

Common Gastrointestinal Problems

A Consumer Health Guide

GASTROESOPHAGEAL REFLUX DISEASE (GERD)

What is GERD or Heartburn?

Gastroesophageal reflux refers to the backward flow of acid from the stomach up into the esophagus. People will experience heartburn, also known as acid indigestion, when excessive amounts of acid reflux into the esophagus. Most people describe heartburn as a feeling of burning chest pain, localized behind the breastbone that moves up toward the neck and throat. Some even experience the bitter or sour taste of the acid in the back of the throat. The burning and pressure symptoms of heartburn can last as long as two hours and are often worsened by eating food.

How Common is GERD?

Over 60 million Americans experience acid indigestion at least once a month and some studies have suggested that over 15 million Americans experience acid indigestion daily. Symptoms of acid indigestion are more common among the elderly and women during pregnancy.

What Are the Treatments of GERD?

In many cases, doctors find that acid indigestion can be controlled by modifying lifestyles and proper use of over-the-counter medicines.

- ▼ Avoid foods and beverages which contribute to acid indigestion: chocolate, coffee, peppermint, greasy or spicy foods, tomato products and alcoholic beverages.
- ▼ Stop smoking. Tobacco inhibits saliva which is the body's major buffer. Some studies have concluded that tobacco stimulates stomach acid production and relaxes the muscle between the esophagus and the stomach, permitting acid reflux to occur.
- ▼ Reduce weight if obese.
- ▼ Avoid eating 2-3 hours before sleep.
- ▼ Take an over-the-counter antacid or an H₂-blocker, some of which are now available without a prescription.

When Should You See a Doctor about GERD?

When symptoms of acid indigestion are not controlled with modifications in lifestyle, and over-the-counter medicines are needed more often than twice a week, you should see your doctor.

When GERD is left untreated serious, complications can occur, such as severe chest pain that can mimic a heart attack, esophageal stricture (a narrowing or obstruction of the esophagus), bleeding, or Barrett's esophagus (a pre-malignant condition of the esophagus). Symptoms suggesting that serious damage has already occurred include:

- ▼ Dysphagia A feeling that food is trapped behind the breast bone.
- ▼ Bleeding Vomiting blood or tarry, black bowel movements.
- ▼ Choking Sensation of acid refluxed into the windpipe causing shortness of breath, coughing, hoarseness of the voice.

What Type of Tests are Needed to Evaluate GERD?

Your doctor may wish to evaluate your symptoms with additional tests when it is unclear whether your symptoms are caused by acid reflux, or if you suffer from complications of GERD such as dysphagia, bleeding, choking, or if your symptoms fail to improve with prescription medications. Your doctor may decide to conduct one or more of the following tests.

▼ *Barium Esophagram or Upper GI X-Ray*

This is a test where you are given a chalky material to drink while X-rays are taken to outline the anatomy of the digestive tract.

▼ *Endoscopy*

This test involves insertion of a small lighted flexible tube through the mouth into the esophagus and stomach to examine for abnormalities. The test is usually performed with the aid of sedatives.

▼ *Esophageal Manometry or Esophageal pH*

This test involves inserting a small flexible tube through the nose into the esophagus and stomach in order to measure pressures and function of the esophagus. With this test, the degree of acid refluxed into the esophagus can be measured as well.

Surgery

Surgeons perform anti-reflux surgery on patients with longstanding gastroesophageal reflux disease not controlled with medication. The surgical technique attempts to improve the natural barrier between the stomach and the esophagus that prevents acid reflux from occurring.

Medications Often Prescribed for GERD

Prescription medications to treat GERD and ulcers include drugs called H₂ receptor antagonists (H₂-blockers) and proton pump inhibitors which help to reduce the stomach acid which

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tends to exacerbate symptoms, and work to promote healing, as well as promotility agents which aid in the clearance of acid from the esophagus.

H₂-Receptor Antagonists

Since the mid-1970's H₂-receptor antagonists have been used to treat GERD and ulcer disease. In GERD, H₂-receptor antagonists improve the symptoms of heartburn and regurgitation and heal mild-to-moderate esophagitis. Symptoms are eliminated in somewhat over 50% of patients with twice a day prescription dosage of the H₂-receptor antagonists. Healing of esophagitis may require higher dosing. These agents maintain remission in about 25% of patients.

H₂-receptor antagonists are generally less expensive than proton pump inhibitors and provide adequate, cost-effective approaches as the first-line treatment as well as maintenance agents in GERD and ulcer disease. In mid-1995, the FDA approved availability of some H₂-blockers without prescription in dosage levels appropriate for treatment of heartburn.

Proton Pump Inhibitors

Proton pump inhibitors (PPIs), such as omeprazole, and more recently lansoprazole, have been found to heal erosive esophagitis (serious forms of GERD) more rapidly than H₂ receptor antagonists. PPIs provide not only symptom relief, but also symptom resolution in most cases, even in those with esophageal ulcers. Studies have shown PPI therapy can provide complete endoscopic mucosal healing of esophagitis at 6 to 8 weeks in 75% to 100% of cases. Daily PPI treatment provides the best long-term maintenance of esophagitis, particularly in keeping symptoms and disease in remission for those patients with moderate-to-severe esophagitis, plus this form of treatment has been shown to retain remission for up to five years.

Promotility Agents

Promotility drugs are effective in the treatment of mild to moderately symptomatic GERD. These drugs increase lower esophageal sphincter pressure, which helps prevent acid reflux, and improves the movement of food from the stomach. They decrease heartburn symptoms, especially at night, by improving the clearance of acid from the esophagus. Recent developments have greatly limited the availability of one of these agents, i.e. cisapride. Cisapride had been used widely for several years in treating night-time heartburn and was also used by some practitioners in treatment of GERD symptoms in children. More recently, rare but potentially serious complications have been reported in some patients taking cisapride. These complications seem to be related to usage in

patients on contraindicated medications or in patients with contraindicated medical conditions, such as underlying heart disease. In March of 2000, the manufacturer announced that it had reached a decision in consultation with the FDA to discontinue the marketing of the drug. The product will remain available only through a limited-access program. This program has been established for patients who fail other treatment options and who meet clearly defined eligibility criteria.

Over-the-Counter Medications

Large numbers of Americans use over-the-counter antacids and other agents that are available without a prescription to treat minor GI discomforts, infrequent heartburn or acid indigestion. Recently, FDA approved the non-prescription availability of important acid suppression agents, call H₂-blockers (Tagamet, Pepsid, Zantac and Axid - some are already available at certain dosages for OTC uses, others are expected to be available soon) for treatment of heartburn. Over-the-counter antacids alone account for over \$1 billion in sales per year. Early indications are that over-the-counter H₂-blockers will also account for major consumer purchases.

Over-the-counter medications have an important role in providing relief from heartburn and other occasional GI discomforts. More frequent episodes of heartburn or acid indigestion may be a symptom of a more serious condition which could worsen if not treated. If you are using an over-the-counter product more than twice a week, you should consult a physician who can confirm a specific diagnosis and treatment plan with you.

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ULCERS

What is an Ulcer?

About 20 million Americans will suffer from an ulcer in their lifetime. Duodenal ulcers often occur between the ages of 30 and 50, and are twice as common among men. Stomach ulcers are more common after the age of 60 and are more common in women.

An ulcer is a focal area of the stomach or duodenum that has been destroyed by digestive juices and stomach acid. Most ulcers are no larger than a pencil eraser, but they can cause tremendous discomfort and pain.

What are the Symptoms of Ulcers?

The most common symptom of an ulcer is a gnawing or burning pain in the upper abdomen. The pain often occurs between meals and sometimes awakens people from sleep. Pain may last minutes to hours and is often relieved by eating and taking antacids. Less common symptoms of an ulcer include nausea, vomiting and loss of appetite and weight.

What Causes Ulcers?

In the past, ulcers were incorrectly thought to be caused by stress. Doctors now know that there are two major causes of ulcers. Most often patients are infected with the bacteria *Helicobacter pylori* (*H. pylori*). Others who develop ulcers are regular users of pain medications called non-steroidal anti-inflammatory drugs (NSAIDs), which include common products like aspirin and ibuprofen. The use of antibiotics to fight the *H. pylori* infection is a major scientific advance. Studies now show that antibiotics can permanently cure 80-90% of peptic ulcers. Blocking stomach acid remains very important in the initial healing of an ulcer.

Helicobacter pylori

Most ulcers arise because of the presence of *Helicobacter pylori*. Because *H. pylori* exists in the stomachs of some people who do not develop ulcers, most scientists now believe that ulcers occur in persons who have a combination of a genetic predisposition, plus the presence of the bacteria, *Helicobacter pylori*.

Use of Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)

The second major cause for ulcers is irritation of the stomach arising from regular use of non-steroidal anti-inflammatory drugs. NSAID-induced gastrointestinal side effects can best be avoided by using alternative therapy whenever possible. Low-dose corticosteroids or supportive drugs such as acetaminophen are alternatives to NSAIDs to consider. Four grams per day of acetaminophen has been shown to be comparable to analgesic and anti-inflammatory doses of ibuprofen for osteoarthritis pain and is not associated with an increased risk of gastrointestinal side effects.

If you are taking over-the-counter pain medications on a regular basis, you will want to talk with your physician about the potential for ulcers and other GI side effects. Your doctor may recommend a change in the medication you are using, or the addition of some other medication in conjunction with your pain medication to prevent ulceration. These could range from switching to acetaminophen, use of antacids or a prescription product (such as misoprostol) in conjunction with your pain medication.

What are the Complications of Ulcers?

▼ **Bleeding:** Bleeding from an ulcer can occur in the stomach or the duodenum and is sometimes the only sign of an ulcer. Bleeding from an ulcer may be slow, causing anemia and fatigue. More rapid bleeding can cause bowel movements to become sticky and tarry black or even bloody. Bleeding ulcers may cause nausea and vomiting of acidified blood that looks like "old coffee grounds."

▼ **Perforation:** When ulcers are left untreated digestive juices and stomach acid can literally eat a hole in the intestinal lining. Bacteria, food and digestive juices can spill into the abdominal cavity causing sudden, intense pain that requires hospitalization, and often surgery.

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▼ *Obstruction:* Chronic inflammation from an ulcer can cause swelling and scarring to occur. Over time scarring may close the outlet of the stomach, preventing the passage of food and causing vomiting and weight loss.

How are Ulcers Diagnosed?

Most doctors recommend that a test be performed to evaluate for the presence of an ulcer if symptoms are not improved after two weeks of treatment with an acid blocking medicine (cimetidine, ranitidine, famotidine, nizatidine, omeprazole or lansaprazole etc.). The tests most commonly used to evaluate for ulcer are an X-ray known as an Upper GI Series or UGI, and a procedure called an Endoscopy or EGD.

▼ *Upper GI Series:* This is an X-ray test where you are given a chalky material to drink while X-rays are taken to outline the anatomy of the digestive tract.

▼ *Endoscopy:* This test involves insertion of a small lighted flexible tube through the mouth into the esophagus and stomach to examine for abnormalities. The test is usually performed with the aid of sedatives. During the test, tissue biopsies can be taken for examination. A biopsy will not cause any pain or discomfort, and is usually only the size of a match head.

Tests for *Helicobacter pylori*

There are several tests available to your doctor to evaluate for the presence of the bacteria, *H. pylori*. Samples of blood can be examined for evidence of antibodies to the bacteria; a breath test can be examined for by-products from the bacteria; or biopsies from the stomach can be examined.

How are Ulcers Treated?

In the past, doctors advised patients to avoid spicy, fatty and acidic foods. We now know that diet has little to do with ulcer healing. Doctors now recommend that patients with ulcers only avoid foods that worsen their symptoms. Ulcer patients who smoke cigarettes should stop. Smoking has been shown to inhibit ulcer healing and is linked to ulcer recurrence. In general, ulcer patients should not take NSAIDS like aspirin or ibuprofen.

When is Surgery Necessary?

Most ulcers can be healed with medications. When an ulcer fails to heal or if complications such as bleeding, perforation or obstruction develop, surgery is often necessary.

MEDICATIONS OFTEN PRESCRIBED FOR ULCERS

Prescription medications to treat GERD and ulcers include drugs called H₂ receptor antagonists (H₂-blockers) and proton pump inhibitors which help to reduce the stomach acid which tends to exacerbate symptoms, and work to promote healing, as well as promotility agents which aid in the clearance of acid from the esophagus.

H₂-Receptor Antagonists

In ulcer disease, H₂-receptor antagonists have made major contributions to treatment. While recent research has defined the role of *Helicobacter pylori* in causing ulcer disease, stomach acid continues to be a major contributing cause through increasing irritation in the area of the ulcer, as well as adding to patient discomfort. H₂-receptor antagonists provide an excellent means of decreasing the flow of stomach acid to aid in the healing process.

H₂-receptor antagonists are generally less expensive than proton pump inhibitors and provide adequate, cost-effective approaches as the first-line treatment as well as maintenance agents in GERD and ulcer disease. The FDA has not approved any H₂-blocker formulation for non-prescription sale for the treatment of ulcers.

Proton Pump Inhibitors

PPIs have also taken on a major role in treating ulcer disease. Because they offer the most effective means of decreasing acid production, they are useful in treating serious ulcer conditions. As is indicated below, proton pump inhibitors are also included in most of the standard regimes for treating *Helicobacter pylori* infection.

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TREATMENT OF ULCERS CAUSED BY *H. PYLORI* INFECTION

Triple Therapy

There is no single medication which has achieved good results in eradicating *H. pylori*, hence combinations of drugs have been used to achieve increased success in eliminating the organism. The first therapeutic regimen with demonstrated success in widespread eradication of *H. pylori* involved triple therapy (three medications taken concurrently). Triple therapy has a demonstrated success in 80-95% of cases and is the standard of therapy at present. An antisecretory drug is usually added to accelerate ulcer healing.

TRIPLE THERAPY (two week course)
Bismuth subsalicylate (e.g. 2 tablets 4x daily) Tetracycline (e.g. 500 mg 4x daily) Metronidazole* (e.g. 250 mg 3x daily)

*Clarithromycin can be substituted for metronidazole, of particular benefit in metronidazole resistant patients.

Dual Therapies

Problems with triple therapy include difficulties for patients in taking so many medications regularly, side effects and the fact that 15-25% of patients have a resistance to metronidazole. Dual therapies, with simpler patient compliance, such as daily amoxicillin plus metronidazole, have been tested. An antisecretory drug is usually added to accelerate ulcer healing.

DUAL THERAPY (two week course)
Amoxicillin (e.g. 750 mg 3x daily) Metronidazole* (e.g. 500 mg 3x daily)

*Clarithromycin can be substituted for metronidazole, of particular benefit in metronidazole resistant patients.

Emerging Therapies

Therapies for 1995 also include triple therapy combining metronidazole*, omeprazole*** and clarithromycin, which often has better patient compliance than the more complicated standard triple therapy regimen. The dual therapy combination of omeprazole and clarithromycin, has been submitted to the FDA. Cure rates in clinical trials have ranged from 70% to 83%. A number of studies are investigating whether one week's therapy may approach the effectiveness of a two week regimen.

EMERGING THERAPIES	
(one or two week course)	(two week course)
Metronidazole (e.g. 500 mg 2x daily)	Omeprazole*** (e.g. 40 mg a.m.)
Omeprazole*** (e.g. 20 mg 2x daily)	Clarithromycin (e.g. 500 mg 3x daily)
Clarithromycin (250 mg 2x daily)	
Amoxicillin (e.g. 1 gram/2xdaily)	
Omeprazole*** (e.g. 20 mg/2x daily)	
Clarithromycin (e.g. 500 mg/2x daily)	

***Lansoprazole can be substituted for omeprazole.

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COLORECTAL CANCER

What is Colorectal Cancer?

Colorectal cancer is the second most common cancer killer in the United States, causing an estimated 55,000 deaths each year. More than 138,000 new cases of colorectal cancer are diagnosed each year. Men and women are equally affected by this disease.

Colorectal cancer is cancer of the colon and rectum, two parts of the digestive system also known as the large intestine.

Most colon cancers arise from polyps, abnormal growths on the wall of the colon that may become cancerous over time. If polyps are identified at a very early stage, they can be removed before they become cancerous.

Complications of colorectal cancer can be reduced or even prevented with the simple step of regular screening. The screening program recommended by the American Cancer Society includes an annual fecal occult blood test and a screening flexible sigmoidoscopy every 3-5 years for all Americans over the age of 50. Those individuals with a high risk for colorectal cancer because of prior cancer, a family history of cancer, or a history of chronic digestive condition that predisposes them to cancer, should undergo regular surveillance known as colonoscopy. A recent study in the *New England Journal of Medicine* stated that more than 90% of deaths associated with colorectal cancer could be avoided through early detection.

Who is At Risk for Colorectal Cancer?

- ▼ Women are just as likely as men to develop colorectal cancer.
- ▼ Colon cancer is most common after age 50, but the chances of developing this disease increase after age 40.
- ▼ Close relatives of a person who has had colorectal cancer before the age of 55, or persons with one of several chronic digestive conditions have a higher than average risk of developing colorectal cancer.

What are the Symptoms of Colorectal Cancer?

Most early cancers produce no symptoms, which is why screening is so important. Some possible symptoms, listed below, certainly do not always indicate the presence of colorectal cancer, but should prompt a visit with your physician and a check-up.

- ▼ Frequent gas pains
- ▼ Blood in or on the stool
- ▼ Diarrhea or Constipation
- ▼ A feeling that the bowel has not emptied completely

REGULAR SCREENING: THE ABSOLUTE BEST PROTECTION AGAINST COLORECTAL CANCER

When Should People be Screened for Colorectal Cancer?

People over 50 should be screened for colorectal cancer by their physician. Several tests are recommended.

- ▼ An annual fecal occult blood test, which checks for microscopic traces of blood in the stool.
- ▼ A flexible sigmoidoscopy once every 3-5 years to detect colorectal cancer at its earliest and most treatable stage.
- ▼ An annual colonoscopy is recommended for high risk patients of any age with prior history of colorectal cancer, a strong family history of the disease, or a predisposing chronic digestive condition such as inflammatory bowel disease.

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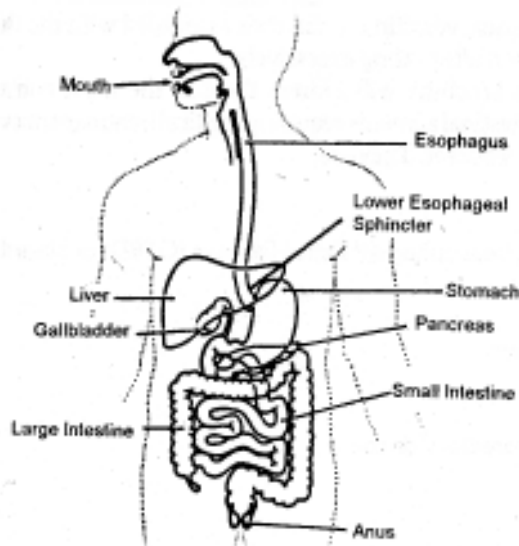
Constipation

Normal Digestive Function

The digestive tract is a continuous tube that breaks food down into nutrients that can be absorbed. Once food enters the stomach, it begins mixing with digestive juices and is passed into the small intestine a little at a time. As the food passes along the small intestine, which is actually over twenty feet long, the nutrients are absorbed through the wall of the intestinal tract and passed into the bloodstream.

By the time the food has reached the large intestine, also called the colon, the nutrients have been removed and waste materials remain. In the colon, the waste material is passed along by a series of muscle contractions, called *peristalsis*, and eventually the waste reaches the end of the digestive tract, the rectum. The colon absorbs water from the waste material, but if the muscle contractions are not normal, a change in bowel habit can occur.

The digestive tract or gastrointestinal tract.



What is a normal bowel habit?

There is a wide variation in normal bowel habits, but the average person will move his or her bowels anywhere from three times a day to three times a week. Anything in that range is therefore considered “normal” and the important thing is what is normal for you.

What is constipation?

Constipation refers to a condition where the bowels move infrequently and the consistency of the stool is often dry and hard. This usually results from excess absorption of water from the stool due to slow passage of the stool in the colon. Answers to certain key questions can help you identify constipation.

- Has there been any change in diet, exercise habits, lifestyle (daily routine), or stress level?

Any alteration or deviation from a normal routine may result in an alteration in bowel habits.

- What medications are being used?

Certain medications including iron, narcotic analgesics, various anti-hypertensive drugs, and a variety of additional medications can produce constipation.

- Are there other symptoms?

People with constipation will often complain of a feeling of abdominal fullness or bloating. They may also experience rectal pressure or discomfort. Gaseousness, abdominal distension, and the feeling of incomplete elimination are also common complaints.

When should I see my doctor?

Medical attention should be considered for any sustained change in bowel habit. Other symptoms which should prompt a visit to the doctor include: weight loss, severe abdominal pain, or rectal bleeding. These symptoms may be a sign of a more serious condition. Several common disorders of the endocrine system may also produce altered bowel habits (for example, diabetes and thyroid disease).

What type of testing should be done?

Your physician will ask you a series of questions to attempt to determine the severity of the problem. A physical examination will be performed. Laboratory testing is often done. Your doctor may recommend x-rays of your colon (a test called a *barium enema*) or may advise endoscopic tests

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called *flexible sigmoidoscopy* or *colonoscopy*. These tests involve the insertion of a flexible lighted tube into the rectum which passes up to the colon so that your doctor can tell if there are any abnormalities such as *polyps* (an abnormal growth) or tumors.

How can I solve my problem?

It is important to eat regular, healthy meals and to drink plenty of fluid. A regular exercise program also promotes proper bowel function. You should obey the urge to have a bowel movement. Delaying this important message from your digestive tract may cause your stool to become hard and difficult to pass. **The best treatment, however, is a diet rich in fiber.**

- Daily fluids (6-8 glasses/day)
- Exercise
- High fiber diet

All About Fiber

What is it?

Fiber is the part of food from plants which is resistant to digestion. There are two kinds of fiber, soluble and insoluble. Soluble fiber is digested by bacteria in the colon. Examples of soluble fiber are oat bran and *psyllium*. Soluble fiber can help lower blood cholesterol. Insoluble fiber probably works best for constipation. Examples include wheat bran, cereal grains and the peels of various fruits such as apples and pears.

Why is it important?

Fiber adds bulk to the stool. It is for this reason that fiber is sometimes referred to as bulk or roughage. Fiber works by helping the stool retain water and also helps to move materials along the colon more quickly, it "keeps things moving."

Where do I get fiber and how much is the right amount?

The average American diet includes only 10 to 20 grams of fiber daily. Your goal should be 30 to 35 grams daily. There are a variety of foods high in fiber. Fruits, vegetables, whole grain breads and pasta are excellent examples. Try substituting brown rice for white rice . . . it has triple the fiber! Bran is also a great source of fiber, and it can be found in various commercial cereal products but also unprocessed in health food stores. Bran can easily be added as a filler for casseroles and other mixed dishes.

Finally, there are a number of commercially-available fiber supplements available to consumers. These products often contain psyllium, but other fiber supplements (with names like *methyl cellulose* and *polycarbophil*) are also available. These products can be found in pharmacies or grocery stores and do not require a prescription.

Don't forget to drink plenty of fluids. A goal of eight 8-ounce glasses of water daily is reasonable. Mild natural cathartics such as prunes, sauerkraut, or green sprouts may be effective in relieving constipation.

What else should I know about constipation?

A common mistake is to ingest large amounts of fiber when the body is not accustomed to it. This may produce some unpleasant side effects, especially excessive gas, and cause you to become discouraged.

Avoid stimulant laxatives if at all possible. A suppository or gentle enema is better to use if constipation becomes severe. Constipation is a side effect of many commonly used medications, which your doctor can review with you. These simple measures will generally produce a satisfactory result. Treat your digestive tract right, and it will be good to you.

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Gallstones

What is the gallbladder and what does it do?

The gallbladder is a pouch that sits beside the liver and stores *bile*, a green-yellow fluid produced by the liver. After eating, the gallbladder releases bile into the small intestine where it helps to digest fats.

What are gallstones?

Gallstones are solid clumps of cholesterol crystals or pigment material that form in the gallbladder.

How are gallstones formed?

Some fatty components (such as cholesterol) are not easily dissolved in bile. When there is too much of these bile components, they *precipitate* and form solid crystals. These clump together forming gallstones also known as *cholelithiasis*.

Are all gallstones the same?

No. There are different types of gallstones, depending on what component of the bile has solidified. Also, the stones can vary in size ranging from tiny, sand-like particles less than one millimeter in diameter to ping pong ball-like particles more than four centimeters in diameter.

Almost 90 percent of gallstones are composed of cholesterol. The remainder consist of pigment material (*bilirubin*). The reason for the formation of pigment stones is not yet fully understood. However, some people with blood disorders such as *sickle cell anemia* are at risk for developing pigment stones.

Who is at risk for developing gallstones?

Gallstones occur in up to 20 percent of American women and 10 percent of men by the age of 60.

Women between the ages of 20 and 60 are three times more likely to develop gallstones than men, and women who have had multiple pregnancies are also more likely to develop gallstones.

The risk of gallstones increases with age and with obesity.

What symptoms are associated with gallstones?

Patients with *symptomatic gallstones* experience severe abdominal pain, and may suffer further complications such as *jaundice* (yellowing of the skin and eyes), and inflammation of the gallbladder, bile ducts, liver or pancreas. However, about 80 percent of people who have gallstones have **no** symptoms. These people are said to have so-called "*silent*" *gallstones* with no associated pain. Gas and indigestion are not specific symptoms of gallstones or gallbladder disease.

How are gallstones diagnosed?

Gallstones are usually diagnosed by *ultrasound*. Other procedures, such as x-rays, may also be used. Often silent gallstones are detected incidentally during the investigation of another problem.

How are gallstones treated?

Silent gallstones do not require treatment. Several gallstone therapies are available to people with symptomatic gallstones. There are two surgical methods to remove the gallbladder and its gallstones under general anaesthesia:

- "*Open*" *cholecystectomy* is the classic surgical treatment for gallstones. This procedure requires an abdominal incision. The patient remains in the hospital for five to seven days to recover.

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• *"Laparoscopic" cholecystectomy* is a newer surgical treatment whereby the gallbladder is removed through a small abdominal incision using a lighted tube (called a *laparoscope*). The surgeon views the entire procedure on a television monitor. Because there is no cutting through the muscle of the abdominal wall, the recovery period is much shorter.

There are two medical therapies to get rid of gallstones, leaving the gallbladder intact:

• *Oral Dissolution* of gallstones by means of medication (*ursodeoxycholic acid*) involves no surgery and is therefore suitable in patients for whom surgery may be risky. The rate of success is variable (40-80 percent) and treatment usually requires at least six to twelve months. Recurrence is common. The best candidates are those with very small cholesterol gallstones and those who have mild symptoms.

• *Extracorporeal Biliary Lithotripsy* is a procedure in which doctors find the gallstones using an ultrasound machine and position the patient so that high-energy shock waves focus on the stones. The waves break the gallstones into fragments, which either pass into the intestine or are dissolved with the help of medication. This treatment is performed in an outpatient setting; however, very few centers have this technique available.

Prevention

Because obesity is a risk factor, people should aim to maintain an ideal body weight. Otherwise there is no specific diet for gallstone disease. Very obese individuals who are attempting drastic weight reduction are at risk for developing gallstones. They should lose weight under medical supervision.

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Hemochromatosis

What is hemochromatosis?

Hemochromatosis is a common disorder of iron metabolism resulting in iron overload and affecting about 1 in 250 individuals of Northern European descent. It is an inherited disorder, but to actually develop problems from hemochromatosis you must inherit two abnormal genes, receiving one from each parent. If you have inherited both abnormal genes, you will absorb increased amounts of iron from your diet and will gradually accumulate excess iron, primarily in the liver. Over many years, these increased iron deposits in the liver can result in liver disease such as *cirrhosis* and cancer of the liver.

What are the symptoms of hemochromatosis?

Symptoms from hemochromatosis are often vague and nonspecific and may include weakness, lack of energy, upper abdominal pain, and weight loss. Parts of the body other than the liver can also be affected by hemochromatosis and cause more specific symptoms. For example, patients may develop arthritis and have joint pain. Patients may have involvement of the heart and develop abnormal heart rhythms or symptoms of heart failure. Patients can develop abnormalities in the pancreas including diabetes. Early in the disease, patients may not have any symptoms at all.

How is hemochromatosis diagnosed?

Currently, the most common way that patients with hemochromatosis come to medical attention is by having abnormal levels of iron in the blood identified during routine blood tests. Thus, if you have any of the symptoms mentioned above, or if screening blood tests are abnormal, you should be evaluated for hemochromatosis.

Typically, if hemochromatosis is suspected, the patient will be asked to have a *liver biopsy*. A liver biopsy is a procedure, performed using local anesthesia, where a needle is inserted to remove a small specimen of liver

tissue so that it can be examined microscopically. When the liver biopsy is performed, the liver tissue that is removed is tested for iron.

How is hemochromatosis treated?

Once the diagnosis of hemochromatosis is confirmed, treatment is simple and involves a procedure called “therapeutic phlebotomy” or “blood-letting.” This is done by removing blood each week until the excess iron stores are reduced to a normal level. This procedure is the same one used for blood donation and can take as long as 6 to 12 months of weekly phlebotomy to fully deplete the excess iron stores. Once the excess iron stores are depleted, then patients should have “maintenance phlebotomy” every 2 to 4 months for the rest of their lives.

Can hemochromatosis be confused with other liver diseases?

Patients with various types of liver disease or certain other conditions can have abnormal blood iron studies. The only way to **definitively** diagnose hemochromatosis is by way of liver biopsy.

Should family members be screened?

Since hemochromatosis is an inherited disorder, once the disease has been treated, it is recommended that all first-degree relatives (e.g., brothers, sisters, parents, children) be screened for hemochromatosis with routine blood iron tests.

Summary

Hemochromatosis is a common disorder. It can be easily identified before there are any complications and can be treated in a safe and inexpensive manner.

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Irritable Bowel Syndrome

What is it?

Irritable Bowel Syndrome (IBS) is a cluster of symptoms, consisting most commonly of abdominal pain, bloating, constipation, and diarrhea. Some IBS patients experience alternating diarrhea and constipation. There may be mucus present around or within the stool.

IBS is best defined by what it is NOT!

- It is not an anatomical or structural defect.
- It is not an identifiable physical or chemical disorder.
- It is not a cancer and will not cause cancer.
- It will not cause other gastrointestinal diseases.

IBS is a functional disorder of the intestine. There is no sign of the disease that can be seen or measured, but the intestine is not functioning normally. It is common, occurring in about one in five Americans, more commonly in women, and more often at times of emotional stress. It usually begins in late adolescence or early adult life and rarely appears for the first time after the age of 50.

What can be done to help?

Visit a Doctor

Talking with your doctor about your problem is the first helpful step, because we all fear the unknown. Your doctor may order a series of tests to make sure there is no underlying disease that is the cause of your symptoms. If your doctor determines that you have IBS, there are measures to help you live with IBS and treat your symptoms. While the cause of IBS is not known, and there is no cure, there are several ways to manage the symptoms.

Reduce Stress

Try to reduce stress and conflict in your life. You may need to learn about relaxation techniques, participate in regular exercise or a hobby you enjoy, or attend counseling sessions to help control the stressful situations in your life.

Watch your Diet

Avoid or limit the amount of gas-producing foods such as beans, onions, broccoli, cabbage, or any other foods that you know will commonly aggravate your IBS symptoms. Try to slow down and enjoy your food at mealtimes to prevent swallowing too much air. Chewing gum may lead to swallowing air. Drinking carbonated drinks (colas, pop, soda) can introduce gas into the intestines and cause abdominal pain. Avoid skipping meals or overloading at one sitting. Intolerance to milk sugar, *lactose*, is seen in up to 40 percent of patients with IBS. Avoiding dairy products may be very helpful in reducing symptoms of IBS. The addition of wheat bran or other fiber may be suggested by your doctor in an attempt to decrease your symptoms. Whatever changes you make in your diet, do it gradually to give your body time to adjust.

Medications

Medications can decrease your symptoms of Irritable Bowel Syndrome. Fiber supplements may be used for control of diarrhea or constipation. Laxatives may be prescribed for constipation. If you have diarrhea, your doctor may prescribe drugs to decrease the number of bowel movements. In patients with abdominal pain, drugs which relieve spasm or tranquilizers may be prescribed to relieve symptoms. Antidepressant and mood elevating drugs may also be helpful.

Remember, IBS is not life-threatening and will not lead to other serious diseases. Most patients can be helped if they work with and follow the recommendations of their doctors.

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Viral Liver Disease

The liver and its functions

The liver, the body's largest organ weighing about three pounds, is located on the right side of the abdomen, protected by the lower rib cage. It is responsible for over 5,000 life-sustaining functions, produces most of the building blocks used by the rest of the body and removes harmful chemicals. The liver produces bile that is transported to the small intestine to aid in the digestive process. The liver also produces proteins, hormones and enzymes that keep the body functioning normally, as well as materials that help in normal clotting of the blood, and to cleanse the body of substances that would otherwise be poisonous. It has a role in the processing of cholesterol, maintenance of blood sugar levels, and the processing of drugs.

When the liver becomes diseased, it may have many serious consequences. Viral infections are the most common diseases to affect the liver. When a virus damages a liver cell, the cell can no longer function. With fewer healthy cells to carry on their important work, many body functions can be affected.

What is Hepatitis?

Hepatitis means inflammation of the liver. There are many reasons for the liver to be inflamed, and not all of them are due to viruses. Certain toxic drugs and immune disorders may cause liver inflammation. The most common cause for liver inflammation is *viral hepatitis*. When liver inflammation is present for more than 6 months, the condition is referred to as *chronic hepatitis*.

In the United States:

There will be 500,000 new cases of viral hepatitis this year.

More than 4.5 million Americans have chronic viral hepatitis. That is nearly 2 percent of the United States population.

Chronic viral hepatitis, well tolerated in many, may result in premature death from cirrhosis or liver cell cancer and is a leading indication for liver transplantation.

What are the symptoms?

Symptoms produced by viral hepatitis are varied and differ depending upon whether the hepatitis is acute or chronic. Many cases of acute hepatitis are so mild that there may be no symptoms or only non-specific "flu-like" symptoms for a few days or weeks.

Symptoms of Viral Hepatitis

Acute hepatitis refers to inflammation of the liver and symptoms which are more short-term and sporadic. Acute hepatitis is less likely than chronic hepatitis to result in permanent damage to liver function.

Acute Hepatitis	Chronic Hepatitis
severe fatigue	fatigue
yellow eyes	joint aches
yellow skin	skin rashes
dark urine	loss of memory
low grade fevers	
GI upset	

Note: many patients with either acute or chronic hepatitis have NO SYMPTOMS, and symptoms are not a reliable means of knowing if progressive liver damage is occurring.

There are currently seven viruses known which cause liver inflammation. They are called hepatitis A, B, C, D, E, F and G. Because of this terminology, they are commonly referred to as an "alphabet soup" of names.

What difference does it make which virus I have?

There are several important differences in the viruses.

What Everyone Should Know About VIRAL LIVER DISEASE

Hepatitis A is the most common viral hepatitis. This virus produces acute hepatitis, but never chronic disease, so the individual infected may get sick for a few days or weeks, but once improvement occurs, the infection is over, and progressive destruction of the liver does not take place. It is rare for hepatitis A to become so severe that death (or need for urgent liver transplantation) occurs.

Hepatitis B gets better spontaneously in over 95 percent of cases. Only a few individuals with this infection are likely to develop chronic disease. An important exception to this rule applies to children. The younger the child at the time of infection, the more likely the infection will become chronic. For example, when the infection is acquired in infancy, more than 90 percent of cases become chronic. The majority of hepatitis B infections in this country occur in late-adolescents and adults. However, world-wide, infants are most likely to get hepatitis B infections.

Hepatitis C occurs primarily in late adolescents and in adults. Unlike hepatitis B, this infection ordinarily escapes the body's immune system and so in most cases does not resolve itself. In fact, up to 85 percent of people who get infected with hepatitis C will retain evidence of infection indefinitely.

Hepatitis D is a strange virus. It occurs only in conjunction with hepatitis B where it seems to function as a parasite. It may turn a smoldering but well-tolerated B infection into a more aggressive and destructive disease.

The other three hepatitis viruses E, F, and G are not common among individuals residing in the United States.

How is Hepatitis spread?

There are important differences in the ways viruses which cause hepatitis are spread. These differences hold the key to reducing the spread of these infections within families or communities.

Hepatitis A is frequently a childhood illness. It is passed from person-to-person. The virus is shed in the stool, and so poor hygiene after using the toilet can easily spread the virus from individual to individual. The virus also finds its way into food. It is easy to understand how nurseries and pre-schools are particularly vulnerable to the spread of hepatitis A.

Hepatitis B is spread via many routes, but hardly ever by ingestion of contaminated food. Instead, shared blood or body secretions are the primary means of infection. Nearly all body secretions may contain hepatitis B virus, so

that spread from one person to another may be seen in IV drug users who share needles, and also in those who receive tattoos or body piercing using improperly sterilized equipment.

Sexual transmission is another common means of spreading of hepatitis B. Infected mothers are particularly likely to spread hepatitis B to their newborns. All pregnant women are tested for hepatitis B which has helped to eliminate most mother-to-offspring transmission of hepatitis B.

The spread of Hepatitis C is also via contaminated body fluids, so that shared needles, tattooing, and body piercing may result in the spread of Hepatitis C. There is some evidence indicating that Hepatitis C may occasionally be spread by sexual contact, but this is not a common mode of transmission. Spread of Hepatitis C from mother to offspring is another somewhat uncertain area. It does not occur to nearly the same extent as spread of Hepatitis B, yet may occur in about 5 percent of infected mothers.

What can be done to prevent Hepatitis?

The means to prevent most cases of hepatitis are at hand. For some viruses it is even possible to immunize against infection. What is available for prevention of hepatitis A, B, and C?

Spread of hepatitis A can be prevented through good personal hygiene, thorough education of all food handlers, good sanitary care within nurseries and pre-schools and immunization. An effective vaccine was introduced in 1995. It is recommended mainly for travelers to areas where hepatitis A is a problem, and for military recruits. In time, it will likely become a standard childhood immunization.

In the case of exposure to a person with hepatitis A the first rule is: don't panic. This advice is particularly hard for parents of an exposed child. The chances of spread from child-to-child within schools is remote except in day care centers for the very young. In those cases, immunization if done promptly may reduce the likelihood of disease.

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What Everyone Should Know About VIRAL LIVER DISEASE

For families with an active infection, again the likelihood of spread is low. In fact, once the individual develops obvious disease, the virus has usually disappeared from the stool, and so the risk of further exposure and transmission through that route is curtailed. Nevertheless, it is a good practice to use separate eating utensils for a few days after the onset of symptoms. Immunization of household contacts may also be considered where there has been direct contact with the infected person. Immunization is not necessary for those who work in the same office or attend school where an individual develops hepatitis A.

Hepatitis B is a completely preventable disease. Good prenatal care, immunization of all school age children against hepatitis B, and individuals with multiple sexual partners, (or a partner identified as having hepatitis B) are all important strategies to prevent hepatitis B.

Hepatitis C prevention remains more difficult. There is no vaccine and experts predict it will be many years before one is developed. Risk reduction remains the cornerstone of prevention. Do not share IV needles, get tattoos or body piercing in establishments where standards of cleanliness are unknown, or have unprotected sex with multiple partners.

How is Hepatitis treated?

Treatment of viral hepatitis depends upon the particular culprit virus, and upon whether the infection is acute or chronic. For acute infections of hepatitis A, B, and C, general measures to make the individual more comfortable are all that is necessary. Hepatitis A will virtually "always" get better. Follow-up is needed in cases of hepatitis B and C via blood tests, because symptoms are not a reliable sign regarding the presence of chronic infection.

For chronic viral hepatitis B and C no certain cure exists, but for a minority of patients antiviral therapy will arrest the infection. The only drugs approved by the Food & Drug Administration for use against viral hepatitis are interferons which must be given by injection (like insulin for diabetics) for many months and may produce side effects.

What are the long-term consequences of Hepatitis?

Many patients with chronic hepatitis B or C who receive no treatment (or in whom it proves unhelpful) may nonetheless have a good chance to recover reasonably well. In fact, in the United States where infection is usually acquired after childhood, the majority of infected individuals may have either no long-term bad consequences, or only mild or moderately troublesome symptoms.

In cases of chronic hepatitis where infection has been present for 20 years or more, signs and symptoms of a badly scarred liver may emerge in 15-30 percent of these patients. The disease may produce such severe problems that death may ensue or may only be avoided by liver transplantation.

While liver cancer most often spreads from some other site in the body, sometimes liver cancer will originate from liver cells rather than from another organ. These tumors are called *hepatomas*. Approximately 70 percent of hepatomas in the United States arise in the setting of chronic hepatitis B or C.

Conclusions

It is clear that viral hepatitis is a substantial health threat in the United States. Through education, much more can be done to reduce the spread of these diseases. Treatment for those chronically infected is available and should be considered on an individual basis.

Virus	Means of Spread	Chronic Form	Immunization Available
A	oral ingestion of contaminated material	No	Yes
B	Common: "dirty needles," e.g., IV drug use, tattoos, body piercing sexual		
B	Uncommon in US: mother-to-offspring	Yes	Yes
C	Common: "dirty needles," e.g., IV drug use, tattoos, body piercing		
C	Uncommon in US: mother-to-offspring sexual	Yes	No
D	same as hepatitis B (immunize against hepatitis B)	Yes	Yes

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Alcoholic Liver Disease

Alcoholism is a common problem with an estimated 17 to 20 million Americans suffering from alcoholism. Men are more commonly afflicted than women. Young men with a family history of alcoholism and difficulties with interpersonal relations are at the greatest risk for alcoholism. Specific biologic markers for the risk to develop alcoholism have not been identified.

Does alcoholism cause liver disease?

Most people who consume alcohol do not suffer clinically significant damage to the liver. However, chronic excessive consumption of alcohol can cause a variety of liver problems including excess fat in the liver (fatty liver), alcoholic hepatitis (inflammation in the liver) and cirrhosis (permanent scarring of the liver).

Alcoholic hepatitis and alcoholic cirrhosis develop in approximately 15-20 percent of chronic alcoholics. This means that roughly one out of five people with heavy alcohol consumption will develop the devastating health problem of liver cirrhosis. These patients may die from liver failure, caused by gastrointestinal hemorrhage, infection, or failure of the kidneys. A liver transplant is only offered to those who abstain from alcohol intake for several months.

Why some people who drink alcohol get liver disease and others do not is not fully understood, but there is some research suggesting a possible genetic connection. Some people are genetically more susceptible to the effects of alcohol than others. Unfortunately, there is not yet a laboratory test to identify who is at highest risk for alcoholic related liver disease.

In the United States, cirrhosis is among the 7 leading causes of death. The most common cause of cirrhosis is alcohol abuse. In addition, excess alcohol consumption increases the risk of pancreatitis (inflammation of the pancreas), cardiomyopathy (damage to the heart muscle), trauma (accidents occurring during drunkenness), and the development of fetal alcohol syndrome (damage to the unborn child from excess alcohol during pregnancy).

How much alcohol must I drink to damage my liver?

The amount of alcohol consumed before liver damage occurs is extremely variable. Some people are exquisitely

sensitive to the effects of alcohol, while others are seemingly invulnerable to its harmful effects. In general the greater the amount and the longer the duration of alcohol consumption the more likely that injury to the liver will occur. Women are more susceptible to the damaging effects of alcohol than men.

Daily consumption of one pint of wine, or three 12 ounce beers or 4 ounces of distilled spirits (vodka, whiskey) is about 20-40 grams of alcohol and will result in liver damage over time in most women. A man drinking 80 grams of alcohol daily will, on average, develop cirrhosis of the liver in 10 years. A woman drinking 80 grams daily of alcohol will develop cirrhosis in 5 years.

Why are women more susceptible to alcohol than men?

The answer to this question is not known. When the amount of alcohol consumed by men and women is adjusted for differences in body size, women still appear to be at greater risk of liver damage at lower quantities of alcohol. Women have lower levels of an enzyme known as *alcohol dehydrogenase*, found in the stomach lining. This enzyme breaks down alcohol before it is absorbed and decreases the concentration of alcohol that reaches the blood stream. This may also explain why some women feel the effects of alcohol at a smaller amount of alcohol when compared to men. The important message is, "liver damage occurs in women with consumption of lesser amounts of alcohol."

What kinds of liver disease are caused by excess alcohol ingestion?

Fatty Liver

This condition can occur with significant intake of alcohol, even in individuals who are not alcoholics. In fatty liver, large fat droplets accumulate in the liver, leading to enlargement. A blood test can identify early damage to the liver. When alcohol consumption is stopped, the fat in the liver will disappear and the liver should completely heal.

Alcoholic Hepatitis

This is a serious condition where the liver has been severely damaged by the effects of alcohol. The illness is characterized by weakness, fever, loss of appetite, nausea,

What Everyone Should Know About ALCOHOLIC LIVER DISEASE

vomiting and pain over the liver. The liver is often inflamed causing many individual liver cells to die. Unlike fatty liver, alcoholic hepatitis often heals with permanent scarring called *fibrosis*. The right sided stomach pain is often hard to distinguish from other conditions such as a gallbladder attack. Your doctor may need to order special blood tests and x-rays to diagnose the condition. Alcoholic hepatitis can be life-threatening and require hospitalization. Recovery from alcoholic hepatitis is common, but the fibrosis or scarring of the liver is irreversible.

Alcohol-Induced Cirrhosis

This is the final stage of damage to the liver from alcohol. Cirrhosis is a permanent irreversible form of liver damage. The fibrosis or scarring of the liver seen in cirrhosis leads to obstruction of blood flow through the liver. This prevents the liver from performing its critical functions of purifying the blood and nutrients absorbed from the intestines. The end result is liver failure. Some signs of liver failure include accumulation of fluid in the abdomen (*ascites*), malnutrition, confusion (*encephalopathy*) and bleeding from the intestines. Some of these conditions can be managed by diet, medicines and special procedures, but the spontaneous recovery of the liver to normal and return of good health is rare.

Cirrhosis is the seventh leading cause of death in the United States. Although alcohol is the cause of over half of the cases of cirrhosis in the United States, not all cases of cirrhosis are due to alcoholism. Some are caused by genetic disorders, such as hemochromatosis or viral infections, such as hepatitis.

How can you diagnose whether a person has a fatty liver, alcoholic hepatitis, or cirrhosis?

Blood tests and scans are usually very helpful in the evaluation of the liver, but a biopsy of the liver is often required to make the diagnosis of cirrhosis and determine the cause. A liver biopsy is performed in the hospital or in a same day surgery clinic. Often the liver biopsy is performed with mild local anesthesia such as lidocaine or with mild sedatives given through the vein. The discomfort from the liver biopsy is usually mild and lasts only for a short time. Most patients can return to work the following day with only a restriction on heavy lifting and exercise.

Are there complications associated with alcoholic liver disease?

Yes, roughly a third of patients with alcoholic liver disease suffer from a liver infection caused by the hepatitis C virus and

nearly half will have gallstones. Those with cirrhosis are more likely to suffer from diabetes, kidney problems, ulcers, and severe bacterial infections.

Will alcoholic liver disease affect me when taking medicine?

Since one of the functions of the liver is to process drugs and other chemicals in your body, if you have liver disease you may process medications differently from other people. Always consult with your doctor about the dosage of both over-the-counter and prescription medicines. Similarly, alcohol alone, even without liver disease known to be present, may affect the processing of certain medications. For example, even moderate amounts of alcohol may cause adverse effects with some pain medications. If you use alcohol, check the labeling of over-the-counter medications to alert yourself to any limitations on their usage. You should check with your physician about precautions in taking your prescription medications if you have been drinking any alcohol. You should never use an alcoholic beverage to take medication.

How is alcohol-related liver disease treated?

Of all treatments for alcoholic liver disease, the most important is to stop drinking **completely**. Sometimes the liver can recover from the injury of alcohol enough to allow a normal life, unfortunately the scarring of the liver is permanent and the liver remains vulnerable to any alcohol or infections.

When alcoholic cirrhosis advances to an end-stage complicated by life-threatening intestinal bleeding, confusion, ascites, failure of the kidneys, and infection, the only treatment is liver transplantation. For liver transplantation to be successful, a patient must be very compliant with medicines and follow instructions reliably. Only persons completing a successful alcohol detoxification and rehabilitation program are considered as candidates for liver transplantation.

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Common Gastrointestinal Problems

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Rectal Complaints

The rectum refers to the last four to five inches of the digestive tract. The rectal outlet or opening is called the anal canal, or anus. There are many troublesome problems that can occur in the rectum. Fortunately, most are treatable when recognized early and properly diagnosed. Rectal symptoms of pain and bleeding should always be thoroughly evaluated by your physician. Sometimes your doctor may advise you to see a specialist in digestive disorders (called a gastroenterologist) or a surgeon who has received special training in diseases of the colon and rectum (called a colorectal surgeon or proctologist).

What are hemorrhoids?

Hemorrhoids are veins in the anal canal that become swollen or stretched. Just like varicose veins in the lower legs, hemorrhoids often cause no problems.

What are the different types of hemorrhoids?

There are two types of hemorrhoids: external and internal. *External hemorrhoids* are swollen veins that can be seen under the skin outside the anal canal. Usually they look like a small bulge and are the same color as the skin. *Internal Hemorrhoids* are swollen veins that arise from inside the rectum. When internal hemorrhoids become large they may prolapse through the anal canal. The most common sign of hemorrhoids are traces of bright red blood on toilet paper or drops of blood into the toilet. *Thrombosed hemorrhoids* contain a blood clot and are painful.

Burning, discomfort, and itching may result if hemorrhoids become irritated.

How do hemorrhoids develop?

Hemorrhoids are very common. About half the population have hemorrhoids by age 50 years. Hemorrhoids develop due to increased pressure often caused by straining to have a bowel movement. Hemorrhoids frequently develop in women during pregnancy when the presence of the fetus causes increased pressure on the rectal area. Chronic constipation or diarrhea may also lead to hemorrhoids as may heredity and aging.

How are hemorrhoids diagnosed?

As with all conditions involving the anal canal or rectum, diagnosis is made by examining the anus visually and by performing a digital (with a gloved finger) rectal exam. Following this, a lighted instrument is inserted into the anal canal so that the interior of the rectum may be visualized. This lighted tube may be an anoscope (a short tube which can examine the last few inches of the rectum) or a sigmoidoscope (a longer tube which can also examine the lower part of the large intestine).

How are hemorrhoids treated?

· Medical Treatment

Eliminate constipation. Bowel movements should be soft not hard, and should pass without the need to strain. Constipation is usually caused by insufficient bulk in the bowel movement, creating the need to strain to pass it. Increasing water intake, dietary fiber (see table 1) and exercise are often effective remedies. The average American diet is often deficient in fiber, and your doctor may advise you to take fiber supplements.

There are many medicated creams and/or suppositories that can be used to reduce swelling and discomfort of inflamed hemorrhoids, examples include Preparation-H® and Anusol®. It may also be helpful to sit in a tub of warm water (sometimes called a "sitz bath") several times a day, especially after a bowel movement. Cotton pads soaked in witch hazel may also provide temporary relief.

· Surgical Treatment

When hemorrhoids bleed excessively or are very painful, they can be treated. There are several types of treatment:

Sclerotherapy	injection of a chemical solution into the hemorrhoids causing them to shrink.
Infrared coagulation	a special device used to destroy the internal hemorrhoids.
Banding	a rubber band is placed around the hemorrhoid and causes strangulation followed by scarring
Hemorrhoidectomy	surgical removal of hemorrhoids

What Everyone Should Know About Rectal Complaints

What is an anal fissure?

This is a fairly common condition in which the lining of the anal canal becomes torn. This generally produces pain or burning, especially with passage of a bowel movement. Bleeding may also occur. A fissure usually occurs with constipation or after forceful passage of a large, hard bowel movement. However, fissures also may occur without straining, since the tissue lining the anal canal is very delicate.

How is a fissure diagnosed?

When a fissure is present, a digital rectal exam is usually painful. The fissure can be usually be visualized by an external inspection of the anus, or an anoscope can be used to determine the extent of the tear.

How is a fissure treated?

- Warm tub or sitz baths several times a day in plain warm water for about 10 minutes.
- Stool softeners to provide a regular soft, formed bowel movement.
- Creams and/or suppositories (Preparation-H® or Anusol®).

Most fissures will heal within several weeks, but surgery may be necessary if symptoms persist. Surgical treatment usually consists of cutting a portion of the muscle in the anal canal (sphincterotomy). This procedure reduces the tension produced by the fissure and allows it to heal. Of course, the best treatment is prevention, and ingestion of a high fiber diet to promote bowel regularity is of utmost importance.

What is an anal abscess/fistula?

An abscess is a cavity filled with pus. This usually results from a blockage of the anal glands located just inside the anus. A fistula is a connection or tunnel between the anal gland and the buttocks, usually very close to the anal opening. An anal fistula is almost always the result of an anal abscess.

What are the symptoms of an anal abscess/fistula?

An abscess produces considerable discomfort and swelling just adjacent to the anal opening. Fever may also be present. A fistula produces drainage from the anal canal to the opening of the fistula on the buttocks.

How is an abscess treated?

Treatment consists of draining the pus. A small opening is made in the skin to allow drainage of pus to occur. In about 50% of individuals, a fistula will form after the abscess has been drained. This usually develops after several weeks, but sometimes occurs several months or even years later.

How is a fistula treated?

Surgery.

Generally the sphincter muscle is cut to open the tunnel, thereby connecting the internal and external openings of the fistula. A groove is formed which then slowly heals and forms scar tissue. During the healing process individuals are given stool softeners to lessen the risk of irritation from passing bowel movements. Sitz baths are also frequently recommended.

What is pruritus ani?

This refers to itching around the anal area. It is often most troublesome at night or following a bowel movement.

What causes pruritus ani?

Excessive cleaning or wiping of the anal area is frequently the culprit. Excessive sweating in the area around the anus is another cause. Certain beverages, including alcohol, citrus drinks, and caffeine-containing drinks may aggravate the problem and highly-spiced foods, chocolate, nuts and popcorn may be irritating as well. Rarely, infections and skin conditions can produce pruritus ani. Poor hygiene is usually not a cause. Unfortunately, when the problem develops, individuals often compound the problem by excessively washing and cleaning the anal area. This leads to a cycle of increased irritation.

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What Everyone Should Know About Rectal Complaints

Table 1

Sources of Fiber ("bulk" or "roughage")		
	<i>Serving</i>	<i>Fiber grams per serving</i>
Vegetables		
Green beans	½ cup	2
Kidney beans	½ cup	5
Broccoli	½ cup	2.5
Brussel sprouts	½ cup	3.5
Carrots	½ cup	2.5
Corn	½ cup	3
Green peas	½ cup	3.5
Lettuce	½ cup	0.5
Potato (with skin)	½ cup	2
Fruits		
Apple	medium	2.5
Banana	1	2
Blackberries	1 cup	7
Cantaloupe	1 wedge	1
Grapefruit	medium	3.5
Grapes	1 cup	1
Orange	1 medium	3
Pear	1 medium	4.5
Prunes	1 cup	13.5
Raspberries	1 cup	6
Strawberries	1 cup	3.5
Grain Products		
Bread, white	1 slice	0.5
Bread, whole wheat	1 slice	2
Cereal, bran	1 ounce	8.5
Cereal, corn flakes	1 ounce	0.5
Cereal, oat Bran	1 ounce	4
Shredded wheat	1 ounce	2.5
Crackers, graham	4 squares	1
Crackers, Saltine®	10 regular	1
Rice, brown	½ cup	5
Rice, white	½ cup	1.5
Spaghetti	2 ounces	2.5
Supplements		
Metamucil®	1 tsp.	3.4
PerDiem®	1 tsp.	4.3
Konsyl®	1 tsp.	6

The average American daily diet contains only 10-20 grams of fiber—the goal is 30-35 gms/day.

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Important Information for Patients with Chronic Liver Disease and/or Cirrhosis

Introduction

Patients who suffer from chronic liver disease may develop cirrhosis after years of disease. Cirrhosis of the liver is a serious condition characterized by severe scarring. Not everyone with hepatitis or liver disease develops cirrhosis. If your doctor has told you that you have chronic liver disease and/or cirrhosis, there are important precautions that you should take to prevent further damage to your liver.

Can I drink alcohol?

No, you should not drink alcohol.

Alcohol damages liver cells. A healthy liver is able to replace most liver cells that are injured by alcohol. However, in individuals with cirrhosis, the liver is unable to replace the damaged liver cells. Drinking any alcohol, not just hard liquor, but also beer or wine will speed up the process of liver destruction and may counteract any treatments prescribed by your doctor.

Is it safe to take acetaminophen (Tylenol®)?

It is generally safe to take acetaminophen in the amount specified in the labeling. Acetaminophen is the main ingredient in Tylenol®, but it is also found in many non-prescription products for headaches, the flu, sinus problems, arthritis or general aches and pains. In 1993, an FDA Advisory Committee recommended that all over-the-counter pain relievers contain an alcohol warning. Tylenol® and some other pain relievers have included such an alcohol warning on their labeling. But, to date, not all over-the-counter pain relief products have complied with the FDA recommendation. There have been some reports that chronic heavy alcohol users may be at increased risk of liver toxicity from excessive acetaminophen use. Individuals who have been diagnosed with liver conditions will want to consult with their physician for advice on when and how to take pain relievers and should not exceed recommended doses of acetaminophen or any other pain reliever,

especially if they are consuming alcohol. Pay particular attention to products labeled “aspirin-free”; some prescription medications also contain acetaminophen, so be sure to ask your doctor about use of pain relievers.

Some Acetaminophen Containing Medicines

Tylenol®	325 mg/tablet
Tylenol Extra Strength®	500 mg/tablet
Tylenol Adult Liquid®	500 mg/tablespoon
Tylenol Extended Relief®	650 mg/tablet
Aspirin Free Excedrin®	500 mg/tablet
Excedrin Extra-Strength®	250 mg/tablet
Excedrin P.M.®	500 mg/tablet
Midrin®	325 mg/capsule
Actifed Cold & Sinus®	500 mg/tablet
Sinutab Sinus Allergy®	500 mg/tablet
Sudafed Cold & Cough®	500 mg/tablet

What other medications should I avoid?

You may need to avoid iron supplements.

Too much iron can damage liver cells or aggravate liver damage caused by some viruses. Most adults do not need to take iron supplements unless there is a history of obvious blood loss or a known deficiency of iron. Unless your doctor prescribes iron supplements for you, do not take any iron supplements or even multivitamins that contain iron.

What foods should I avoid?

Sewage runoff can infect edible sea organisms (clams, oysters, crustaceans and fish) with both bacteria and viruses. Contamination of seafood may be undetectable by smell or taste. Clams and oysters are especially susceptible to sewage contamination and should never be eaten raw.

Vibrio vulnificus is a bacteria that is found in contaminated oysters and other seafood. In healthy people, it rarely causes serious infection, but in individuals with cirrhosis it can cause death in 48 to 72 hours.

What Everyone Should Know About Chronic Liver Disease and/or Cirrhosis

Hepatitis A is a virus that can be found in clams and oysters. Infection with hepatitis A can cause even healthy persons to become very sick. Individuals with cirrhosis are especially vulnerable to a life-threatening infection caused by this virus.

If you have open sores on your skin, you should avoid exposure to sea water during the warm summer months. Harmful organisms can enter the blood stream through these sores and cause serious infection.

Are vaccines important?

Yes! Ask your doctor if you would benefit from one or more of the following vaccines:

Hepatitis A Vaccine:

Used to prevent hepatitis A, which can be severe in individuals with cirrhosis. It consists of a series of two injections given six months apart.

Hepatitis B Vaccine:

Used to prevent hepatitis B, another type of viral hepatitis. It consists of a series of three injections. The second and third injections are given one and six months after the initial injection.

Pneumococcal vaccine:

Used to prevent a kind of pneumonia caused by a bacteria called *Streptococcus pneumoniae*. It consists of only one injection, and should be repeated in five years.

Flu Shot:

Used to prevent influenza, a cause of severe upper respiratory infection and pneumonia. It is a single injection given yearly, usually in the Fall, just prior to the flu season.

Are there any natural herbs that can heal my liver?

Many causes of cirrhosis do not have any treatment available. For this reason, many individuals resort to the use of "health foods" and "natural herbs or supplements" to improve the liver. There is no scientific proof that any of these products are of benefit to the liver. Most of them are safe, but liver damage caused by herbal products has been

reported. There are several herbal remedies that are known to cause liver damage. Be sure to tell your doctor before you begin any herbal products so that he or she may better monitor your condition.

Remember, take care of yourself.

Although cirrhosis is a serious condition, you may live many years without problems. Try to eat a well-balanced diet and exercise regularly. The more active you become in taking care of yourself and obtaining regular follow-up with your doctor, the more likely you will be one of the many individuals that do well for many years.

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Common Gastrointestinal Problems

A Consumer Health Guide

Intestinal Gas Problems

Although the mention of intestinal gas problems, such as belching, flatulence, bloating and “gas pains” often elicits some degree of amusement, all of us have gas in our intestinal tract and must expel it in some way. Some individuals are very sensitive to the effects of gas collections in the stomach and intestinal tract and may develop significant discomfort. If such complaints are troublesome and persistent and do not respond to simple measures, such as change in diet, a visit to your doctor could be helpful.

Where does the gas that we belch or burp come from?

The gas brought back by belching comes entirely from swallowed air. We all swallow some air when eating food and drinking liquids. Most of the gas mixes with the stomach content and either enters into the small intestine or is belched back. The air that enters the small intestine is either absorbed or it may continue through to the large intestine and is then passed rectally. Individuals may swallow more air (and thus increase stomach gas) if they have a post-nasal drip, chew gum, have poorly fitting dentures, suck on hard candies or smoke tobacco. Drinking carbonated beverages (soda or beer) or eating rapidly can also increase stomach gas.

What causes repetitive belching or burping?

Some people have episodes of repeated belching. Since belched gas comes from swallowed air, these individuals are usually unaware that they caused the problem by swallowing air into the esophagus and bringing it back rapidly. Often, the habit can be broken if the person is made aware of the air swallowing behavior.

What foods cause increased flatus passage?

The food we choose to eat can influence the amount of gas passed rectally. Although most of our food intake is absorbed in the small intestine, some foods, such as cauliflower, broccoli, cabbage, baked beans, and bran are incompletely digested. They are then broken down by

bacteria in the large intestine, causing the formation of gas.

A high roughage diet is important to promote bowel regularity, but excessive roughage or fiber may lead to bloating and increased flatulence. When increasing the amount of fiber in your diet, do so gradually, allowing your intestinal tract time to adjust.

Milk sugar (lactose) requires an intestinal enzyme (lactase) for digestion. When individuals lack this enzyme the lactose in milk and other dairy products enters the large intestine where the lactose is broken down by bacteria, producing gas. Although milk is an excellent source of protein and calcium, many adults experience abdominal bloating, gas and diarrhea after consuming milk sugar. Persons from Asia and Africa are often extremely intolerant to the smallest quantity of dairy products.

Everyone passes some rectal gas, although the volume of gas is different each day. Much of the flatus comes from the nitrogen found in the air one swallows. The remainder of the flatus volume is the result of carbohydrates which are not absorbed in the small intestine and are broken down by bacteria in the large intestine. Therefore, the amount of flatus represents a combination of swallowed air and poorly absorbed carbohydrates. The unpleasant order of flatus is due to other gases, such as hydrogen sulfide, which is produced by the bacteria.

How can the volume of flatus be reduced?

In addition to the gas-forming foods cited above, some diet chewing gum and hard candies use sorbitol or fructose as sweeteners. These sugars can lead to excess gas production and should be avoided. Elimination of dairy products or the use of lactase-added milk can be helpful for those with lactase deficiency.

Where do I feel gas pains?

Individuals with irritable bowel problems (crampy pain and/or bowel irregularity) are often sensitive to excess intestinal gas. A common symptom is generalized abdominal cramping, sometimes relieved by passing flatus. If the gas accumulates in the right upper abdomen, the pain may radiate up into the right lower chest and could be

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confused with gallbladder disease. If the gas accumulates in the left upper abdomen, the pain may radiate into the left side of the chest and could mimic heart disease. If gas accumulates in the stomach, the upper abdominal pressure pain could radiate up to the lower chest and raise concern about a heart disorder.

Is there treatment for gas pains?

Your physician may wish to obtain tests to be confident that recurrent "gas pains" are not the result of some other disorder. If the tests are normal, a diet designed to reduce both air swallowing and the ingestion of gas forming foods would be helpful. Anti-spasmodic medications may relieve crampy discomfort, but these can have side effects on the eyes, plus bladder and bowel function.

What causes abdominal distension (bloating)?

Many individuals complain of abdominal distension which increases during the day and is most uncomfortable after the evening meal. Often distension is believed to be caused by the build-up of intestinal gas; however, there are other considerations. The tone of the rectus muscles (the muscles which support the abdominal wall and run along the length of the abdomen on either side of the navel) may be decreased due to the stretching of the abdominal wall in women who have had one or more pregnancies. If these muscles have become thinned, the abdomen may distend as food (and gas) moves through the intestine. This is most noticed after the evening meal. This explanation for distension (bloating) is most likely if the uncomfortable feeling is absent when the individual is lying down (you don't need the rectus muscle for a "flat" abdomen when lying down) but is apparent when standing or sitting erect. There is no effective medical therapy for this type of abdominal bloating but exercise directed toward strengthening the abdominal muscles may be helpful, particularly in younger women.

When should individuals with gaseous symptoms consult a physician?

Individuals with a long history of occasional gaseousness and abdominal discomfort need not seek medical attention. A change in the location of abdominal pain, significant increase in the frequency or severity of symptoms, or onset of new symptoms in individuals over the age of 40 are some of the reasons to see your doctor.

What over-the-counter drugs provide relief for gaseous symptoms?

Despite the many commercials and advertisements for medications which reduce gas pains and bloating, very few have any proven scientific value. Simethicone, a common additive to antacid preparations, shows some benefits when being tested in a lab, but many individuals feel little relief. Several scientific studies have found some benefit from activated charcoal preparations in gassy or flatulent individuals, but other studies have failed to show symptom improvement.

10 Steps to Decrease Symptoms of Intestinal Gas

1. Develop a regular routine of diet, exercise, and rest.
2. Correct bad habits:
 - Chew food thoroughly
 - Eat slowly and leisurely in a quiet atmosphere
 - Avoid washing solids down with a beverage
 - Avoid gulping and sipping liquids
 - Avoid drinking out of small mouthed bottles or straws
 - Avoid drinking from water fountains
 - Avoid carbonated beverages—sodas and beer
 - Eliminate pipe, cigar, and cigarette smoking
 - Avoid gum chewing and sucking hard candy
 - Check dentures for proper fit
 - Attempt to be aware of and avoid deep sighing
3. Do not attempt to induce belching.
4. Do not overload the stomach at any one meal.
5. Avoid gaseous vegetables: navy beans, cabbage, brussels sprouts, cauliflower, broccoli, turnips, cucumbers, radishes, onions, melons, and excess raw fruit and vegetables.
6. Avoid foods with air whipped into them—souffles, sponge cake, milk shakes.
7. Avoid long-term or frequent intermittent use of medications intended for relief of cold symptoms—cough, nasal congestion, post nasal discharge.
8. Avoid tight fitting garments, girdles, and belts.
9. Do not lie down or sit in a slumped position immediately after eating.
10. Take a leisurely stroll after meals.

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Food Intolerance

What is food intolerance?

When ingestion of a particular food or food additive causes unpleasant symptoms, a person is said to be intolerant to that food or additive. Symptoms occur as a result of either poor absorption from the intestine into the bloodstream or less commonly by the release of chemicals within the body occurring as a result of contact of the food/additive with the body. The most common symptoms are gas, bloating, nausea, diarrhea and abdominal pain. Less common symptoms include shock, welts, fluid retention, rash, wheezing, inflamed sinuses/eyes/nose, vocal cord swelling and, rarely, a migraine headache.

Which foods commonly cause problems?

Foods containing sugars (lactose, fructose, sorbitol), and gluten are the most common cause of problems. Foods containing monosodium glutamate (MSG), sulfites or histamines cause symptoms in far fewer people.

Sugars

Sugars that are not absorbed in the small intestine pass into the large intestine where bacteria feed on them and produce gas and other breakdown products that can cause symptoms of bloating, gas, diarrhea, nausea and cramps.

Lactose Intolerance

The most common food intolerance by far occurs in people who lack the ability to digest significant amounts of lactose, the predominant sugar in milk. This results from a shortage of the enzyme lactase, which is normally produced by the cells lining the small intestine. Lactase breaks down milk sugar into simpler forms that can be absorbed into the bloodstream. When there is not enough enzyme to digest the amount of lactose consumed, nausea, cramps, diarrhea, and bloating are common. Symptoms usually begin 30 minutes to two hours after eating or drinking food containing lactose (e.g. milk, cottage cheese, ice cream, cheese). The severity of the symptoms depends on the amount of lactose an individual can absorb in relation to the amount ingested.

How do I get lactose intolerance?

For most people, lactose deficiency develops naturally with age as the small intestine lining cells gradually lose the ability to make the enzyme lactase. Most people develop symptoms as adults. Some ethnic and racial groups are more commonly affected. The condition is least common in persons of northern European descent, whereas 90% of Asian-American and 75% of African-Americans are lactose intolerant.

How is lactose intolerance diagnosed?

Formal tests for lactose intolerance exist, but most cases can be diagnosed by avoiding lactose containing products and finding significant, if not complete, improvement of symptoms. Milk, dairy products, ice cream, and cheese are the most common lactose-containing foods. These should be completely avoided for several weeks to see the effect on symptoms. If the symptoms return after re-challenging the person's digestive system with lactose-containing food after noticing a dramatic reduction in symptoms with avoidance, the diagnosis of lactose intolerance is likely.

How is lactose intolerance treated?

Avoiding lactose-containing foods, or limiting the amount is effective treatment for most people. Dietary control depends on each person's learning, through trial and error, how much lactose he or she can handle. For people who develop symptoms from very small amounts of lactose or have trouble limiting their intake of lactose-containing foods, lactase enzymes are available in both liquid and chewable tablet form for use with either liquid or solid lactose-containing food. Calcium supplementation is recommended for anyone who significantly limits their dietary intake of milk products.

Lactose is hidden in some foods such as whey, curds, milk by-products, dry milk solids, and nonfat dry milk powder. In addition, lactose is used as a base for about 20%

What Everyone Should Know About Food Intolerance

of prescription drugs and 6% of over-the-counter medicines. Individuals with very low tolerance for lactose will need to read all food/medication labels very carefully in order to control their symptoms.

Other Sugars

Fructose is found in many common foods, such as figs, pears, prunes, and grapes. It is also found in corn syrup which is used to sweeten foods, gums, candies and sodas. In people who cannot properly absorb fructose, symptoms similar to lactose intolerance occur.

Sugarless or diet foods, beverages, and even some low calorie gums are sweetened with sugars which are poorly absorbed by most people. If enough of these foods/beverages are ingested, the large load of non-absorbed sugar which reaches the large intestine can again cause symptoms similar to those of lactose intolerance. *Sorbitol, mannitol, and xylitol* are sugars commonly used in this fashion.

What is Celiac Disease (sprue)?

People with Celiac Disease have an intolerance to a protein called gluten found in wheat, rye, barley and oats. Eating simple foods like wheat bread will damage the intestines, so food cannot be absorbed normally. Severe weight loss, bloating, gas, weakness and a change in bowel habits often occur.

Celiac Disease is diagnosed by a combination of blood tests, biopsy of the small intestine lining and by improvement in symptoms after removing gluten from the diet.

Treatment consists of removing gluten-containing products from the diet (wheat, rye, barley, and oats). Obvious sources of gluten, such as baked goods, wheat/oat-containing cereals, noodles, and spaghetti are easily avoided. Unfortunately, wheat is often used in processed food such as ice cream, salad dressing and canned vegetables/soups. It is also found in many brands of instant coffee, ketchup, mustard, candy bars and some over-the-counter medications. As a result, a successful adherence to a gluten-free diet requires careful label-reading since gluten can be present in many seemingly unlikely places.

Less Common Intolerances

Monosodium glutamate (MSG) sensitivity is the most common problem in this group of less common intolerances. MSG is used as a flavor enhancer and is popular in Chinese food. This has led to the name "Chinese Restaurant Syndrome" for symptoms of headache, chest tightness, nausea, sweating, burning neck and facial pressure which occur in some people 15 minutes to a few hours after ingesting Chinese food containing MSG.

Histamine containing foods such as cheese, spinach, eggplant, red wine, tuna, mackerel, and yeast can produce symptoms similar to allergic reactions in some people. These symptoms include headache, flushing, rapid heart rate, fainting and wheezing.

Foods, medications and cosmetics containing *sulfites, tartrazine, benzoates, pargenes, and many dyes* have been reported to cause a variety of symptoms. Asthma-type attacks of wheezing in response to ingestion of sulfites found on sprayed/dipped vegetables and fruits have received the most publicity.

Sugar, chocolate, caffeine and various additives have been suggested as agents which worsen migraine headaches, and/or attention deficit hyperactive disorder in some individuals. Dietary restrictions have been reported as helpful in controlling and improving symptoms in some individuals with these problems.

What should I eat?

A well balanced, nutritious diet is required to maintain good health and proper weight. Symptoms of abdominal bloating, nausea, diarrhea, gas, cramps, or weight loss may indicate intolerance to food or food additives. Less common symptoms include shock, rash, hives, generalized swelling, wheezing, inflamed eyes/nose/sinuses, vocal cord swelling, and migraine headache. Should you develop these symptoms, especially if they occur repeatedly, you should see your doctor and ask about the possibility of food sensitivity.

Accurate diagnosis of food intolerance is important to avoid unnecessary diet restriction—which might lead to poor nutrition, higher food costs, social inconvenience/isolation, and preventing a more serious underlying disease from being left undiagnosed.

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Abdominal Pain

Introduction

Have you ever experienced pain in your abdomen? Of course, all of us have experienced a “belly ache” sometime in our lives, but how can you decide when abdominal pain is serious? Here is a list of common questions your doctor will need to ask about your pain:

- What does the pain feel like?
- How long does the pain last and when did it first occur?
- When does the pain occur?
- Where is the pain located?
- What causes the pain?
- What relieves the pain?
- What other symptoms are associated with the pain?

What does your pain feel like?

The sensation and interpretation of how pain feels vary from one person to another. There are two predominant types of pain.

Cramping pain is also referred to as colic. It occurs in a repeating cyclic or wave pattern with a build up in intensity followed by a gradual easing in intensity. Gas pain is a common description used to describe cramping pain. A stretching or squeezing of the intestines will cause this type of pain. It arises from hyperactivity of normal intestinal peristalsis (muscle contractions) and may be due to excess gas, irritation of the intestines from infection or inflammation, blockage, and even stress.

Constant abdominal pain. There may be some variation in the intensity but, overall, this type of pain is distinctively steady. Other descriptions which have been used include “aching, burning, gnawing, hunger, or sharp” pain. This type of pain can arise from deep inflammation involving any of the abdominal organs and the abdominal cavity. Ulcers, blockage of the gallbladder by stones, and local areas of

infection called abscesses can cause this type of pain. Irritation of the inner lining of the esophagus by gastric acid and irritation of the outside of the intestines and body cavity by leakage of blood, intestinal contents, and bile can also cause this type of pain.

How long does the pain last?

Pain which lasts for only seconds or a minute usually does not have a specific cause. Many people will experience a rare brief spell of abdominal pain, which is not serious.

Pain which lasts for hours or days should be considered potentially serious and medical attention should be obtained.

When does the pain occur?

Pain may occur spontaneously, at any time. Pain which awakens someone from sleep is regarded as potentially serious. It may occur before or after meals and before or after bowel movements. The “hunger” pain of peptic ulcers may occur just prior to mealtime. Gallbladder pain may develop after meals as can pain from the pancreas and intestinal obstruction. The irritable bowel syndrome is a common gastrointestinal problem which typically is associated with gaseous or crampy pain after meals along with a sensation of bloating. Inflammatory diseases of the intestine associated with diarrhea often cause crampy pain before or after bowel movements.

Where is the pain located?

The place where the pain is initially felt and where it may travel (radiate) is very important in determining the cause of the pain. Pain located in the center of the upper abdomen may arise from the esophagus, stomach, duodenum, liver, pancreas, or bile ducts. Pain from the gallbladder and an inflamed liver will more often be located toward the right side of the upper abdomen. Gallbladder pain may also radiate through the right shoulder blade. Pain from an ulcer or irritation of the pancreas may radiate through to the back. Pain arising from the small intestine can localize around the belly button. Pain arising from the

What Everyone Should Know About Abdominal Pain

The abdomen may become swollen or distended with gas when there is blockage of the intestine. Blocked intestines may also be associated with loud grumbling sounds which usually occur at the same time as the crampy waves of pain. These grumbling sounds may also occur normally and most often between meals. Blockage of the stomach may be due to an ulcer at the very end of the stomach. In addition to the steady pain of an ulcer, the individual may be aware of a sloshing sound of fluid in the blocked stomach. This is most noticeable when lying down and changing positions.

Fever with or without shaking chills can accompany intestinal infections, blockage of the bile ducts, and localized areas of infection called abscesses. The presence of shaking chills suggests serious infection with passage of bacteria into the bloodstream.

A change in the color of the urine and stool may accompany the pain from a blocked bile duct. In this setting, the urine becomes very dark, like strong tea, and the stool becomes light in color. With a prolonged blockage of the bile duct, the eyes and skin will turn yellow which is called jaundice.

Crampy pain accompanied by black or bloody stool is a combination of symptoms indicating severe bleeding which requires prompt attention.

Pain arising from the esophagus may be due to irritation and blockage. Individuals with this type of pain problem will describe difficulty swallowing foods, especially solids. When there is a complete blockage of swallowed food, the individual will have trouble swallowing saliva.

When should I see a doctor?

If you answer YES to any of the following questions concerning your abdominal pain, you should contact your doctor.

1. Is your pain steady, severe, or regularly recurring?
2. Does your pain impair your ability to work or perform your routine activities?
3. Have you lost weight or your appetite?
4. Is your pain associated with nausea and vomiting?

5. Do you experience fever?
6. Have your bowel habits changed?
7. Do you experience difficulty in swallowing?
8. Does your pain awaken you from sleep?
9. Do you have a previous history of ulcers, gastro-esophageal reflux, gallstones, inflammatory bowel disease (ulcerative colitis, Crohn's disease), and intestinal surgery?
10. Are you taking any medicines that can cause ulcers, such as aspirin or other medications commonly used or prescribed for arthritis or headaches?

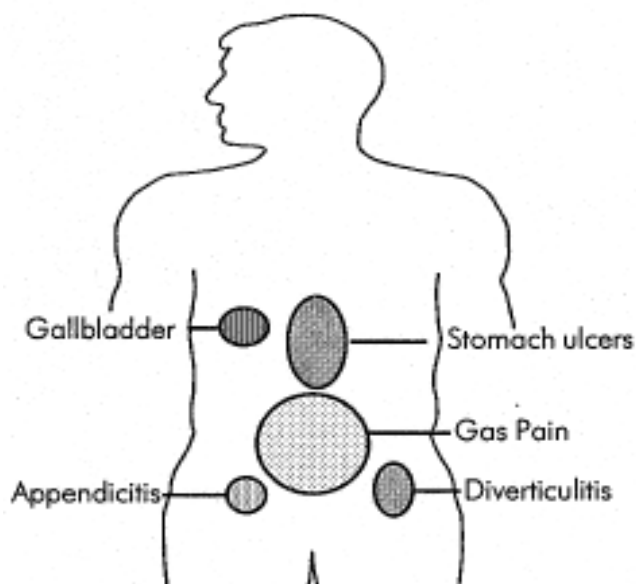
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large intestine may localize to either the right, left, or middle of the abdomen below the belly button. Pain developing from inside the pelvis will often be experienced as a pressure-like discomfort in the rectal area.

The most common locations of minor pain, often gas-like, are in the middle to upper abdomen and in the lower and left abdomen.



What causes the pain?

There may be some helpful clues from this observation. Chest pain arising from the esophagus (swallowing tube) may be related to certain foods, solid foods, or extreme temperature of foods (hot or cold). Meals stimulate the gallbladder to release bile and in the presence of gallstones may induce the pain of a gallbladder attack. Narrowed or blocked areas of the intestine will be worsened after eating solid foods, especially fibrous vegetables. An excessive intake of certain foods such as beans can cause abdominal cramps. Some individuals are intolerant of certain foods, such as the milk sugar, lactose. For example, after drinking a milk shake or lots of milk, persons intolerant to milk sugar (lactose) may experience excessive gas, cramping, and eventually diarrhea.

What relieves the pain?

Whether the pain is new or has been recurring for some time, most people will try to relieve it or will notice what makes the pain feel better. Belching is a common maneuver used to relieve upper abdominal discomfort. The belch is created by swallowing air and immediately expelling it. It is a learned response which can become a habit. Belching does not provide much, if any, clue to the origins of upper abdominal pain. Flatus, the expulsion of gas from the rectum, may relieve crampy abdominal pains due to distension or stretching of the colon and rectum. Some individuals naturally have more gas than others which may cause discomfort, create cramps, and be relieved by the passage of flatus. Certain foods, such as beans, can create excess gas and cramping which is relieved by the passage of flatus.

The pain of peptic ulcer disease has been commonly referred to as hunger or gnawing pain which is typically relieved by eating. This pain may awaken a person from sleep. These individuals will often keep antacids, water or crackers on their bed stand to help relieve the night time pain.

More serious pain will cause restlessness, the need to be still, or to assume a certain position. An obstructed organ such as the intestine or gallbladder typically causes restlessness with a need for movement such as rocking or pacing. A perforation or leakage of intestinal contents will cause one to be very still to minimize irritation of the abdominal cavity and outer lining of the intestines. With inflammation in the lower abdomen, such as appendicitis, the pain may be relieved by lying down with the legs drawn up. Deep inflammation of the upper abdomen, as can occur with inflammation of the pancreas, may feel better by leaning forward or curling up in a ball on one side or the other.

What other symptoms are associated with the pain?

Severe pain of any kind may be associated with sweating. This is not a specific observation. Nausea and vomiting may be important responses to pain and may indicate a blocked organ such as the stomach, intestine or gallbladder. Nausea and vomiting are common symptoms associated with inflammation of the pancreas.