage digestion. A packed stomach may also cause reflux, or your food to come back up.
- **Set a bedtime for your gut.** Try to limit how much you eat after dark. Your GI tract is most active in the morning and daytime.
- **Manage stress.** Learn healthy ways to reduce stress like relaxation breathing, mindfulness, and exercise. Stress makes it harder to digest your food well.
- **Create a routine.** Try to eat around the same times each day. Your GI system may do best on a schedule.
- **Consider probiotics.** Talk with your doctor about taking probiotics (supplemental healthful bacteria). They may ease constipation and IBS symptoms.

## Disorders of the Pancreas, Liver, and Gallbladder

Conditions affecting the pancreas, liver, and gallbladder often affect the ability of these organs to produce enzymes and other substances that aid in digestion.

These include:

**Cystic fibrosis** is a chronic, inherited illness that not only affects the lungs, but also causes the production of abnormally thick mucus. This mucus blocks the ducts or passageways in the pancreas and prevents its digestive juices from entering the intestines, making it difficult for a person to properly digest proteins and fats. This causes important nutrients to pass out of the body unused. To help manage their digestive problems, people with cystic fibrosis can take digestive enzymes and nutritional supplements.

**Hepatitis** is a viral infection in which the liver becomes inflamed and can lose its ability to function. Some forms of viral hepatitis are highly contagious. Mild cases of hepatitis A can be treated at home; however, serious cases involving liver damage may require hospitalization.

The gallbladder can develop gallstones and become inflamed — a condition called **cholecystitis** (pronounced: ko-lee-sis-TYE-tus). Although gallbladder conditions are uncommon in teens, they can happen when a teen has sickle cell disease or is being treated with certain long-term medications.

The kinds and amounts of food a person eats and how the digestive system processes that food play key roles in maintaining good health. Eating a healthy diet is the best way to prevent common digestive problems.

# Selinsgrove Area School District

# When Should I Call the Doctor?

Sometimes, what seems like one problem — food poisoning, for example — can turn out to be something more serious, like appendicitis.

Call your doctor if:

- the pain is very strong
- you're vomiting a lot
- you already have another health condition
- the pain gets worse over time, doesn't go away, or wakes you up from sleep

Also let the doctor know if you:

- have a fever
- have pain when you pee
- have trouble pooping or peeing
- have blood in your poop or pee
- think the belly pain is from an injury
- might be pregnant

**How Can I Feel Better?**

Most bellyaches don't have a serious cause. They can happen for many different reasons, but most are easy to treat.

If stress or anxiety seem to be behind the pain, the doctor may recommend that you talk to a counselor or therapist. They help people figure out what's behind their stress and give advice on how to fix problems or handle them better.

**Can Stomachaches Be Prevented?**

Not all belly pain can be prevented. But to help avoid common types of stomachaches:

Wash your hands before eating or preparing food, and after using the bathroom.

Don't overeat, and try not to eat right before going to sleep

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Drink plenty of water and eat fiber-rich foods, such as fruits and vegetables, to keep food moving through your digestive system.

Avoid foods that have passed their expiration date or weren't stored properly.

If you have a food allergy or intolerance, avoid eating foods that make you sick. If you have a food allergy, always carry two epinephrine auto-injectors, and know when you should use them.