

The Doctor's Guide to Gastrointestinal Health

Preventing and Treating Acid Reflux, Ulcers,
Irritable Bowel Syndrome, Diverticulitis,
Celiac Disease, Colon Cancer, Pancreatitis,
Cirrhosis, Hernias, and More

Paul Miskovitz, M.D.

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New York–Presbyterian Hospital

Marian Betancourt



John Wiley & Sons, Inc.

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Table of Contents

[Praise](#)

[Also by the same authors](#)

[Title Page](#)

[Dedication](#)

[Copyright Page](#)

[Introduction](#)

[PART I - Understanding How Your Gut Works and How to Identify Problems](#)

[Chapter 1 - What We Know about the Gut: Yesterday, Today, and Tomorrow](#)

[How the Digestive System Works](#)

[Your Second Brain: The Mind-Gut Connection](#)

[Food Allergy and Food Intolerance](#)

[Lifestyle, Aging, and the Gastrointestinal System](#)

[Systemic Disease Can Cause Digestive Problems](#)

[Common Gastrointestinal Symptoms and Problems](#)

[Chapter 2 - How to Find a Gastroenterologist and the Proper Diagnosis](#)

[About Diagnostic Testing](#)

[Noninvasive Tests](#)

[Radiological Tests](#)

[Nuclear Scans](#)

Chapter 3 - What You Need to Know about Endoscopic Procedures for Diagnosis and Treatment

Questions to Ask before You Get an Endoscopic Procedure

Manometry (Motility) Tests

Upper Endoscopy: Esophagogastroduodenoscopy

Esophageal pH Probe

Endoscopic Retrograde Cholangiopancreatography

Flexible Sigmoidoscopy

Colonoscopy

Small-Bowel Enteroscopy

Capsule Endoscopy or Capsule Camera

Endoscopic Ultrasonography

Diagnostic Endoscopy and Health Insurance: Why You Need to Be Well Informed

PART II - Medical Treatment for Disorders and Diseases of the Gastrointestinal System

Chapter 4 - The Esophagus

Gastroesophageal Reflux Disease

Benign Esophageal Tumors and Cancer

Other Disorders of the Esophagus

Chapter 5 - The Stomach

Dyspepsia, Gastritis, and Ulcers

Benign Gastric Tumors and Stomach Cancer

Other Disorders of the Stomach

Chapter 6 - The Small Intestine

[Celiac Disease](#)
[Other Disorders of the Small Intestine](#)

[Chapter 7 - The Gallbladder](#)

[Gallstones](#)
[Other Conditions of the Gallbladder](#)

[Chapter 8 - The Pancreas](#)

[Pancreatitis and Pancreatic Cancer](#)

[Chapter 9 - The Liver](#)

[Hepatitis](#)
[Cholestatic and Metabolic Liver Diseases](#)
[Cirrhosis of the Liver and Liver Failure](#)
[Liver Biopsy, Tumors, Cancer, and Transplantation](#)
[Other Conditions of the Liver](#)

[Chapter 10 - The Colon and Rectum](#)

[Inflammatory Bowel Disease](#)
[Irritable Bowel Syndrome](#)
[Diverticulosis and Diverticulitis](#)
[Colon Polyps and Polyposis Syndromes](#)
[Colon Cancer](#)
[Anorectal and Perianal Disorders](#)

[Chapter 11 - The Abdominal Cavity](#)

[Abdominal Wall and Groin Hernias](#)
[Appendicitis](#)

[PART III - Maintaining Gastrointestinal Health](#)

[Chapter 12 - A Commonsense Guide to Diet and Exercise](#)

[Diet and Nutrition](#)

[Drink Plenty of Water](#)

[Exercise](#)

[Stay in Shape](#)

[Don't Smoke](#)

[Alcohol in Moderation](#)

[Screening for Prevention](#)

[Preventing Gastrointestinal Problems When You Travel](#)

[Appendix: Resources](#)

[Index](#)

[About the Authors](#)

Praise for *The Doctor's Guide to Gastrointestinal Health*

"This is the reference guide you dream about—answers to all your important questions, written in a language you can understand. For everyone who wants better health and peace of mind."

—Diane Sawyer, co-anchor of ABCNews' *Good Morning America* and *Primetime Thursday*

"An important, practical, easy-to-read and understand source of information for anyone with a chronic gastrointestinal problem."

—Isadore Rosenfeld, M.D., attending physician at New York-Presbyterian Hospital and Memorial Sloan Kettering Cancer Center, Rossi Distinguished Professor of Clinical Medicine at Weill Cornell Medical Center, and bestselling author

"This book will provide for patients and their relatives authoritative, up-to-date information about most diseases of the gastrointestinal tract. The disorders are clearly explained and available treatments are outlined in clear language. Of special importance is the description of various diagnostic procedures used in gastroenterology, together with important information about what patients can expect before, during and after these treatments. This should go a long way toward relieving the anxiety that accompanies diagnostic procedures."

—Jeremiah A. Barondess, M.D., president of The New York Academy of Medicine

"As a long time patient of Dr. Miskovitz, I highly recommend *The Doctor's Guide to Gastrointestinal Health* for anyone wanting to know the vital importance of preventative procedures—before it's too late. My wife and I have gone to Dr. Miskovitz for all our procedures and we're still here—thanks in part to an early diagnosis."

—Warner Wolf, TV and radio sportscaster and author of *Let's Go to the Videotape: All the Plays and Replays from My Life in Sports*

Also by the same authors

*What to Do If You Get Colon Cancer: A Specialist Helps You
Take Charge and Make Informed Choices*

Also by Marian Betancourt

What to Do If You Get Breast Cancer

Chronic Illness and the Family: A Guide for Living Every Day

The Prostate Cancer Sourcebook

What to Do When Love Turns Violent

*Playing Like a Girl: Transforming Our Lives through Team
Sports*

The Coming Cancer Breakthrough

*What's in the Air: The Complete Guide to Seasonal and Year-
Round Airborne Allergies*

Say Goodbye to Back Pain

Also by Paul Miskovitz

The Evaluation and Treatment of the Patient with Diarrhea

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Irritable Bowel Syndrome, Diverticulitis,
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For our families

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Introduction

IN TODAY'S MANAGED HEALTH-CARE system, doctors have less time to educate their patients. At the same time, these patients have access to reams of health information on the Internet, but much of it can be more harmful than no information at all. With this book we hope to fill an urgent need for an easy-to-use but comprehensive book that helps you understand how the gastrointestinal system works and how to take care of it.

Digestive ailments—whether mild or life-threatening—can be difficult to diagnose and treat. Thus the field is surrounded by a lot of quasi-medical information and treatment, such as high colonic enemas, bio-ecological diets, and other fad diets that can cause real harm to your health. People sometimes resort to chiropractors, hypnotists, nutritionists, and self-medication instead of continuing their search for the correct medical diagnosis.

The Doctor's Guide to Gastrointestinal Health is meant to inform you about diagnostic and treatment options available, so you know what questions to ask your doctor before any treatment begins.

In Part I, there's an overview of how the gastrointestinal system works and how it is affected by lifestyle, age, and the mind. A section on common symptoms will help you know when you need medical attention. The role of the gastroenterologist and diagnostic testing is well covered, along with an entire chapter on endoscopic procedures that have transformed gastroenterology. There's also important information about medical insurance coverage of these procedures.

Part II details causes, symptoms, diagnoses, and medical treatments for all of the disorders and diseases of the gastrointestinal system. It covers everything from top to bottom, in that order: esophagus, stomach, small intestine, gallbladder, pancreas, liver, colon and rectum, and the abdominal cavity.

And finally, Part III is a commonsense guide to maintaining a healthy gastrointestinal system, with guidelines for diet and exercise, checkups and screenings, as well as some precautions to take when you travel to other parts of the world.

In making *The Doctor's Guide to Gastrointestinal Health* as comprehensive as possible, we hope it serves as a useful resource for you and your family. No matter what your concern or condition may be, this book will help you identify and treat the problem, and in many cases, help you prevent it.

PART I

Understanding How Your Gut Works and How to Identify Problems

Chapter 1

What We Know about the Gut: Yesterday, Today, and Tomorrow

OUR EARLY ANCESTORS probably never had the digestive problems we have today, even though they ate anything and everything they could find. While animals are generally pretty picky about what they eat, early humans had a diverse diet of nuts, berries, plants, fish, animals, bugs—you name it. And they ate the nutrient-rich stems, pits, roots, and husks of this matter as well.

When we evolved from hunter-gathering to agriculture, we added grains to our diet. With industrialization, mills refined our grains, removing the husks, bran, and cereal germ—and most of the nutrients along with it. Civilization led us toward food in boxes and packages from the shelves of supermarkets. Few people knew or cared about what was in that box or the consequences of eating its contents.

Our awareness has improved somewhat. Most of us now realize how poor nutrition and lack of exercise have led to the obesity epidemic and a plethora of chronic digestive diseases. The shift in diet, along with smoking, drinking, and stress in the past hundred years, are directly related to the problems we face today. The good news is that we have the tools to diagnose digestive diseases early and have the means to cure many that were not curable in the past, such as peptic ulcers, celiac disease, and lactose intolerance.

Gastroenterology has developed into an amazingly precise discipline with the impact of technology and the evolution of

concepts of specific diseases. We now understand gut secretions and gut hormones. We know how dietary elements are transported. As early as 1881, Polish surgeon Jan Mikulicz-Radecki used the first prototype “scope” to look into the esophagus. The development of fiberoptic endoscopy by Dr. Basil Isaac Hirschowitz gave us the tools to look inside the digestive tract and take away tissue samples or remove polyps. We learned that bacteria, not stress, in many cases caused stomach ulcers. In the 1980s an Australian physician, Barry Marshall, was so convinced ulcers were caused by *H. pylori* bacterium that he swallowed bacteria to prove his point to skeptical colleagues. While still a resident physician seventy-five years ago, Robert Elman discovered a way to diagnose that someone had pancreatitis. Some of the early heroes, with no sophisticated tools but their own curiosity and imagination, gave us other breakthroughs.

How the Digestive System Works

The digestive system sends us messages all the time. Our stomachs growl when we are hungry. We feel a burning sensation in our esophagus or stomach when we eat something irritating. We feel a knot in our stomach when we are upset. We might have a gut reaction to some encounters in our lives. We get a very particular urge when we have to go to the bathroom. All of these signals come from a complex system of dynamics that involves our entire physiology—blood, nerves, hormones, muscles—and its interaction with the brain.

A series of involuntary, wavelike muscle contractions propels your food in one direction along the alimentary tract—from the mouth to the anus. This action is called peristalsis. When your stomach gurgles, it is the sound of

these peristaltic contractions propelling food along, an action you cannot feel. In the stomach, peristalsis produces a churning action that aids digestion. Circular muscles called sphincters are at the entrance to the esophagus and at the exits from the esophagus, the stomach, the lower small intestine, and the rectum, or anal opening. These muscles close tightly to prevent the process from going in reverse and causing one to vomit.

On its trip through the alimentary tract, food is broken down. Starches become simple sugars. Fats change to fatty acids and glycerin. Proteins become amino acids. The salivary glands in the mouth produce lubrication and enzymes and begin this conversion. The stomach stores and digests about one quart of food. Stomach muscles churn and mix with gastric juice, which includes hydrochloric acid and pepsin.

Within two to five hours, the digested food passes from the stomach to the duodenum, the first section of the small intestine. The small intestine is a twenty-plus-foot-long narrow, muscular tube—like a coiled soft rubber hose—that is made up of layers called the mucosa, the submucosa, and the serosa. The main function of the small intestine is the further digestion and absorption of nutrients. Also, enzymes from the pancreas, alkaline juices, and bile emulsifiers made by the liver and stored in the gallbladder enter the system at the duodenum level. Bile acids help dissolve (solubilize) dietary fats the way detergent dissolves grease in dishwater.

Most absorption, as well as digestion, occurs in the small intestine. Nutrients are absorbed into lymph fluids or blood vessels in the intestine wall (across the mucosa). Whatever cannot be digested in the small intestine, such as plant fiber, empties into the cecum at the lower right side of the abdomen. The cecum is the beginning of the large intestine,

or colon. The colon, only about five feet long, is shorter than the small intestine but it is much wider (the girth is responsible for the label large intestine). The colon, positioned like a question mark, partially encircles the small intestine.

The main function of the large intestine is to absorb salt and water from all the remaining digested food that has been passed from the small intestine. In a healthy adult, more than a gallon of water, with more than an ounce of salt, is absorbed from the colon every four hours. Bacteria in the colon then convert fecal matter into its final form.

Digested matter travels upward from the cecum into the ascending colon, across the abdomen in the transverse colon, down the left side of the abdomen in the descending and s-shaped sigmoid colon, and into the rectum, where the solid waste is stored until it is eliminated. In doing this job, the colon produces a variety of substances, including carbon dioxide, hydrogen, methane, and the billions of bacteria that live in the colon.

All of this coiled tubing is supported by the mesentery, a membrane-like fold of tissue attached to the back of the abdominal cavity. The mesentery contains blood vessels, nerves, and the lymph system that interacts with the intestines.

Digestion and the absorption of nutrients into the bloodstream are as effortless as breathing and normally produce no sensations such as pain. Most discomfort in the gastrointestinal tract occurs in the two main storage areas: the stomach and the colon. When you feel discomfort above the waist, it is often in your esophagus, stomach, or duodenum, all close to the heart. Thus indigestion is often called heartburn. Discomfort below the waist usually means a problem in the colon, such as constipation or diarrhea.

Your Second Brain: The Mind-Gut Connection

Nervous stomach, gut-wrenching, gut reaction—these are all common terms. We understand them on a gut level without really thinking about how these terms came to be. A case of nerves before making a speech could have you running to the bathroom. A shocking piece of news could make someone throw up. Because of this mysterious connection, people were sometimes told that their digestive problems were all in their mind when they could not be diagnosed or treated effectively. The interaction between body and mind was overemphasized in the past. For example, it was once believed that ulcers were caused by stress. Today we know that while bacteria cause most ulcers, some can be caused by nonsteroidal anti-inflammatory drugs or by gut hormone imbalances such as gastrinoma (Zollinger-Ellison Syndrome).

The gut is, in fact, the center of the enteric nervous system. Nerves travel from the brain to the esophagus, stomach, gallbladder, pancreas, small intestine, and colon. This is why the smell or sight of food can stimulate stomach and intestinal contractions. It also can stimulate stomach acid and pancreatic enzyme secretions.

In the same way, when you are stressed and your nerves are on maximum overload, the ones in your digestive system can cause cramps, too much acid secretion, and other problems. Some of us can handle stress with nary a twitch in our enteric nervous system, but others cannot. Some are so sensitive that they become predisposed to conditions that work hand in hand with such stress, such as irritable bowel syndrome (see chapter 10). In 2000 Michael D. Gershon explained much of this fascinating system—neurogastroenterology—in *The Second Brain: A*

Groundbreaking New Understanding of Nervous Disorders of the Stomach and Intestine.

There is a reason for every disorder, whether or not we can find an organic cause. In fact, digestive disorders are always classified as organic or functional. Organic means it comes from a disease state such as a faulty valve between the esophagus and the stomach, which diagnostic tests can find. When something isn't working properly but we can't find any structural or organic damage, then it is called a functional disorder. This could be subtle defects in the chemistry of the system, or that the system is not coordinating. These distinctions make diagnosis and treatment more challenging. Organic problems such as an inflamed colon can be treated with medication and change in diet. Drugs may not help with a functional disorder, such as irritable bowel syndrome, but diet or stress reduction may help.

Food Allergy and Food Intolerance

Although some people have an unpleasant or dangerous reaction to certain food, that same food may be harmless to others. Peanuts, for example, can be fatal to some. An allergic reaction to food is mediated by the immune system, and it tends to be quite predictable. Each time you eat the food, your symptoms begin very quickly. Intolerance is not allergy, but the two are often confused. An intolerance means a particular food causes your body distress a few hours after you eat it. Many people get diarrhea, cramps, or flatulence from drinking cow's milk. They are not allergic to milk, but their body lacks an enzyme needed to digest the milk sugar lactose.

Food Allergy

Allergies are a reaction of the immune system, but they don't happen on the first exposure to something. It usually shows up on the second or later exposure, once the first contact has sensitized the body to the offending agent. Symptoms of food allergy may include nausea, vomiting, diarrhea, abdominal pain, indigestion, belching, rash, headache, runny nose, hives, asthma, and swelling of the face or throat. True food allergies are rare in adults. In children, however, they are much more common and may be related to the introduction of solid food too soon, before the small intestine has had a chance to mature and produce the needed enzymes. Sometimes the protein in infant formula or cow's milk can cause a reaction.

Foods likely to cause a true allergic reaction in adults are peanuts, milk, eggs, fish (especially shellfish), and wheat. One food allergy involving gluten, a protein found in wheat, can actually damage the cell lining of the small intestine, resulting in poor absorption of nutrients, greasy stools, weight loss, and diarrhea. This is known as gluten-sensitive enteropathy or sprue, nontropical sprue, or celiac disease (see chapter 6).

Food Intolerance

Milk and milk products such as cheese and ice cream are responsible for the most common food intolerance, which affects 30 million to 50 million Americans and millions more around the world. It's the inability to digest lactose, the predominant sugar in milk. Some ethnic populations are more vulnerable than others, especially African Americans, Native Americans, and Mexican Americans. It is least common among people of Northern European descent.

Lactose intolerance comes from a shortage of the enzyme lactase, normally produced by the cells lining the small intestine to break down the milk sugar so it can be absorbed into the bloodstream. Although this condition is not fatal, it can cause nausea, cramps, bloating, gas, and diarrhea. The condition is easily diagnosed with a breath test or stool acidity test (see chapter 11) or careful clinical observation. However, these tests are not 100 percent specific, and in 2003 a new lactose intolerance blood test was made available to identify possible genetic variations responsible for lactose intolerance.

This new test will allow doctors to know if there is a genetic basis for lactose intolerance or if their symptoms are related to another disease or disorder, such as celiac disease or inflammatory bowel disease, which have similar symptoms. Improperly diagnosed and unmanaged, these can lead to serious complications. Until now, diagnostic methods used to detect lactose intolerance could not determine the underlying cause, making treatment choices difficult. The highly specific test identifies patients with a certain genetic marker that is associated with lower-than-normal levels of the lactase enzyme.

There is no cure for lactose intolerance, and avoiding milk sugar is the only treatment. There also are many brands of additives in pill form or chewable tablets that can be used if avoidance of milk and milk products is not practical. Some come as drops you can put into the milk.

Fructose Intolerance

Some people suffer from a more serious problem, known as fructose intolerance or fructose malabsorption, which can be fatal. Technically, it is a hereditary lack of a liver enzyme called aldolase B, which is crucial to the metabolism of

fructose, a sugar in soft drinks and juices. To be digested, fructose needs to be broken down before it reaches the colon. If it isn't, it then becomes a high-octane fuel for intestinal bacteria that would otherwise remain docile. This creates hydrogen gas that causes bloating, pain, and loose stools. The undigested fructose collects in the liver and kidneys, and this leads to failure of those organs.

Fructose intolerance occurs more frequently in the United States and northern European countries than anywhere else. One person in every twenty thousand is born with this disorder. When children inherit fructose intolerance from their parents—both parents carry the gene but may not have the condition themselves—it is often hard to diagnose. The baby may become dehydrated, nauseous, and feverish. Loss of appetite and failure to grow are symptoms, and when tremors and seizures occur, they can lead to coma and death.

The condition is diagnosed through urine and blood tests to determine liver and kidney failure. Enzyme studies and a liver biopsy and genetic testing may be called for. The disease can be treated only by completely eliminating fructose and sucrose from the diet. Some people also may need to take medication to lower the level of uric acid in their blood. This will reduce the risk for gout.

Other Reactions to Food

Some people feel pain after eating fatty foods and think they are allergic, but more likely they are suffering from acid reflux or gallstones. Fatty foods tend to relax the lower esophageal sphincter (LES) valve between the stomach and the esophagus, thus creating heartburn. Fatty foods can cause the gallbladder to contract. If gallstones are present, pain results.

Certain foods or their additives and preservatives may cause symptoms that mimic allergies or intolerance but are not. Fermented cheese, pork sausage, canned tuna, and sardines may contain histamine and for some people can cause flushing, headaches, and a drop in blood pressure. Histamine is a chemical the body's immune system makes in response to an allergic reaction. Phenylethylamine, a chemical found in chocolate, red wine, and aged cheese can cause migraine headaches in some people. Monosodium glutamate (MSG) can make a susceptible person dizzy or short of breath. MSG used to be found in great quantities in Chinese food, but many restaurants no longer use it, or, if they do, they say so on the menu. Sulfites often are added to salads and vegetables to preserve a fresh appearance and can cause an asthmatic reaction in some people. Yellow food dye number 5, or tartrazine, found in snacks and drinks, can cause hives, asthma, and a runny nose. Nitrates found in smoked meats and cheese can cause gastrointestinal upset, headache, and hives. Some of these substances affect blood vessels directly, giving rise to flushing, headache, and dizziness.

Lifestyle, Aging, and the Gastrointestinal System

More than twenty thousand pounds of solid foods will be digested by the gastrointestinal tract during your lifetime, so it is a very efficient and hardworking system. The fact that people tend to have problems with their digestive system during or after middle age indicates that it may be affected by wear and tear. Polyps may develop in the colon. Inflammation may develop in the esophagus or the stomach. Valves weaken and ducts get clogged. Think of what happens to your car if it runs for years and many miles

without a tune-up. The fuel lines get clogged, sludge forms in the engine, and it doesn't run as efficiently. The digestive system, too, is an energy-driven machine that won't function as well without care.

The digestive system is at our mercy. Some people are born with stronger "constitutions" than others. However, just as the heart is hurt by bad habits such as smoking, a sedentary lifestyle, and poor nutrition, so is the digestive system harmed. And the harm is cumulative as we age.

Everything we eat, drink, or even inhale affects the dynamics of the digestive system. Not only do we get heartburn, bloating, or indigestion, we also can get ulcers, gallstones, constipation, colon polyps—or cancer. Many of these conditions are caused by eating or drinking the wrong foods and liquids, by not exercising enough, and by not understanding how to prevent problems with early intervention or screening.

One of the biggest problems today (no pun intended) is the increasing size of people in the Western world. The numbers of overweight and obese people has caused the American Gastroenterological Association to urge its member physicians to do more about it. Although obesity is not often identified as a gastrointestinal problem, it can certainly lead to problems. The Association is suggesting approaches ranging from portion control to medications, counseling, and group therapy. Doctors believe there would be fewer cases of reflux disease and other digestive complications if people were thinner. Excess abdominal weight puts more pressure on the valve between the esophagus and the stomach, causing acid to back up. Fat accumulations inside the body, especially around the intestines and lining of the abdomen, put pressure on the valve.

When fat cells accumulate in the liver it can cause steatohepatitis (see chapter 9), a condition that leads to dysfunction of the liver. Obesity is strongly associated with gallstones, adult-onset diabetes, and cancer, including cancer of the colon and rectum. Fat will increase the cholesterol in your blood. This not only increases the risk for heart attack and several cancers, but also before it even gets to your blood, it may cause problems. The gallbladder has to process all the fats you eat, and if you overwork that organ, you may develop gallstones.

Fiber in the form of cereals, whole grains, and fresh fruits and vegetables helps flush the fats and waste products from the body with more efficiency. When there is no fiber to transport the waste matter through the colon and out of the body, it stays in the colon where it may contribute to the growth of polyps. These polyps, if undiscovered, can become cancerous. A tendency to constipation may be hereditary, but constipation, more common in women, is frequently felt to be caused by lack of fiber as well as by a sedentary lifestyle. Exercise is critical to bring oxygen to your digestive system and keep the process going, especially through the lower intestinal tract.

Smoking increases your risk of acid reflux disease and esophageal cancer, stomach cancer, and ulcers. These conditions are especially high among smokers, as are cancers of the entire upper digestive tract. You may think the smoke is going only to your lungs, but it is contaminating the upper part of your digestive tract as well—including your mouth.

Drinking too much alcohol is especially harmful. Alcohol is toxic to the stomach lining and other organs, including the liver, where cirrhosis ultimately begins. Excess alcohol is directly responsible for cancer of the esophagus, bleeding of

the stomach lining, ulcers, and destruction of the pancreas and liver.

By the time cancer of a digestive organ causes symptoms, it is frequently advanced. Tumors in the system are usually slow-growing, solid tumors and may not be discovered until they have spread outside the digestive tract and caused problems elsewhere.

Systemic Disease Can Cause Digestive Problems

As a review of the contents of any gastroenterology textbook will attest, more than half of the commonly encountered digestive problems are the result of the effect of systemic diseases on the gastrointestinal tract. Here are just a few:

- Atherosclerosis may cause loss of blood (ischemia) to the intestinal tract.
- Abnormally low blood pressure (hypotension) may “shock” the liver and cause hepatitis, from disruption of blood flow and oxygen supply to the liver.
- Diabetes mellitus may cause fatty liver (hepatic steatosis).
- Scleroderma may affect the function of the esophagus and small intestine.
- Stroke may cause difficulty swallowing.
- Toxic amounts of calcium (hypercalcemia) may result in severe constipation.

It is crucial for you and your doctor to recognize and anticipate that some of these conditions will affect your digestive system. Sometimes gastrointestinal symptoms show up before the actual disease, which makes this awareness even more important.

Common Gastrointestinal Symptoms and Problems

The digestive system is complex, and symptoms of many disorders can be similar. Everyone exhibits occasional symptoms, such as gaseousness or nausea, which usually are transitory. However, when these common symptoms become chronic and can't easily be explained, it's time to see your gastroenterologist. Symptoms can be confused with other diseases, too. A spasm in the esophagus can feel just like a heart attack, and to some people it can feel like asthma.

Symptoms that persist or recur should be brought to the attention of your doctor. If you have any of these symptoms, keep a written diary noting any associations with meals, activity, or time of day.

Difficulty Swallowing (Dysphagia)

When it is difficult to swallow solid food and even liquids, you may have esophageal motility problems or an esophageal obstruction. The esophagus can develop problems with the automatic muscular contractions called peristalsis (see pages 72-73). An obstruction, such as a large piece of meat, is called the steakhouse syndrome (see chapter 4). When swallowing is painful, it may indicate inflammation or infection in the esophagus.

Gaseousness and Bloating

Everyone has occasional gas and bloating. Some belching and flatulence is normal. Certain foods produce more gas than others. Gaseousness also is common in people who