

## FUNCTIONAL BOWEL DISORDERS

Contributed by the International Foundation for Functional Gastrointestinal Disorders (IFFGD) and edited by the Patient Care Committee of the ACG.

### INTRODUCTION

Doctors use the word “functional” to describe symptoms or problems when they can find no anatomical abnormalities. The problem has to do with function of the affected organs, where things don’t work or feel quite right. Symptoms of functional bowel disorders can occur anywhere in the gastrointestinal system. This chapter will focus on symptoms that occur in the mid or lower abdominal area. These disorders include functional diarrhea, functional constipation, functional abdominal bloating, functional abdominal pain syndrome and irritable bowel syndrome, which will be discussed in a separate chapter.

### WHAT IS FUNCTIONAL DIARRHEA?

In functional diarrhea, there is frequent or urgent passage of loose or watery stool (bowel movements), but no cause can be found. The diarrhea is usually chronic, meaning it can happen on a fairly regular basis over months to years.

There is no one set definition of diarrhea that fits all people. The normal pattern of bowel movements varies from one person to the next. What is normal for some may be abnormal for others. In a broad sense, the “normal” bowel frequency ranges from three bowel movements per day to three per week, consisting of firm stools passed with no urgency or straining. Some people are fine outside of this range.

Diarrhea means different things to different people. It’s up to each person to determine whether he or she is experiencing diarrhea. Many diseases, abnormalities and medications can cause diarrhea. Functional diarrhea is diarrhea for which no cause can be found. Doctors diagnose functional diarrhea by looking at history and symptom pattern, and making sure there is no underlying disease causing the diarrhea.

### How is Functional Diarrhea Diagnosed?

The diagnostic criteria for functional diarrhea include at least 3 months, which need not be consecutive, in the preceding 12 months of:

- Unformed (mushy or watery) bowel movements;
- Present more than three fourths of the time and
- No abdominal pain.

People with functional diarrhea don’t necessarily have it all the time. They can still have normal bowel movements or even constipation between bouts of diarrhea.



Doctors have several methods of ruling out other problems and making the diagnosis of functional diarrhea. There are many possible tests for patients with diarrhea. The tests you get will depend on your doctor's judgment. After taking your full medical history and doing a physical examination, the doctor will check to make sure you do not have other diseases that cause diarrhea. The doctor will also check for "alarm" symptoms of serious disease, like bleeding, weight loss, low blood count, nutritional deficiencies or fever.

The doctor will want to find out if your diet includes items that can cause diarrhea. Examples include caffeine, alcohol and artificial sweeteners like sorbitol, mannitol, and fructose, which are found in chewing gum, candies, and soft drinks. Milk products can be a problem in some people who cannot tolerate nutrients present in milk, a condition called lactose intolerance. Some laxatives, antacids and antibiotics can cause diarrhea as well. It's important to let your doctor know about all the medicines you're taking, including those prescribed by other physicians and those you buy over the counter without a prescription. If one of your medicines is causing diarrhea, your doctor will work with you to find an alternative.

As part of the process of diagnosing functional diarrhea, the doctor may order blood tests. You might also be asked to keep a record of the form, or consistency, of your stools. Sometimes doctors ask for stool specimens for testing. In addition, your doctor might want you to see a specialist for a sigmoidoscopy or colonoscopy. Sigmoidoscopy and colonoscopy are techniques that let a doctor see inside the colon (the large bowel) to check that the lining looks normal. Sometimes a tissue sample called a biopsy is taken from the colon lining to examine under the microscope to make sure there is no inflammation in the colon. Not all patients need these tests.

### **What are the Treatments for Functional Diarrhea?**

- *Dietary Changes*

Even though the cause of functional diarrhea is not known, changing what you eat may sometimes help improve your symptoms. Your doctor may recommend that you avoid caffeine (coffee, tea, colas) or artificial sweeteners (sorbitol, mannitol, fructose). Even decaffeinated beverages have an effect on the colon. Your doctor may advise you to try a high-fiber diet or use a dietary fiber supplement to add bulk to your stool. If a specific item of food always gives you diarrhea, it is advisable to avoid that food item.

- *Medications*

If diarrhea does not go away with altering your medications and changing your diet, the doctor might recommend an antidiarrheal medication. For people with infrequent symptoms, it may be useful to take these medicines when you anticipate having diarrhea, such as before social or business engagements. Of course, if your symptoms are unpredictable, taking an antidiarrheal medication when you develop diarrhea may help



slow it down. If your symptoms are frequent or daily, your doctor might want you to take the medication on a regular basis. Since some people can get very constipated on these drugs, they should be used for short periods of time, or under careful supervision of your doctor for longer periods.

## **WHAT IS FUNCTIONAL CONSTIPATION?**

People with functional constipation have persistent symptoms of difficult, infrequent bowel movements, sometimes with a sensation of incomplete emptying after having a bowel movement. Transit time, which is the time that it takes feces to move through the bowels and be eliminated as stool, may be longer than normal in these people.

The frequency or consistency of stools are abnormal in people with functional constipation. Making this diagnosis therefore depends on what's normal for the individual person. It's important to know that there's a big range of "normal." Not everybody has a bowel movement every day. "Normal" frequency ranges from three bowel movements per day to three per week, consisting of firm (not hard or lumpy) stools passed with no urgency or straining.

## **How is Functional Constipation Diagnosed?**

Doctors diagnose functional constipation by looking at the pattern of symptoms and making sure there is no other explanation for constipation. To be diagnosed with functional constipation, a person should have two or more of the following for at least 3 months:

- Straining while having a bowel movement at least one fourth of the time.
- Lumpy and/or hard stools at least one fourth of the time.
- A sensation of incomplete emptying after having a bowel movement at least one fourth of the time.
- A sensation of blockage at least one fourth of the time.
- Using a hand or finger to help pass stool more than one fourth of the time and/or
- Two or fewer bowel movements per week.

Although people with irritable bowel syndrome (IBS) may have these same symptoms, patients with functional constipation don't have the other symptoms of IBS like abdominal pain. To identify symptoms and exclude other causes of constipation, the doctor will begin by getting your complete medical history and performing a physical examination. The doctor will also check for "alarm" symptoms, such as blood in the stool, low blood count, weight loss or fever. These would not be explained by functional constipation.

The doctor will want to know if you have any diet or life-style factors that could contribute to constipation. Constipation can result from not getting enough dietary fiber. Other causes include certain medicines, and poor bowel habits.



## **Are there Tests for Functional Constipation?**

Your doctor may perform tests as part of your evaluation. These may include a rectal examination, blood tests or referral to a specialist for colonoscopy or barium enema. Colonoscopy is a test where a long flexible tube with a light and camera at the end is inserted into the rectum and colon, after the patient is given sleep and pain medications. A barium enema involves putting a liquid substance (barium) into the colon so the doctor can see the colon outline on x-ray films.

When constipation does not get better with simple treatments, a transit time study may be done to measure the time it takes for stool to move through the bowel and be eliminated.

## **How is Functional Constipation Treated?**

Once functional constipation has been diagnosed, the doctor will double-check to make sure all constipating medicines have been stopped or their dosages reduced if possible. Patients should drink plenty of fluids, at least 8 cups of water per day. Regular exercise is also recommended. Dietary fiber, such as found in grains, vegetables, and fruits or supplements like bran or psyllium can increase bulk and help soften stools. Consuming at least 25-30 grams of fiber daily is a safe and economical way to try to improve constipation, hard stools and straining. It is difficult to take this much fiber by changing what you eat alone, and fiber supplements are usually necessary. The amount of fiber can be increased slowly, to help avoid discomfort, until an effect is seen.

Laxative medications that stimulate the intestines to move faster (particularly those containing senna, cascara, aloe, castor oil, rhubarb or other stimulant laxatives) are available over the counter, but are not recommended to be taken for long periods of time. Even herbal remedies often contain laxatives. The chronic use of laxatives can have side effects. If necessary to use laxatives, take only as directed by your doctor and limit their use as much as possible.

Tegaserod, a drug for the treatment of constipation predominant irritable bowel syndrome, stimulates intestinal motility and has recently been approved for the treatment of chronic constipation in men and women under the age of 65.

Bowel retraining may help patients who have very difficult symptoms. Such training involves sitting on the toilet for 15 to 20 minutes at the same time each day so the body can get into the habit of having regular bowel movements.

## **WHAT IS FUNCTIONAL ABDOMINAL BLOATING?**

Bloating is a feeling of abdominal fullness or distention. People often report that their abdomen is relatively flat in the morning, but becomes distended over the day. The distention tends to reduce after lying down or overnight.



## **What Causes Functional Abdominal Bloating?**

The causes of abdominal bloating, or distention, are not understood very well. Abdominal bloating may or may not be accompanied by bowel sounds that can be heard, belching, or excessive passing of gas. Sometimes the abdomen becomes distended even when people don't have excess gas. Some women notice bloating more before and during menstruation.

## **What is the Treatment for Functional Abdominal Bloating?**

The reasons for the bloating are unknown, and no proven treatment has been found. Dietary and life-style measures may help reduce bloating, or make the bloating more bearable. Some things to try include:

- Eat small, regular, unhurried meals
- Don't eat too much fiber
- Avoid constipation
- Exercise regularly

## **WHAT IS FUNCTIONAL ABDOMINAL PAIN SYNDROME?**

People with functional abdominal pain syndrome (FAPS) feel pain in the belly. The pain can be frequent or constant and may not be related to eating or to having a bowel movement. The pain can be so strong that it becomes the main focus of their life. It can affect or get in the way of daily activities. People with irritable bowel syndrome (IBS) may also have abdominal pain, but it is usually related to bowel problems such as diarrhea and/or constipation.

To make a diagnosis of functional abdominal pain syndrome, your doctor must first make sure there is no other cause for your symptoms, and that there are no abnormal x-rays or laboratory findings to explain the pain.

## **How is Pain Experienced?**

Doctors now know that many areas of the brain recognize the sensation of abdominal pain. Nerve signals travel from the abdomen to various areas of the brain. One area records the location of pain and how strong it is. The signals connect to other areas of the brain that involve memories or emotions. This means that the memory or emotion centers of the brain can affect the feeling of pain.

## **What Factors Contribute to Functional Abdominal Pain Syndrome?**

Pain can appear seemingly without cause, or after a series of painful abdominal conditions, or after a distressing event. During times of added stress, symptoms can worsen.



Repeated injury can cause nerves in the abdomen to become overly sensitive. For instance, after several abdominal surgeries, later abdominal pain may be experienced as more painful than before. Even normal bowel activity may feel painful.

The amount of support a person receives from family, friends, and other sources can affect how a person responds to pain. Being anxious can make the pain feel worse. If a person has a bad experience with pain, the fear of having the pain again can actually make it worse the next time.

### **How is Functional Abdominal Pain Syndrome Treated?**

The aim of treatment is to make the pain more tolerable rather than totally get rid of the pain, which usually is not possible. An effective treatment plan can improve how the person functions on a day-to-day basis.

The brain not only affects how pain is sensed, but it is also able to block pain. When nerve signals travel up from the abdomen to the brain, some of them go through a kind of “gate.” Other signals are carried down from the brain to this gate. The signals from the brain can block some of the pain signals from the abdomen by “closing” the gate.

Because the brain so strongly controls the sensation of pain, it can actually be used to relieve symptoms of functional abdominal pain syndrome. Different treatment methods that do not involve taking a medication may reduce how the emotional and memory centers of the brain control pain. These methods can also stimulate the brain so that it sends signals to “close” the pain-control gate (Table 1).

Medications may also be used to treat functional abdominal pain syndrome. For constant or severe pain, a doctor might prescribe certain types of antidepressants called tricyclics that help control pain sensation. At low doses, these drugs do not act as antidepressants but instead they act as pain relievers for treatment of functional abdominal pain syndrome and other painful conditions. The medicines help stimulate the brain to increase the signals that reduce pain. They sometimes take several weeks to work.

Table 1

#### **TREATMENT OF FUNCTIONAL ABDOMINAL PAIN SYNDROME: THE MIND-BODY CONNECTION**

**Symptom Diary:** Helps see what events or emotions make pain worse

**Stress Management** (e.g. Relaxation techniques, exercise, meditation): Helps focus attention on something other than the pain

**Cognitive-behavioral Therapy:** Teaches how to change thoughts, perceptions and behaviors to control symptoms

**Hypnosis:** Helps focus attention away from the pain



## CONCLUSION

Successful treatment of functional bowel disorders often depends on an active role by the patient. Treatments work best when the patient and doctor work as a team. The doctor's role is to educate, and to answer questions so that the symptoms and treatment options are understood.

As a patient, you need to express your treatment goals, work with your doctor to develop the treatment plan and help put the plan into action. Follow the treatment plan and watch results closely to ensure the best possible relief of symptoms.

Finally, you should keep your doctor informed of changes in symptoms, and feel free to call him or her if you have questions. The most successful relationship, and a key to successful treatment, depends on your ability to feel comfortable with and communicate to your doctor.

