



## IRRITABLE BOWEL SYNDROME

### What is Irritable Bowel Syndrome (IBS)?

IBS is one of more than twenty functional gastrointestinal disorders (FGID). These are disorders in which the gastrointestinal (GI) tract not functioning normally. IBS is characterized by a combination of persistent and recurrent abdominal pain that is associated with abnormal bowel habit (diarrhea, constipation or both). The pain often begins after eating and typically is relieved after a bowel movement. Other possible symptoms include bloating, passage of mucus, and a feeling of incomplete emptying.

### What causes IBS Symptoms?

The symptoms of IBS are not associated with structural findings (such as ulcers or other abnormalities revealed through x-ray or endoscopy), or biochemical abnormalities as found with blood studies. Instead, IBS is considered a disorder of regulation of GI function, which produces dysmotility (increased or irregular movements of the muscles of the gut) and increased sensitivity to intestinal sensations (visceral hypersensitivity). In addition, there is dysregulation of brain-gut function (i.e., the ability of the brain to regulate GI functions), and in some cases, alteration of bacteria in the bowel.

The *dysmotility* causes diarrhea (increased rate of passage of stool through the colon), constipation (decreased rate of passage of stool through the colon), or a combination of diarrhea and constipation at different times. Therefore, an individual may have diarrhea-predominant IBS (IBS-D), constipation-predominant IBS (IBS-C), or a mixed stool pattern (IBS-M). *Visceral hypersensitivity* is increased symptoms of urgency and discomfort or pain when the bowel is stimulated or stretched such as after eating or in relation to bowel habit. This discomfort or pain is similar to that produced in someone with a bowel obstruction where the intestinal wall is stretched. This is why many patients believe they have a "blockage" or obstruction. Visceral hypersensitivity can occur and persist after someone has a GI infection. What is different for IBS is that the nerves are so sensitive that normal contractions, even when resulting from a normal meal, bring on pain or discomfort. Similarly, patients with IBS may have more discomfort than others after a GI infection, or develop worse symptoms after a colonoscopy or abdominal or gynecological surgical procedure. This discomfort does not mean the bowel is damaged; only that it is more sensitive to these stimuli for persons with IBS. *Brain-gut dysfunction* is evident by the bowel overreacting to psychological stress, such as getting pain and diarrhea before an examination or constipation with travelling. Also, the brain's normal ability to "turn down" pain is impaired in persons with IBS. *Altered bacteria in the bowel* can occur in IBS when "good" bacteria are replaced by "bad" bacteria. This can produce visceral hypersensitivity, along with symptoms of bloating, distention, and diarrhea.

## How common is IBS?

- Ten to twenty percent of all adults experience symptoms like IBS. Only half of them see a doctor for these symptoms
- The frequency of IBS is the same worldwide.
- IBS is the second most common cause of work and school absenteeism, the first being the common cold.

## What factors contribute to the development of IBS or make IBS worse?

- **Women are at greater risk than men of developing IBS**; it occurs in almost twice as many women as men. In Western cultures, women are more likely than men to see physicians for this problem.
- **Increased stress can make IBS symptoms worse.** Stress can affect bowel function in anyone, but the effect is greater in people with IBS due to changes in the brain-gut axis that affect the brain's ability to reduce the body's reaction to stress. It has also been shown that many people with IBS have a history of early trauma, including physical or sexual abuse. This can cause a person to be more sensitive and vulnerable to body sensations.
- **IBS symptoms can create psychological distress.** From a broader perspective, stress can not only produce IBS symptoms, but the stress of the symptoms themselves can lead to emotional distress. This results in a "vicious cycle" of increased symptoms which, in turn, increase anxiety and frustration, even leading to depression. Patients often feel "caught" with this dilemma, because they cannot always anticipate or control the IBS symptoms. This may lead to poor coping where patients feel helpless and pessimistic in the face of their symptoms. They may resist leaving the house, socializing or going to restaurants for fear of an IBS attack.
- **A gastrointestinal infection** can produce or worsen IBS. This is called post-infectious IBS and results from the infection causing changes in the intestinal immune system leading to small amounts of inflammation in the intestinal wall. This, in turn, causes abnormal motility and visceral hypersensitivity. Interestingly, the symptoms are worse if the individual is experiencing emotional distress at the time of the infection. It seems that the brain in this state is less able to control the inflammation and resulting symptoms.

## How is IBS diagnosed?

Gathering a careful medical history and giving a thorough physical exam are the most important factors for making a diagnosis of IBS. A common misunderstanding is that having abdominal pain or discomfort in the absence of findings on x-ray or endoscopy means that further diagnostic studies are needed to find the cause of the problem. On the contrary, the use of the symptom-based Rome III Criteria along with a series of basic studies to exclude other conditions has enabled the ability to make a diagnosis of IBS with confidence. Key features of the Rome III criteria for IBS include episodes of abdominal discomfort or pain that are associated with an increased frequency and looser bowel movement (IBS-D) or decreased frequency and harder stool (IBS-C), and relief of the discomfort or pain with a bowel movement. When features of both diarrhea and constipation are present, this is called IBS-M. Symptoms should be present for about 3-6 months to be confident in an IBS diagnosis.

Depending on age, symptoms and general health, some patients will require some diagnostic testing to exclude the possibility of other medical conditions. Some of these additional assessments include blood tests, x-ray, and colonoscopy (studies that involve the use of a small, lighted, flexible tube that visualizes the inside of the colon). The physician is guided in a decision to do additional testing by the presence of certain "*alarm signals*" or "*red flags*", which are findings from the medical history or routine examination

of the patient that suggest the possibility of another disease. Examples of red flags would include blood in the stool, a significant amount of weight loss and an abnormal physical examination or blood test, the onset of the symptoms in an older patient, or a family history of cancer or inflammatory bowel disease. In other words, if the patient fulfills Rome III criteria for IBS and does not have any "alarm signals", then the diagnosis of IBS can be made with reasonable confidence and without further tests. Furthermore, prospective studies over years that follow patients properly diagnosed with IBS show that the likelihood of another diagnosis being found to explain the symptoms is extremely rare.

Having a diagnosis of IBS does not mean the symptoms are any less real than for patients with organic or structural diagnoses. Since IBS is a disorder of abnormal gut functioning, there are no abnormalities that would show up on the various diagnostic tests, so negative tests only help support this diagnosis. In fact, research has shown that the severity of the symptoms and degree of disability for many IBS patients are even greater than for patients with ulcers, esophageal reflux or milder forms of inflammatory bowel disease.

### **What Can I do?**

In general, it is useful to look closely at your IBS symptoms in association with your eating patterns, your lifestyle and emotional state, and any other situation that might affect your symptoms. The best way to keep track is to maintain a diary for a few weeks. If you notice any patterns, try to avoid or modify any factors that may make the symptoms worse.

However, when symptoms occur more than occasionally it is important for them to be treated. If you are experiencing diarrhea, it may help to take loperamide (over-the-counter *Imodium*®) and/or antispasmodic drugs or for constipation a high fiber diet or fiber supplements to help facilitate bowel movements. Heating pads, hot baths or hot drinks may help to slow the spasms and provide relief from abdominal pain. For more severe symptoms of diarrhea and pain,

### **Should my diet change?**

It can be useful for many patients with IBS to eat smaller meals that are low in fat. As noted fiber supplements may be helpful for occasional constipation. Our research has found that patients with IBS-D who are overweight a low carbohydrate diet may be helpful. Of course, the key is that if a certain food bothers you, avoid it. However be careful not to restrict your diet too much. Often, it is just eating large amounts of food rather than a particular food item that leads to IBS symptoms. Using a diary to track symptoms and food intake can help you decide what types of dietary adjustments will be most helpful.

### **What Can Doctors do?**

Doctors are able to prescribe medications targeted to treat specific symptoms of IBS based on the severity of the symptoms. For patients with milder forms of IBS prescription hyoscyamine (*Levsin*®) or dicyclomine (*Bentyl*®) can be used to relieve abdominal cramping or spasm and diarrhea particularly after a meal. When pain with diarrhea is more severe Alosetron (*Lotronex*®) can be prescribed, and symptoms need to be carefully monitored for possible side effects. Patients may also benefit from the use of antibiotics such as Rifaximin (*Zifaxan*®), particularly if bloating is present.

When constipation with IBS is moderate or severe, fiber products may actually increase bloating and abdominal discomfort, so these treatments should be avoided. In this situation osmotic laxatives such as PEG solution *Miralax*® (also taken over the counter), Lubiprostone (*Amitiza*®), sorbitol or lactulose are

recommended over stimulant laxatives. Stimulant laxatives, when taken over a period of time, may harm the bowel and should be avoided for chronic use. Most over-the-counter varieties are stimulant laxatives, including "natural" laxatives containing senna. In some patients, it is helpful to retrain the bowel by using the bathroom at the same time every day, usually after a meal, staying no longer than 10-15 minutes at a time.

When pain becomes moderate or severe it is common to prescribe antidepressants. These are used to reduce the firing of nerves from the intestines, to block the transmission of pain from the gut to the brain and to improve the brain's regulating capability to reduce the pain. Because they act on different pathways these medications can be taken at a lower dose for treating pain than when used to treat depression and still be effective. However if depression or other emotional difficulties co-exist higher dosages may be needed. Generally either the tricyclic antidepressants (TCA's) like desipramine, amitriptyline and nortriptyline or the serotonin norepinephrine reuptake inhibitors (SNRI's) like duloxetine, venlafaxine, desvenlafaxine or milnacipran are given. When the pain does not respond our usually employs combinations of treatments (called *augmentation treatment*), which could mean either of these agents along with other antidepressants like the serotonin reuptake inhibitors such as citalopram, escitalopram, paroxetine, fluoxetine, or medications of other types like mirtazepine, buspirone, quetiapine, and others.

### **The Role of the Psychologist**

Psychological treatments can enhance the effect of all the other treatments (psychological augmentation) to optimize the clinical response. As previously mentioned, it is common for IBS symptoms to be worsened by stress, anxiety, or other psychological factors, including feelings of inability to cope. In addition psychological treatments can be helpful for symptom control even in the absence of psychological distress. Therefore if the symptoms are severe or difficult to manage, it may help to see one of our psychologists for stress management, relaxation training, hypnosis cognitive-behavioral therapy, or other coping strategies.

### **How often should I consult my doctor?**

IBS may be a chronic or recurrent problem, but not all days are bad. Management of symptoms is the key. To do this most effectively, it is important for you to take charge of your health and general well-being, find ways to reduce the symptoms, and at times seek the advice of your doctor, this is a decision that is negotiated between you and your doctor as your treatment progresses.