

Scleroderma Education Program

Chapter 4

Gastrointestinal Tract

Chapter Highlights

1. Learn about how the GI tract works.
2. What happens when things go wrong?
 - Appetite loss
 - Difficulty chewing
3. Reflux
 - Tips for managing reflux
4. Other GI problems
 - Stomach problem
 - Bowel problems

This fourth chapter usually takes about 15 minutes.

Introduction

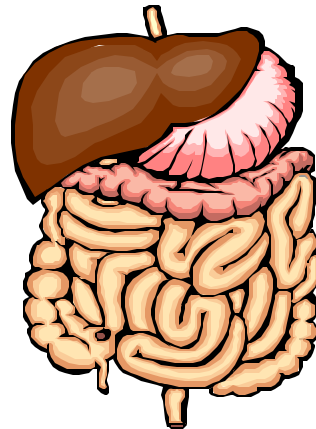
Almost everyone with either limited or diffuse Scleroderma will develop some **Gastrointestinal (GI) tract** problems. About 85% of people with Scleroderma will have some changes in their GI tract. These changes range from mild to severe.

This chapter will begin by helping you understand how the GI tract works. Then we will discuss different problems that develop and ways that you can better manage these problems.

How the GI Tract works

The GI tract includes the:

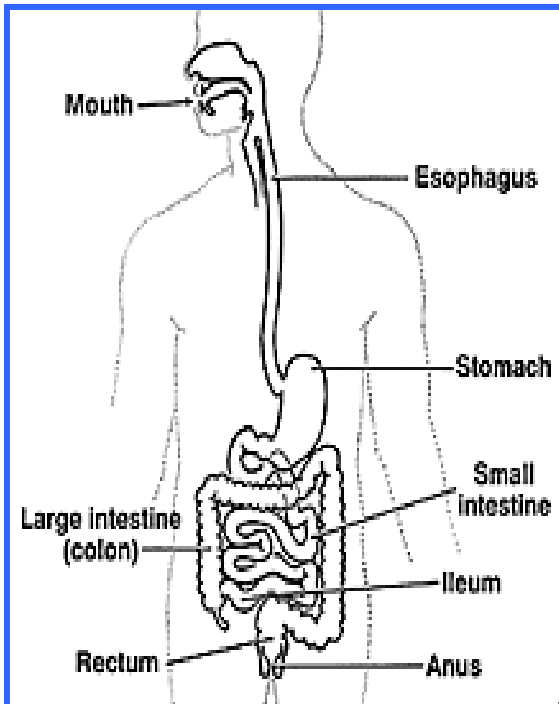
- ? Esophagus
- ? Stomach
- ? Small bowel (or intestine)
- ? Large bowel (or colon)
- ? Rectum



Muscles Move Food Along

The GI tract is made up of smooth muscle. This kind of muscle is different than the skeletal muscles in your arms or legs. Problems may develop in the GI tract of a Scleroderma patient because the normal smooth muscle tissue loses normal strength and wastes away. Sometimes smooth muscle tissue is replaced by fibrotic scar tissue caused by too much collagen.

The purpose of the GI tract is to move food and drink in one direction from the mouth to the rectum. The smooth muscles of the GI tract help this along. Once we swallow food, the muscles that move it along aren't under our conscious control. That is, we can't move those muscles just by thinking about it the way we can move our arms and legs. GI tract muscles work by reflex.



Muscles Keep Food from Backing Up

There is a special structure where the stomach and esophagus meet called the lower esophageal sphincter. It stops the stomach contents from going backward up into the esophagus. This is why someone can eat while reclined, lying down or even upside down without the stomach acid traveling back into the esophagus and mouth.

The normally working esophagus moves food and drink down the esophagus, through the lower esophageal sphincter and into the stomach.

Food Gets Mixed with Acid and Bile

In the stomach, food and drink mix with stomach acid which helps break the food into small pieces that can be absorbed. The stomach contents are emptied into the first part of the small bowel near the common bile duct.

Nutrients Get Absorbed

The bile duct adds salts and enzymes that break down the food further. As the food moves down the small bowel, the good stuff (nutrients) is absorbed.

Wastes Get Pushed Out

Roughage that can't be digested passes through the small bowel and gets dumped in the large bowel. The large bowel soaks up water. The rectum holds the rest until you have a bowel movement.

What Happens When Things Go Wrong - GI Disease

That is what happens when everything is working normally. However, illness and disease can change this smoothly running operation. You are probably aware of what happens when you get a stomach bug. Symptoms like diarrhea happen because your body speeds up the process. Vomiting happens when your body reverses the direction of the GI tract. Constipation can happen when you don't get enough water or roughage in your diet.

Now that you know how your GI tract works we'll discuss some of the GI problems that can occur in Scleroderma. Problems will be discussed in the order of the GI tract.

Smaller Appetite

Gastrointestinal disease often starts with a change in appetite. Most people complain of not having the normal appetite that they used to have. This often means eating less and losing weight.

Difficulty Chewing



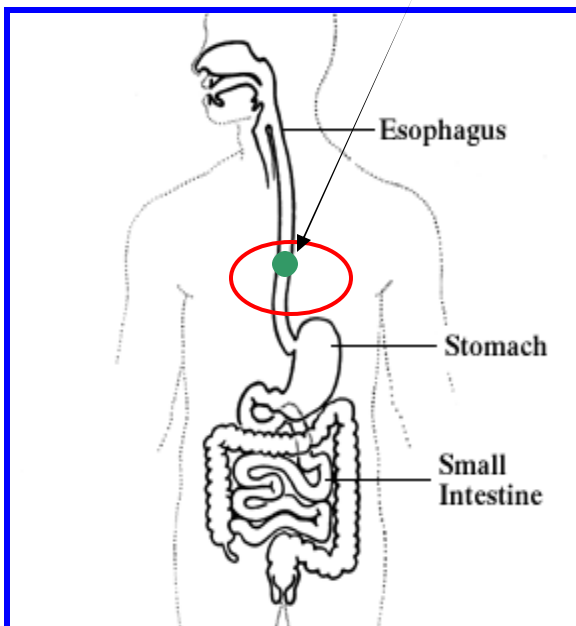
You may have trouble with chewing food because of dry membranes in the mouth. These dry membranes may be caused by Sjogren's Syndrome which often occurs with Scleroderma.

Scleroderma can affect skin on the face - around the mouth - making it tighter than usual. Chewing can be hard because of this. Some people may find it difficult to open their mouth fully. They complain of having a hard time biting into large things such as a large sandwich. Chewing may also be a problem because of arthritis of the joints of the jaw.

Esophageal Problems: Difficulty Swallowing

It is common for people with Scleroderma to have difficulty swallowing their food. This is called dysphagia. People with dysphagia can get food stuck somewhere in the passage between the mouth and the stomach. Dysphagia is caused by a weakness in the muscles of the esophagus. People with dysphagia complain that they eat a small amount and the first few bites feel okay. But soon they feel that something is getting stuck.

Stuck Food



What Some People Do

Most people can drink a glass of water and wash the food down. Sometimes people vomit the food back up. Many people change their eating habits so they don't eat large bites of food. Or they always drink a lot and they eat or chew their food longer than normal.

Sometimes trouble swallowing isn't due to a narrowing of the passage in the throat. Instead food gets "hung up" in the esophagus. This can

happen when there isn't enough muscle power to move the food to the stomach. Sitting up to eat, eating slowly, chewing food well and drinking with the food are all ways to help this.

Not Painful, But Uncomfortable

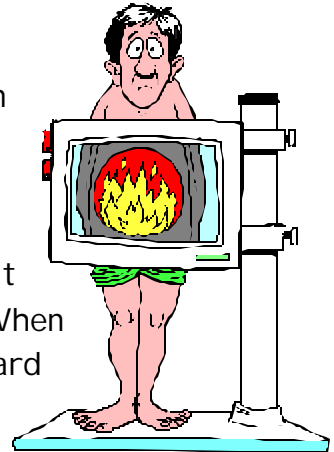
In almost all cases there is no pain. But the feeling of food getting stuck can be uncomfortable and upsetting. If dysphagia does hurt it may mean there is an ulcer (a sore) on the esophagus or an infection. Ulcers can occur

from repeated exposure to stomach acid caused by reflux (we'll discuss reflux in the next part of the chapter).

Esophageal Problems: Heartburn or Reflux

Stomach Acid Backs Up

Some people with Scleroderma may also complain of heartburn or reflux. Heartburn means there is a burning sensation in the chest. The burning is caused by stomach acid moving backward up into the esophagus. Reflux means "backward flow". Normally, stomach acid stays in your stomach because it is blocked from going up by the lower esophageal sphincter. When a person has a problem with reflux, acid frequently flows upward into the esophagus because the sphincter is too weak to hold the acid back.



Try to Avoid Things that Make Stomach Acid Back Up

With a weak sphincter, anything that causes the contents of your stomach to push upwards, will lead to reflux. If your stomach is too full (from a big meal) the food will be pushed up into the esophagus. When you lie down the food may move up into the esophagus and sometimes into the mouth. Leaning forward, like when you tie your shoes, may also worsen it. Exercise after eating will also worsen reflux. Carbonated drinks (beer, soda) will fill your stomach with air, push the contents up, and lead to reflux.

Stomach Acid Can Cause Problems

People with Scleroderma may also have some of the following problems caused by the stomach acid:

- ✍ coughing or asthma
- ✍ hoarse voice
- ✍ feeling of gagging

Hiccups can sometimes be caused by reflux. Reflux caused by Scleroderma occurs on a daily basis, usually several times a day. Sometimes heartburn is felt in the chest as pain. This pain can feel like a heart attack. The pain is

in the left side of your chest and can move down into your left arm. This usually occurs during those times that reflux would occur.

Reflux can be painful and uncomfortable. The stomach's lining is made strong enough to stand the stomach acid but the esophagus is not. Over time the esophagus can be damaged by acid reflux. The good news is that there are effective medications that can reduce the acidity of your stomach acid and prevent some of this damage.

Eating Tips

Although you can't completely stop reflux by changing your diet, certain foods might make your heartburn worse. These foods and drinks include:

- ? alcohol,
- ? caffeine, coffee (regular and decaf),
- ? chocolate,
- ? acidic foods (citrus fruits like oranges, tomato sauce),
- ? fried foods,
- ? raw vegetables,
- ? foods with high fat content (fast food, nuts, dairy products),
- ? spicy foods,
- ? onions.

Smoking will also aggravate reflux.

WHAT MAKES YOUR REFLUX WORSE?

If you have problems with reflux, over the next week try to pay attention to the times when your reflux is worse. Write down those things that may be making it worse (some examples: certain times of the day, certain foods, after eating a big meal, during exercise, when you are feeling stressed or upset, when you are wearing tight clothing).

My triggers for reflux:

_____	_____
_____	_____
_____	_____
_____	_____

Treatment for Reflux

It is important to treat reflux. Reflux is uncomfortable, but it is also important to avoid secondary problems of reflux like esophageal ulcers. There are many excellent medications that can help treat reflux. Ask your doctor if medication could help your symptoms. Table 1 (page 4-10) lists many of the medications prescribed for reflux.

Even if you are on medication, these tips may help you reduce reflux:

- ? Don't eat within 2 hours of bedtime
- ? Eat sitting up
- ? Eat slowly
- ? Chew food carefully
- ? Drink sips of water between bites and make sure each mouthful is fully swallowed before taking the next bite
- ? Elevate the head of your bed at least 4 inches by placing it on wooden blocks.
Just propping up your head on pillows



won't work because it doesn't lift your esophagus above your stomach properly

- ? Eat more frequent small meals instead of one or two large meals.
- ? Limit actions that increase pressure on your stomach such as bending, vigorous exercise or tight clothing.
- ? Try to keep your body weight within a healthy range. An overweight abdomen can put more pressure on your stomach.

Table 1:

GOAL OF TREATMENT	MEDICATION	BASIC MECHANISM	PRINCIPAL SIDE EFFECTS
PREVENT HEARTBURN	ANTACIDS Gaviscon* Tums* Di-Gel* Mylanta* Maalox*	Neutralize stomach acidity	<ul style="list-style-type: none"> - Diarrhea - Constipation
	H-2 BLOCKERS Cimetidine (Tagamet)* Ranitidine (Zantac)* Famotidine (Pepcid)* Nizatidine (Axid)	Inhibit stomach acid secretion	<ul style="list-style-type: none"> - Mental confusion (cimetidine only) - Diarrhea - Headache - Dizziness
	PROTON PUMP INHIBITORS Omeprazole (Prilosec) Lansoprazole (Prevacid)	Inhibit stomach acid production	<ul style="list-style-type: none"> - Diarrhea - Headache - Dizziness
	OTHERS Sucralfate (Carafate) Cisapride (Propulsid)	Coat esophagus & stomach; form protective barrier. Stimulate intestinal muscle contractions, improve heartburn due to GI reflux	<ul style="list-style-type: none"> - Constipation - Abdominal cramping - Diarrhea - Headache - Dizziness

Stomach Problems

Getting Full with Less Food

Another problem that may happen is a sense of being full early when you eat. This usually happens because the stomach does not empty as quickly as normal. Some people have either less of an appetite or they feel full early in a meal. This may cause some people to lose weight.

Nausea or Indigestion.

You may also have some nausea, indigestion or burping. These symptoms could be due to the stomach not emptying quickly. Because the stomach has difficulty emptying food, it may seem that the stomach is blocked – a **gastric obstruction**.

With **gastric obstruction** you would not be able to keep anything down. You would vomit your food. Many times people will vomit food from the day before.

Gastric paresis often occurs when the stomach doesn't empty as it should. This could cause other problems with bowel movements.

Erosions or Ulcer Formation.

These can result from the build-up of acids or from the use of certain medications. They cause pain, indigestion and bleeding. Medications can help treat erosions or ulcer formation.

Telangiectasias

Telangiectasias are dilated blood vessels that can bleed. In the stomach they can become “watermelon stomach” because of the striped appearance of the stomach lining. They can be treated with laser therapy through an endoscopy. Rarely, the vessels may be closed off by a surgical procedure.

Small and Large Bowel Problems

Gas, Cramps and Bloating

Scleroderma can cause changes in bowel movements. Diarrhea and constipation are equally common. The bowel slows down when the muscle tissue gets changed to scar tissue. The first symptom of this may be bloating after eating. People also complain of feeling gassy or cramping. Cramping is caused by unusually hard muscle contractions as the muscles try to move something through.

Constipation

Some patients with constipation do well on a high fiber diet. Other patients find that a high fiber diet worsens their gassiness. Exercise helps promote motion in the bowels. A stool softener can help but laxatives should be avoided.

Diarrhea

Diarrhea can happen to Scleroderma patients when the normal bacteria in the large bowel spread backward into the small bowel. This is called bacterial overgrowth. This bacteria breaks down the bile acids needed to digest fat. When fats can't be absorbed, diarrhea and weight loss occurs. This problem is called malabsorption and is treated with antibiotics and medications that improve bowel contractions.

Obstruction

The most serious stomach problem is called "bowel obstruction"- something blocking the passage of wastes. When this happens, the stomach can be bloated with pain. The person is not able to move his or her bowels and may feel nausea. This situation is an emergency and needs immediate medical attention. It can be treated without surgery.

Bowel Incontinence

One more complication of the GI tract is bowel incontinence. When this happens the person has difficulty holding their bowels and may have accidents. This is very uncommon in Scleroderma but can be seen in the late stages of the disease. Treatment for this is also available.

Not everything you experience is caused by Scleroderma!

Scleroderma rarely changes other organs in the GI tract such as the liver, gallbladder, bile ducts or pancreas. However, people with Scleroderma can get anything anyone else can get. Therefore, all GI symptoms need to be carefully discussed with your doctor.

Remember:

No one with Scleroderma will have all of the problems described in this manual. We want to include most of the problems that could develop in Scleroderma so that all people will feel informed. It's important to discuss your concerns with your doctor.

Summary

Gastrointestinal (GI) complaints are among the most common problems in Scleroderma. These problems usually aren't painful. But many are uncomfortable and can interfere with your appetite, weight, and enjoyment of your life. Many of these problems can be managed with medications. You also can make changes in our day-to-day life. Don't just suffer from GI complaints – talk with your doctor.



Take this worksheet to your next appointment

Questions for my doctor:

1. _____ _____
2. _____ _____
3. _____ _____
4. _____ _____

GI Tract Symptoms I'm concerned about:

1. _____ _____
2. _____ _____
3. _____ _____
4. _____ _____