

# WHAT EVERYONE SHOULD KNOW ABOUT GASTROINTESTINAL DISORDERS IN WOMEN

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## **Normal Physiology**

It is important to understand how the GI tract works normally and to identify differences in men and women which may be associated with possible worsening of GI problems.

These differences start with the tongue. More women can be classified as “supertasters” - they are able to taste both bitter and sweet foods more strongly than men. They don't need as much of the food to determine if the food is bitter or sweet. This increased sensitivity of the gut to different types of stimulation is seen throughout the women's GI tract. Normal women have been shown to be more sensitive to pressure from an inflated balloon placed in the esophagus (swallowing tube between the mouth and the stomach), small intestine, colon or large intestine, and rectum than men.

## **Esophagus**

The GI tract muscles in women may function differently compared with men. Between the end of the esophagus and the beginning of the stomach, there is muscle which acts like a door. When one eats, the door opens allowing the food to slide into the stomach and then quickly closes again, preventing the food from flowing back up into the esophagus. The muscle in women, especially premenopausal women, squeezes shut with more force than that found in men, making certain that the food and stomach juices stay in the stomach. There is a similar muscle protecting the windpipe from esophageal backflow. In women, tests have shown that after drinking fluids, this muscle tightens more than in men. In part due to this finding, women may have more occurrences of “globus” (the feeling of a “lump in the throat”) that is not necessarily associated with swallowing food. However, overall these strong muscles suggest that women may have some extra protection in the esophagus, normally.

Although women may experience heartburn, they generally have less damage in their esophagus than men. Women secrete less stomach acid than men, throughout their lives and they tend to have less ulcers related to acid. The stronger muscles at the end of the esophagus and the lesser amount of stomach acid present in women may help to explain the milder damage to the esophagus. However, because women are more sensitive to irritants, they may experience heartburn more strongly than men.

## **Stomach**



Women also seem to have slower emptying of food from the stomach than men. This may be important in explaining why women tend to experience nausea and bloating more frequently than men.

## **Colon**

Women also have slower emptying from the large intestine when compared with men but this difference disappears in old age. This may be important in explaining why women tend to be more constipated than men. Additionally, at the end of the rectum, the anal sphincter is the muscle that allows us to delay moving our bowels until we find an appropriate place, such as a bathroom. When physicians evaluate the function of the anal sphincter, they measure squeeze pressure - how firmly the patient can squeeze the muscle shut. Most investigators agree that women have less squeeze pressure than men. The anal canal (the passage from the opening to the rectum) is shorter in women and the length of both the sphincter and area of highest pressure is also shorter in women. Men tolerate more volume in the rectal area. Overall, men anatomically should be better able to handle an episode of diarrhea than women.

## **Gallbladder**

Women have slower gallbladder emptying than men normally. This effect is exaggerated during pregnancy and may be one reason why many women develop gallstones after having a baby.

## **Liver and Small Intestine**

There are two areas where women have different enzyme systems from men where the effect can be important. There are enzymes in the small intestine as well as in the liver that help break down medications. The enzymes function slightly differently in men and women. Because of this, women may handle various medications differently, resulting in either little effect of the drug or too much effect of the drug. Therefore, it is important that patients ask their doctors if medications that they prescribe may behave differently in women.

## **Common Problems Which May Affect Women**

### *Nausea:*

Nausea may occur more often in women. Other symptoms, such as a feeling of fullness or bloating, pain in the belly, feeling full soon after eating, belching or burping that is annoying have also been reported more often in women. If these symptoms persist, women should see their physician to make sure that there is no serious underlying problem.

### *Inflammation of the Stomach (Gastritis):*

Many women use aspirin and aspirin-like compounds, known as NSAIDs (non-steroidal



anti-inflammatory drugs.) Medications such as ibuprofen make up this class of medication. Some NSAIDs are available in over-the-counter form while others require a prescription. Women, especially older women, use these medications more than men for a variety of reasons. These drugs, used for a long time, are known to cause irritation to the stomach lining and may lead to bleeding from the stomach. Women who use NSAIDs chronically are at higher risk for developing stomach ulcers as well as gastritis. NSAIDs can decrease the level of mucus that the stomach normally makes to protect itself, and this may also increase the possibility that a patient will be likely to develop damage from the medication. In recent years new types of prescription NSAIDs have become available, such as COX-II inhibitors, which reportedly have a less adverse impact on the GI tract, but which have been linked to an increase in heart attacks. All patients should discuss with their doctors if the COX-II inhibitors are right for them. Women should tell their doctors if they are using NSAIDs, whether it is prescribed or purchased in a drugstore. This way they can work with their physician to develop a regimen to help protect their stomach, should continued NSAID use be needed.

#### *Gallstones:*

Women are twice as likely to develop gallstones as men because of the effects of estrogen and progesterone. Gallbladder emptying may be slowed by progesterone, a normal hormone secreted during the second half of the menstrual cycle and during pregnancy. Estrogen and progesterone affect the handling of cholesterol in the body. Because of the slowed emptying of the gallbladder as well as an increase of cholesterol in the gallbladder, there is a greater chance for the development of gallstones.

#### *Irritable Bowel Syndrome (IBS):*

Irritable Bowel Syndrome occurs 2 to 6 times more often in women than in men. One reason for this observation may be that women normally are more sensitive to irritants of the GI tract. In IBS, the patient is supersensitive to irritants that would not be bothersome to other people, such as increased gas in the gut. The basis is believed to be a problem with how the nerves send the message to the brain, the interpretation that the brain makes, and it's response back to the gut. In fact, if a person with IBS puts her hand in ice water, she can keep it in the bucket longer than someone who does not have this syndrome - she doesn't feel the pain/discomfort of the ice water as rapidly as a non-IBS sufferer. The problem lies within the sending of the message by the nerves.

If a person has some emotional stress, the IBS response appears to be amplified. Additionally, the gut becomes somewhat hyperactive and the patient may experience either diarrhea, constipation, or forms of both. The good news is that there is no damage to the intestinal lining. This is a "functional" problem - that is, the bowel is not functioning at a normal level, but at a super- or suboptimal level.

Currently, there is no one treatment for this disorder. However, research is ongoing and new therapies will be forthcoming. In the meantime, lifestyle changes are recommended including development of coping strategies for life stresses. This is a chronic condition



and many patients have reached a satisfactory result working with their physicians as a team.



### *Colonic Disorders:*

Inflammatory Bowel Disease (IBD) is a serious problem and is made up of predominantly two disorders: Crohn's Disease (inflammation through the intestinal wall) and Ulcerative Colitis (inflammation of the colon lining). IBD is more frequent in women with a ratio of about 2:1. Women may have a milder course of Crohn's Disease, especially if they have given birth to several children. Although older literature suggested that more women developed ulcerative colitis, the more recent work does not support this. The main problem for women in IBD is when they become pregnant. Women may either get better, get worse, or remain unchanged when they become pregnant. The response seems to be triggered by the hormones associated with pregnancy and is expected to be similar for all subsequent pregnancies in the same individual.

Colon cancer in women can be associated with breast cancer, lack of giving birth to children, and the appearance of cancer on the right side of the colon. Some investigators have also suggested a correlation with surgical removal of the gallbladder, although this occurs many years after the surgery. Women aged 55 or younger seem to have a higher frequency of colon cancer than men. Colon cancer is the number 3 cancer for women in the United States. Women should be advised to follow current guidelines to be screened at age 50, and talk to their doctors if they have a family history of the disease, which means they should be screened at an earlier age.

### **Some Common Problems During Pregnancy**

Pregnancy is associated with nausea, which occurs early in the pregnancy. This effect may result from a slowing of stomach emptying, beyond what is seen normally in women. One of the pregnancy hormones, progesterone, is associated with delaying muscle contraction, and it is believed that this is a major cause of the nausea seen with pregnancy. Women also experience heartburn during pregnancy. This seems to be caused by the increasing levels of progesterone during pregnancy as well as the increasing size of the baby. It is most prominent during the second half of the pregnancy.

Women are at an increased risk for developing gallstones due to the sluggishness of the gallbladder during pregnancy. Between the slowing effects of progesterone on the gallbladder and the pressure of the increasing baby, the gallbladder does not function normally and stones can form. If there is a family history of gallstone disease, the pregnant woman may want to discuss this with her doctor.

The muscle coordinating moving one's bowels is the same length in men and women. However, perhaps because women are smaller, it makes up more of the anal canal in women. This is important because it can be more easily damaged by a tear during childbirth, leading to possible long-term problems. Therefore, it is important for pregnant women to perform the Kegel exercises, which help to strengthen this area, and to discuss any concerns with their obstetrician.

