



Smoking & the Gastrointestinal Tract

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Cigarette smoking causes a variety of life-threatening diseases, including lung cancer, emphysema, and heart disease. An estimated 400,000 deaths each year are caused directly by cigarette smoking.

Current estimates indicate that about one-third of all adults smoke. And, while adult men seem to be smoking less, women and teenagers of both sexes seem to be smoking more. Smoking leads to changes in all parts of the body, including the digestive system.

What Are Some of the Harmful Effects of Smoking on the Digestive System?

Smoking has been shown to have harmful effects on all parts of the digestive system, contributing to common disorders as heartburn and peptic ulcers. Studies show that smoking may also alter the way in which the liver handles drugs and alcohol. In addition, smoking apparently changes the way in which food is processed by the body. In fact, there seems to be enough evidence to stop smoking solely on the basis of the gastrointestinal tract effects!

How Does Smoking Contribute to Heartburn?

Heartburn is a very common disorder among Americans. Most people will experience heartburn if the lining of the esophagus comes into contact with too much stomach juice for a long period of time. This stomach juice consists of acid produced by the stomach, as well as bile salts and digestive enzymes that may have washed into the stomach from the intestine. Normally, a muscular valve at the lower end of the esophagus, the lower esophageal sphincter (LES), keeps the acid solution in the stomach and out of the esophagus. Sometimes the LES is weak and allows stomach juice to reflux, or flow backward into the esophagus.

Persons with heartburn or fail to return the refluxed material to the stomach promptly. The prolonged contact of acid stomach juice with the esophageal lining injures the esophagus and produces burning pain. Smoking decreases the strength of the esophageal valve, thereby allowing more refluxed material into the esophagus. Smoking also seems to promote the movement of bile salts from the intestine to the stomach to produce a more harmful reflux material. Finally, smoking may directly injure the esophagus, making it less able to resist further damage because of contact with refluxed material from the stomach.

Does Smoking Cause Peptic Ulcers?

An ulcer is an open sore in the lining of the stomach or the duodenum (the first part of the small intestine). Many ulcers are caused by a bacteria, called *Helicobacter Pylori*. A relationship between smoking cigarettes and ulcers, especially duodenal ulcers, does exist. The 1989 Surgeon General's report stated that ulcers are more likely to occur, less likely to heal, and more likely to cause death in smokers than in nonsmokers.

Doctors are not really sure, but smoking does seem to be one of several factors that work together to promote the formation of ulcers. Stomach acid is important in producing ulcers. Normally, most of this acid is buffered by the food we eat. Most of the unbuffered acid that enters the duodenum is quickly neutralized by sodium bicarbonate, a naturally occurring alkali produced by the pancreas. Some studies show that smoking reduces the bicarbonate produced by the pancreas, interfering with the neutralization of acid in the duodenum. Other studies suggest that chronic cigarette smoking may increase the amount of acid secreted by the stomach. There also is some evidence suggesting that smoking increases the speed at which the stomach empties its acid contents into the small intestine. Although the evidence is inconclusive on some of these issues, all are possible explanations for the higher rate and slower healing of ulcers among smokers.

Whatever causes the link between smoking and ulcers, two points have been repeatedly demonstrated: Persons who smoke are more likely to develop an ulcer, especially a duodenal ulcer, and ulcers are slower to heal among smokers in response to otherwise effective treatment. This research tracing the relationship between smoking and ulcers strongly suggests that a person with an ulcer should stop smoking.

How Does Smoking Affect the Liver?

The liver has many important tasks. Among other things, the liver is responsible for processing drugs, alcohol, and other toxins to remove them from the body. There is evidence that smoking alters the ability of the liver to handle these substances. In some cases, this may increase or decrease the proper dose of medication necessary to treat an illness. One theory, based on current evidence, also suggests that smoking can increase the damage to the liver caused by drinking alcohol.

Does Smoking Affect the Colon?

Smoking increase the number of colon polyps, and there is a higher rate of colon cancer in smokers. In inflammatory colitis, cigarette smoking may reduce the activity of the disease. This appears to be the sole GI condition that is stabilized or improved with tobacco products.

Does Smoking Help To Control Weight?

A common belief is that smoking helps to control weight. Smokers do weigh less on the average than nonsmokers. And those who quit smoking are more likely to gain weight. Most people think this is because smokers eat less than nonsmokers. Researchers have found, however, that smokers actually eat more than nonsmokers. How can they weigh less? What happens to the extra calories?

Scientists are not really sure about the answers to these questions, but they caution smokers not to think that just because they weigh less that they are healthier than if they didn't smoke. Research shows that the bodies of smokers use food less efficiently than nonsmokers. Scientists are still studying the effects this has on the long-range health of smokers.

Can the Damage to the Digestive System From Smoking Be Reversed?

Some of the effects of smoking on the digestive system appear to be of short duration. For example, the effect of smoking on bicarbonate production by the pancreas does not appear to last. Within a half-hour after smoking, the production of bicarbonate returns to normal. The effects of smoking on how the liver handles drugs also disappear when a person stops smoking. While doctors suspect that most other digestive abnormalities caused by smoking would also disappear soon after stopping smoking, this question has received little study.

Summary

While all the evidence is not yet available, it seems clear that smoking cigarettes plays an important role in causing some digestive diseases. The relationship between heartburn and smoking is very clear. The link between smoking and ulcers, especially duodenal ulcers, seems indisputable. Studies showing that cigarettes affect the way the liver processes drugs, alcohol, and other substances suggest more problems for smokers. The evidence that is available makes a powerful statement that smoking is bad for digestive health.

Some Suggested Ways to Stop Smoking:

- Hypnosis
- Meditation or Stress Management Courses
- Nicotine patches, spray or gum
- Zyban (a medication which may reduce or eliminate the craving for nicotine)
- Smoking Cessation Classes (often offered by Hospital Wellness Programs or Managed Care Organizations)
- Quit with a friend (which will provide you with emotional support)
- "Cold Turkey"

Good Luck-- please contact your primary care physician today for prescriptions for the medications listed and more support.

Special thanks to the National Digestive Diseases Information Clearinghouse for the information provided in this newsletter.

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