

Patient information: Irritable bowel syndrome (Beyond the Basics)

Author

Arnold Wald, MD

Section Editor

Nicholas J Talley, MD, PhD

Deputy Editor

Shilpa Grover, MD, MPH

IRRITABLE BOWEL SYNDROME OVERVIEW

Irritable bowel syndrome (IBS) is a chronic condition of the digestive system. Its primary symptoms are abdominal pain and altered bowel habits (eg, constipation and/or diarrhea), but these symptoms have no identifiable cause.

IBS is the most commonly diagnosed gastrointestinal condition and is second only to the common cold as a cause of absence from work. An estimated 10 to 20 percent of people in the general population experience symptoms of IBS, although only about 15 percent of affected people actually seek medical help.

Several treatments and therapies are available for irritable bowel syndrome. These measures help alleviate symptoms but do not cure the condition. The chronic nature of irritable bowel syndrome and the challenge of controlling its symptoms can be frustrating for both patients and healthcare providers.

IRRITABLE BOWEL SYNDROME CAUSES

There are a number of theories about how and why irritable bowel syndrome (IBS) develops. Despite intensive research, the cause is not clear.

- One theory suggests that irritable bowel syndrome is caused by abnormal contractions of the colon and intestines (hence the term "spastic bowel," which has sometimes been used to describe irritable bowel syndrome). Vigorous contractions of the intestines can cause severe cramps, providing the rationale for some of the treatments of IBS, such as antispasmodics and fiber (both of which help to regulate the contractions of the colon). However, abnormal contractions do not explain irritable bowel syndrome in all patients, and it is unclear whether the contractions are a symptom or cause of the disorder.
- Some people develop irritable bowel syndrome after a severe gastrointestinal infection (eg, *Salmonella* or *Campylobacter*, or viruses). It is not clear how the infection triggers IBS to develop, and most people with irritable bowel syndrome do not have a history of these infections.
- People with irritable bowel syndrome who seek medical help are more likely to suffer from anxiety and stress than those who do not seek help. Stress and anxiety are known to affect the intestine; thus, it is likely that anxiety and stress worsen symptoms. However, stress or anxiety is probably not the cause. Some studies have suggested that irritable bowel syndrome is more common in people who have a history of physical, verbal, or sexual abuse.
- Food intolerances are common in patients with irritable bowel syndrome, raising the possibility that it is caused by food sensitivity or allergy. This theory has been difficult to prove, although it continues to be studied. The best way to detect an association between symptoms of irritable bowel syndrome and food sensitivity is to eliminate certain food groups systematically (a process called an elimination diet), which should only be considered for patients in the care of a doctor or nutritionist. Eliminating foods without

assistance can lead to omission of important sources of nutrition. In addition, unnecessary dietary restrictions can further worsen a person's quality of life.

A number of foods are known to cause symptoms that mimic or aggravate irritable bowel syndrome, including dairy products (which contain lactose), legumes (such as beans), and cruciferous vegetables (such as broccoli, cauliflower, Brussels sprouts, and cabbage). These foods increase intestinal gas, which can cause cramps. Several medications also have effects on the intestines that may contribute to symptoms.

- Many researchers believe that irritable bowel syndrome is caused by heightened sensitivity of the intestines to normal sensations (so-called "visceral hyperalgesia"). This theory proposes that nerves in the bowels are overactive in people with irritable bowel syndrome, so that normal amounts of gas or movement are perceived as excessive and painful. Some patients with severe irritable bowel syndrome feel better when treated with medications that decrease pain perception in the intestine (such as low doses of imipramine or nortriptyline). (See '[Antidepressants](#)' below.)

SYMPTOMS OF IRRITABLE BOWEL SYNDROME

Irritable bowel syndrome (IBS) often begins in young adulthood. Women are twice as likely as men to be diagnosed with irritable bowel syndrome in the United States and other Western countries. In other countries, an equal number of men and women are diagnosed with irritable bowel syndrome. The most common symptom of irritable bowel syndrome is abdominal pain in association with changes in bowel habits (diarrhea and/or constipation).

Abdominal pain — Abdominal pain is typically crampy and varies in intensity. Some people notice that emotional stress and eating worsen the pain, and that having a bowel movement relieves the pain. Some women with irritable bowel syndrome notice an association between pain episodes and their menstrual cycle.

Changes in bowel habits — Altered bowel habits are a second symptom of irritable bowel syndrome. This can include diarrhea, constipation, or alternating diarrhea and constipation. If diarrhea is the more common pattern, the condition is called diarrhea-predominant irritable bowel syndrome; if constipation is more common, the condition is called constipation-predominant irritable bowel syndrome.

Diarrhea — A person with irritable bowel syndrome may have frequent loose stools. Bowel movements usually occur during the daytime, and most often in the morning or after meals. Diarrhea is often preceded by a sense of extreme urgency and followed by a feeling of incomplete emptying. About one-half of people with IBS also notice mucous discharge with diarrhea. Diarrhea occurring during sleep is very unusual with IBS. (See "[Patient information: Chronic diarrhea in adults \(Beyond the Basics\)](#)".)

Constipation — The constipation of irritable bowel syndrome can be intermittent and last for days. Stools are often hard and pellet-shaped. You may not feel empty after a bowel movement, even when the rectum is empty. This faulty sensation can lead to straining and sitting on the toilet for prolonged periods of time. (See "[Patient information: Constipation in adults \(Beyond the Basics\)](#)".)

Other symptoms — Other symptoms of irritable bowel syndrome include bloating, gas, and belching.

IRRITABLE BOWEL SYNDROME DIAGNOSIS

Several intestinal disorders have symptoms that are similar to irritable bowel syndrome. Examples include malabsorption (abnormal absorption of nutrients), inflammatory bowel disease (such as ulcerative colitis and Crohn disease), celiac disease, and microscopic colitis (uncommon diseases associated with intestinal inflammation).

Because there is no single diagnostic test for irritable bowel syndrome, many clinicians compare your symptoms to formal sets of diagnostic criteria. However, these criteria are not accurate in distinguishing irritable bowel syndrome from other conditions in everyone. Thus, a medical history, physical examination, and select tests can help to rule out other medical conditions.

Tests — Most clinicians order routine blood tests in people with suspected irritable bowel syndrome; these tests are usually normal, but they can help rule out other medical conditions.

Some clinicians also order more invasive tests, such as sigmoidoscopy or colonoscopy, especially in people over age 40 years. (See "[Patient information: Colonoscopy \(Beyond the Basics\)](#)" and "[Patient information: Flexible sigmoidoscopy \(Beyond the Basics\)](#)".)

IRRITABLE BOWEL SYNDROME TREATMENT

There are a number of different treatments and therapies for irritable bowel syndrome (IBS) [1]. Treatments are often given to reduce the pain and other symptoms of irritable bowel syndrome, and it may be necessary to try more than one combination of treatments to find the one that is most helpful for you. (See "[Treatment of irritable bowel syndrome in adults](#)".)

Treatment is usually a long-term process; during this process, it is important to communicate with your healthcare provider about symptoms, concerns, and any stressors or home/work/family problems that develop.

Monitor symptoms — The first step in treating irritable bowel syndrome is usually to monitor symptoms, daily bowel habits, and any other factors that may affect your bowels. This can help to identify factors that worsen symptoms in some people with IBS, such as lactose or other food intolerances and stress. A daily diary can be helpful ([form 1](#)).

Diet changes — It is reasonable to try eliminating foods that may aggravate irritable bowel syndrome, although this should be done with the assistance of a healthcare provider. Eliminating foods without assistance can potentially worsen symptoms or cause new problems if important food groups are omitted.

Lactose — Many clinicians recommend temporarily eliminating milk products, since lactose intolerance is common and can aggravate irritable bowel syndrome or cause symptoms similar to IBS. The greatest concentration of lactose is found in milk and ice cream, although it is present in smaller quantities in yogurt, cottage and other cheeses, and any prepared foods that contain these ingredients ([table 1](#)).

All lactose-containing products should be eliminated for two weeks. If IBS symptoms improve, it is reasonable to continue avoiding lactose. If symptoms do not improve, you may resume eating lactose-containing foods.

Foods that cause gas — Many foods are only partially digested in the small intestines. When they reach the colon (large intestine), further digestion takes place, which may cause gas and cramps. Eliminating these foods temporarily is reasonable if gas or bloating is bothersome.

The most common gas-producing foods are legumes (such as beans) and cruciferous vegetables (such as cabbage, Brussels sprouts, cauliflower, and broccoli). In addition, some people have trouble with onions, celery, carrots, raisins, bananas, apricots, prunes, sprouts, and wheat. (See "[Patient information: Gas and bloating \(Beyond the Basics\)](#)".)

Foods that are easier — The following table provides a list of foods that may be easier to digest in people with IBS ([table 2](#)).

Increasing dietary fiber — Increasing dietary fiber (either by adding certain foods to the diet or using fiber supplements) may relieve symptoms of IBS, particularly if you have constipation ([table 3](#)). By reading the product information panel on the side of the package, you can determine the number of grams of fiber per serving ([figure 1](#)). Fiber may also be helpful in some people with diarrhea-predominant symptoms since it can

improve the consistency of stools. (See "[Patient information: High-fiber diet \(Beyond the Basics\)](#)".)

A bulk-forming fiber supplement (such as psyllium or methylcellulose) may also be recommended to increase fiber intake since it is difficult to consume enough fiber in the diet. Fiber supplements should be started at a low dose and increased slowly over several weeks to reduce the symptoms of excessive intestinal gas, which can occur in some people when beginning fiber therapy.

Fiber can make some people with irritable bowel syndrome more bloated and uncomfortable. If this happens, it is best to decrease fiber intake and consider other laxative treatments for constipation. (See "[Patient information: Constipation in adults \(Beyond the Basics\)](#)".)

Psychosocial therapies — Stress and anxiety can worsen irritable bowel syndrome in some people. The best approach for reducing stress and anxiety depends upon your situation and the severity of your symptoms. Have an open discussion with your clinician about the possible role that stress and anxiety could be having on your symptoms, and together decide upon the best course of action.

- Some people benefit from formal counseling, with or without antidepressant or anti-anxiety medications [2]. Other treatments, such as hypnosis and cognitive behavioral therapy may also be helpful. Hypnosis is a state of altered consciousness that allows you to focus away from your anxiety or stress. Patients who are hypnotized are not sleeping, but are actually in a state of heightened imagination, similar to daydreaming. An expert can hypnotize an individual or you can learn self-hypnosis techniques.

Cognitive behavioral therapy helps you to focus on a particular problem in a limited time period. You learn how your thoughts contribute to anxiety or stress and learn how to change these thoughts.

- Participation in a support group can also be valuable.
- Many patients find that daily exercise is helpful in maintaining a sense of well-being. Exercise can also have favorable effects on the bowels. (See "[Patient information: Exercise \(Beyond the Basics\)](#)".)

Irritable bowel syndrome medications — Although many drugs are available to treat the symptoms of irritable bowel syndrome, these drugs do not cure the condition. They are primarily used to relieve symptoms. The choice among these medications depends in part upon whether you have diarrhea, constipation, or pain-predominant irritable bowel syndrome.

As a general rule, medications are reserved for people whose symptoms have not adequately responded to more conservative measures such as changes in diet and fiber supplements.

Anticholinergic medications — Anticholinergic drugs block the nervous system's stimulation of the gastrointestinal tract, helping to reduce severe cramping and irregular contractions of the colon.

Drugs in this category include dicyclomine (Bentyl) and hyoscyamine (Levsin). These drugs may be particularly helpful when taken preventively (ie, before symptoms) and thus are most helpful if you can predict the onset of your symptoms. Common side effects include dry mouth and eyes and blurred vision.

Antidepressants — Many tricyclic agents (TCAs) have a pain relieving effect in people with irritable bowel syndrome. The dose of TCAs is typically much lower than that used for treating depression. It is believed that these drugs reduce pain perception when used in low doses, although the exact mechanism of their benefit is unknown.

TCAs commonly used for pain management include amitriptyline, imipramine, desipramine, and nortriptyline. It is common to experience fatigue when starting a TCA; this is not always an undesirable side effect, since it can help improve sleep when TCAs are taken in the evening. TCAs are generally started in low doses and increased gradually. Their full effect may not be seen for three to four weeks.

TCAs also slow movement of contents through the gastrointestinal tract and may be most helpful in people with diarrhea-predominant irritable bowel syndrome.

Another class of antidepressants, the selective serotonin reuptake inhibitors (SSRIs), may be recommended if you have both irritable bowel syndrome and depression. Common SSRIs include fluoxetine (Prozac), sertraline (Zoloft), paroxetine (Paxil), citalopram (Celexa), and escitalopram (Lexapro). Other antidepressant medications that may be recommended include mirtazapine (Remeron), venlafaxine (Effexor), and duloxetine (Cymbalta). (See "[Patient information: Depression treatment options for adults \(Beyond the Basics\)](#)".)

Antidiarrheal drugs — The drugs loperamide (Imodium) or diphenoxylate with atropine (Lomotil) can help slow the movement of stool through the digestive tract. Loperamide and diphenoxylate/atropine are most helpful if you have diarrhea-predominant irritable bowel syndrome. However, clinicians usually recommend that these drugs should only be used as needed rather than on a continuous basis. Eluxadoline (Viberzi) has been approved for the treatment of irritable bowel syndrome with diarrhea but is not commercially available.

Anti-anxiety drugs — Anti-anxiety drugs reduce anxiety. Diazepam (Valium), lorazepam (Ativan), and clonazepam (Klonopin) belong to this class of drugs. Anti-anxiety drugs are occasionally prescribed for people with short-term anxiety that is worsening their irritable bowel syndrome symptoms. However, these drugs should only be taken for short periods of time since they can be addictive.

Alosetron — Alosetron (Lotronex) blocks a hormone that is involved in intestinal contractions and sensations. It is approved to treat women with irritable bowel syndrome whose predominant symptom is diarrhea. However, it was withdrawn from the market soon after its introduction because of concerns related to safety. It was reintroduced and is currently available, although certain prescribing guidelines must be followed.

Lubiprostone — Lubiprostone (Amitiza) is available for treatment of severe constipation and irritable bowel syndrome in women over 18 years who have not responded to other treatments. It works by increasing intestinal fluid secretion. It is expensive compared to other agents. Further testing is needed to clarify the effectiveness and long-term safety of lubiprostone.

Linaclotide — Linaclotide (Linzess) has been approved for treatment of constipation and irritable bowel syndrome in persons over 18 years who have not responded to other treatments. It works by increasing intestinal fluid secretion. It is expensive as compared with other agents (except lubiprostone). Further studies are needed to clarify the effectiveness and long-term safety of linaclotide.

Antibiotics — The role of antibiotics in the treatment of irritable bowel syndrome remains unclear. There are some patients whose irritable bowel syndrome symptoms benefit from antibiotic treatment. However, more research is needed before antibiotics are recommended for treatment of irritable bowel syndrome. Rifaximin (Xifaxan) has been approved for treatment of irritable bowel syndrome without constipation.

HERBS AND NATURAL THERAPIES FOR IRRITABLE BOWEL SYNDROME

A number of herbal and natural therapies have been advertised (especially on the internet) for the treatment of irritable bowel syndrome. Unfortunately, there is no evidence supporting their benefit. Although small studies may support some of these therapies, the studies are either too small or have major flaws that make definitive conclusions impossible.

- Peppermint oil – There is some evidence supporting the use of peppermint oil. Peppermint oil can cause or worsen heartburn.
- Acidophilus – There is increasing interest in the possible beneficial effects of "healthy" bacteria (probiotics) in a variety of intestinal diseases, including IBS. Whether supplements containing these bacteria are of any benefit is unproven. (See "[Probiotics for gastrointestinal diseases](#)".)
- Unproven – Chamomile tea is of unproven benefit in irritable bowel syndrome. Furthermore, chamomile can aggravate allergies in people who tend to be allergic to grasses. Evening primrose oil, a supplement containing gamma linolenic acid, is of unproven benefit. Fennel seeds are of unproven benefit.

- Potentially unsafe – Wormwood is of unproven benefit and may be unsafe. Wormwood oil can cause damage to the nervous system. Comfrey is of unproven benefit and can cause serious liver problems.

IRRITABLE BOWEL SYNDROME PROGNOSIS

Although irritable bowel syndrome can produce substantial physical discomfort and emotional distress, most people with irritable bowel syndrome do not develop serious long-term health conditions. Furthermore, the vast majority of people with irritable bowel syndrome learn to control their symptoms.

It is important to work with a clinician to monitor symptoms over time. If symptoms change over time, further testing may be recommended. Over time, less than 5 percent of people diagnosed with irritable bowel syndrome will be diagnosed with another gastrointestinal condition.

SUMMARY

- Irritable bowel syndrome (IBS) is a common gastrointestinal disorder affecting approximately 10 to 20 percent of the population. Although the condition cannot be cured, treatments are available to alleviate symptoms.
- No single cause of irritable bowel syndrome has been identified, although there are theories that gastrointestinal abnormalities, food intolerance, and psychological issues may be involved. (See '[Irritable bowel syndrome causes](#)' above.)
- The primary symptoms of irritable bowel syndrome are abdominal pain and changes in bowel habits (eg, diarrhea and/or constipation). Abdominal pain can vary in location and severity. Patients can experience primarily diarrhea, primarily constipation, or an alternating pattern of the two; additional gastrointestinal symptoms may also occur. (See '[Symptoms of irritable bowel syndrome](#)' above.)
- There is no single diagnostic test for irritable bowel syndrome, and several other gastrointestinal conditions produce similar symptoms; a patient's history, physical examination, and blood test results are all reviewed to rule out other disorders and establish a diagnosis of IBS. (See '[Irritable bowel syndrome diagnosis](#)' above.)
- There are many different treatments available to relieve the symptoms of irritable bowel syndrome; these include the monitoring of symptoms and patterns, adjustment of the diet to increase fiber and eliminate foods that can worsen symptoms, psychosocial therapy (since stress may aggravate IBS), and medication. Treatments are often used in combination, and because of the variability of symptoms, different treatments work for different people. (See '[Irritable bowel syndrome treatment](#)' above.)
- Many herbal and natural therapies have been advertised for the treatment of irritable bowel syndrome; however, these therapies have not been proven effective and they are not recommended. (See '[Herbs and natural therapies for irritable bowel syndrome](#)' above.)
- Although irritable bowel syndrome can cause pain and stress, the majority of patients are able to control their symptoms and live a normal life without developing serious health problems. (See '[Irritable bowel syndrome prognosis](#)' above.)

WHERE TO GET MORE INFORMATION

Your healthcare provider is the best source of information for questions and concerns related to your medical problem.

This article will be updated as needed on our website (www.uptodate.com/patients). Related topics for patients, as well as selected articles written for healthcare professionals, are also available. Some of the most relevant are listed below.

Patient level information — UpToDate offers two types of patient education materials.

The Basics — The Basics patient education pieces answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials.

[Patient information: Irritable bowel syndrome \(The Basics\)](#)

[Patient information: Lactose intolerance \(The Basics\)](#)

[Patient information: Hirschsprung disease \(The Basics\)](#)

Beyond the Basics — Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are best for patients who want in-depth information and are comfortable with some medical jargon.

[Patient information: Gas and bloating \(Beyond the Basics\)](#)

[Patient information: Chronic diarrhea in adults \(Beyond the Basics\)](#)

[Patient information: Constipation in adults \(Beyond the Basics\)](#)

[Patient information: Diagnosis of interstitial cystitis/bladder pain syndrome \(Beyond the Basics\)](#)

[Patient information: Colonoscopy \(Beyond the Basics\)](#)

[Patient information: Flexible sigmoidoscopy \(Beyond the Basics\)](#)

[Patient information: High-fiber diet \(Beyond the Basics\)](#)

[Patient information: Exercise \(Beyond the Basics\)](#)

[Patient information: Depression treatment options for adults \(Beyond the Basics\)](#)

Professional level information — Professional level articles are designed to keep doctors and other health professionals up-to-date on the latest medical findings. These articles are thorough, long, and complex, and they contain multiple references to the research on which they are based. Professional level articles are best for people who are comfortable with a lot of medical terminology and who want to read the same materials their doctors are reading.

[Alosetron hydrochloride \(Lotronex\) for irritable bowel syndrome](#)

[Approach to the adult with chronic diarrhea in developed countries](#)

[Clinical manifestations and diagnosis of irritable bowel syndrome in adults](#)

[Diagnostic approach to abdominal pain in adults](#)

[Intestinal gas and bloating](#)

[Lactose intolerance: Clinical manifestations, diagnosis, and management](#)

[Pathophysiology of irritable bowel syndrome](#)

[Probiotics for gastrointestinal diseases](#)

[Management of chronic constipation in adults](#)

[Treatment of irritable bowel syndrome in adults](#)

The following organizations also provide reliable health information.

- National Library of Medicine

<http://www.nlm.nih.gov/medlineplus/healthtopics.html>

- National Institute of Diabetes and Digestive and Kidney Diseases

<http://www.niddk.nih.gov>

- The American Gastroenterological Association
(www.gastro.org)
- The American College of Gastroenterology
(www.acg.gi.org)
- International Foundation for Functional Gastrointestinal Disorders (IFFGD)
(www.iffgd.org)

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Literature review current through: Dec 2015. | **This topic last updated:** Aug 12, 2015.

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GRAPHICS

Stool and diet history

| Date | # BM | Appearance | Pain? | Diet |
|-----------------|------|----------------------|-------------|---|
| Example: 8/2 | 1 | Small, hard, pellets | Yes, crying | White toast, egg, milk Chicken nuggets, chips, ice cream, water Hot dog, cheese, white bun, grapes, apple juice |
| | | | | |
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Graphic 61226 Version 3.0

Lactose content of different foods

| Product | Lactose content (grams) |
|-----------------------------------|-------------------------|
| Milk (1 cup) | |
| Whole, 2 percent, 1 percent, skim | 9 to 14 |
| Buttermilk | 9 to 12 |
| Evaporated milk | 24 to 28 |
| Sweetened condensed milk | 31 to 50 |
| Lactaid milk (lactose-reduced) | 3 |
| Goat's milk | 11 to 12 |

| | |
|--------------------------------------|-------------|
| Acidophilus, skim | 11 |
| Yogurt, low fat, 1 cup | 4 to 17 |
| Cheese, 1 ounce | |
| Cottage cheese (1/2 cup) | 0.7 to 4 |
| Cheddar (sharp) | 0.4 to 0.6 |
| Mozzarella (part skim, low moisture) | 0.08 to 0.9 |
| American (pasteurized, processed) | 0.5 to 4 |
| Ricotta (1/2 cup) | 0.3 to 6 |
| Cream cheese | 0.1 to 0.8 |
| Butter (1 pat) | 0.04 to 0.5 |
| Cream (1 tablespoon) | |
| Light, whipping, sour | 0.4 to 0.6 |
| Ice cream (1/2 cup) | 2 to 6 |
| Ice milk (1/2 cup) | 5 |
| Sherbet (1/2 cup) | 0.6 to 2 |

Adapted from: Scrimshaw NS, Murray EB. The acceptability of milk and milk products in populations with a high prevalence of lactose intolerance. *Am J Clin Nutr* 1988; 48:1079. Copyright © 1988 American Society for Clinical Nutrition.

Graphic 55938 Version 5.0

Foods and beverages that are better tolerated by irritable bowel syndrome patients

| |
|--|
| Water, Ginger Ale, Sprite, and Gatorade. |
| Soy milk or rice milk. |
| Soy or rice based products. |
| Plain pasta, plain noodles, white rice. No sauces or gravies. |
| Potato: boiled or baked. No French Fries. |
| Breads: French, Italian, whole white, English muffins, and white rolls. |
| Plain fish, plain chicken, plain turkey, or plain ham. |
| Eggs: soft-boiled, poached. |
| Cereals: Plain Cornflakes, Rice Krispies, Corn or Rice Chex, Cheerios; dry or with soymilk or rice milk. |
| Salads: lettuce, hard-boiled egg slices, oil and vinegar dressing. |
| Cooked peas, carrots (avoid raw vegetables). |
| Margarine, jams, jellies, peanut butter. |
| In small amounts: applesauce, cantaloupe, watermelon, honeydew melon. |
| In small amounts: fruit cocktail, peaches, pears (canned, non-dietetic). |

Substitutes and alternatives are available for the foods and beverages that induce gastrointestinal symptoms. Listed above are examples of some of the foods and beverages that IBS patients have found to be well tolerated. It is important to use daily vitamins (multivitamin, calcium with vitamin D, folic acid, vitamin B complex, and vitamin C) when on a restricted diet.

Data from: MacDermott RP. Treatment of irritable bowel syndrome in outpatients with inflammatory bowel disease using a food and beverage intolerance, food and beverage avoidance diet. Inflamm Bowel Dis 2007; 13:91.

Graphic 69440 Version 2.0

Amount of fiber in different foods

| Food | Serving | Grams of fiber |
|---|-----------------|----------------|
| Fruits | | |
| Apple (with skin) | 1 medium apple | 4.4 |
| Banana | 1 medium banana | 3.1 |
| Oranges | 1 orange | 3.1 |
| Prunes | 1 cup, pitted | 12.4 |
| Juices | | |
| Apple, unsweetened, w/added ascorbic acid | 1 cup | 0.5 |
| Grapefruit, white, canned, sweetened | 1 cup | 0.2 |
| Grape, unsweetened, w/added ascorbic acid | 1 cup | 0.5 |
| Orange | 1 cup | 0.7 |
| Vegetables | | |
| Cooked | | |
| Green beans | 1 cup | 4.0 |
| Carrots | 1/2 cup sliced | 2.3 |
| Peas | 1 cup | 8.8 |
| Potato (baked, with skin) | 1 medium potato | 3.8 |
| Raw | | |
| Cucumber (with peel) | 1 cucumber | 1.5 |
| Lettuce | 1 cup shredded | 0.5 |
| Tomato | 1 medium tomato | 1.5 |
| Spinach | 1 cup | 0.7 |
| Legumes | | |
| Baked beans, canned, no salt added | 1 cup | 13.9 |

| | | |
|-------------------------------|-----------------|------|
| Kidney beans, canned | 1 cup | 13.6 |
| Lima beans, canned | 1 cup | 11.6 |
| Lentils, boiled | 1 cup | 15.6 |
| Breads, pastas, flours | | |
| Bran muffins | 1 medium muffin | 5.2 |
| Oatmeal, cooked | 1 cup | 4.0 |
| White bread | 1 slice | 0.6 |
| Whole-wheat bread | 1 slice | 1.9 |
| Pasta and rice, cooked | | |
| Macaroni | 1 cup | 2.5 |
| Rice, brown | 1 cup | 3.5 |
| Rice, white | 1 cup | 0.6 |
| Spaghetti (regular) | 1 cup | 2.5 |
| Nuts | | |
| Almonds | 1/2 cup | 8.7 |
| Peanuts | 1/2 cup | 7.9 |

To learn how much fiber and other nutrients are in different foods, visit the United States Department of Agriculture (USDA) National Nutrient Database at:
<http://www.nal.usda.gov/fnic/foodcomp/search/>.

*Created using data from the USDA National Nutrient Database for Standard Reference. Available at
<http://www.nal.usda.gov/fnic/foodcomp/search/>.*

Graphic 52349 Version 3.0

Nutrition label

| Nutrition Facts | |
|--|---------------------|
| Serving Size 1 Cup (148g/5.3oz) | |
| Amount Per Serving | |
| Calories 100 | Calories from Fat 0 |
| % Daily Value* | |
| Total Fat 0g | 0% |
| Saturated Fat 0g | 0% |
| Cholesterol 0mg | 0% |
| Sodium 0mg | 0% |
| Potassium 720mg | 21% |
| Total Carbohydrate 26g | 9% |
| Dietary Fiber 3g | 12% |
| Sugars 3g | |
| Protein 4g | |
| Vitamin A 0% • Vitamin C 45% | |
| Calcium 2% • Iron 6% | |
| Thiamin 8% • Riboflavin 2% | |
| Niacin 8% • Vitamin B ₆ 10% | |
| Folate 6% • Phosphorous 6% | |
| Zinc 2% • Magnesium 6% | |
| *Percent Daily Values are based on a 2,000 calorie diet. | |

Dietary fiber content = 3 grams

This is an example of a nutrition label. To know how much fiber is in a food, look at the line that reads "dietary fiber." This product has 3 grams of fiber in each serving.

=: percent.

Graphic 51585 Version 5.0