

## Ulcerative Colitis

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[Prebiotics in your diet or in a supplement naturally restore digestive balance and health. Learn more . . .](#)

**Please refer to the essay on [Ulcerative Colitis](#) for more complete information about this disorder.** You should understand that all treatment, including diet therapy for ulcerative colitis, must start with a solid partnership with your physician. This information is to supplement your knowledge of dietary factors that may influence your disease.

Evidence based care is something we in medicine always seek. It means that each treatment we select is carefully measured with evidence to be sure that it is helpful. With medications, in particular, we insist that the benefit strongly outweigh the risk. However, there are many areas of medicine where the final data is just not there, so physicians do the best they can, using the available research as a guide and always assessing any downside risk to a particular treatment.

Diet for ulcerative colitis falls into this uncertain area because the disorder is an inflammatory one of the colon. This is where the fiber and food residue we eat ends up. Is it not possible that the foods we eat or don't eat may be part of the problem? Studying this is difficult because animal and plant food contain hundreds, no, thousands of different chemicals. When these multiple natural substances interact in our intestines with the over 1,000 different bacteria in the colon with a total bacteria count of many trillions, some very strange things may occur, both good and bad.

I present two sections. One is the standard dietary recommendations that are found in our gastroenterology textbooks and on the web site of our prestigious organizations such as *Crohn's and Colitis Foundation* and *The Mayo Clinic*.

The second section, *Additional Views on Dietary Therapy for Ulcerative Colitis*, is a learned look at newer things that are happening in the ulcerative colitis dietary field. Some of it is close to being evidence based. All of it has some science behind it. Very little or none of it has much risk. I view ulcerative colitis care as a partnership between the physician and the patient. The physician brings the best science and medication to the table. Patients learn and then make the necessary changes in their diet.

### Standard Dietary Recommendations

The key to good health for all ulcerative colitis patients is to work with the physician to get the disease under control, usually with medications. Without this basic achievement, the full benefit of any dietary program becomes difficult to achieve. The following are crucial key goals:

- Maintain a good weight by ingesting enough calories, minerals and vitamins.
- *Protein* - The amount of protein you need per day will depend on your weight, age, exercise, pregnancy and, especially, on the activity or seriousness of the colitis process. The formula for the healthy person is 0.36 grams of protein per 1 lb of body weight. For the 150 lb person, the number is about 54 grams of protein.

If you do serious exercise, if you are a large person or if your ulcerative colitis is active, you may need additional protein. Much of this protein can and should come from vegetables and fruits. Many nutritionists and physicians think we, as a nation, eat too much animal protein. For ulcerative colitis patients, in particular, too much red meat may increase the odoriferous gas, hydrogen sulfide, in the colon (see below).

- *Carbohydrates* - In general, you should avoid the low carb craze. The bulk of your calories should come from complex carbohydrates as in whole grain, brown rice, and fresh vegetables and fruits. Plain sugar, high fructose sweeteners, as in soft drinks and many of the processed foods, have large amounts of these simple sugars that do not have much health benefit.
- *Fats* - The body needs a certain amount of fat, especially the mono and unsaturated vegetable oils, such as olive oil. The high saturated fats in meat, creams, and all trans fat products should be used sparingly.

### Vitamins

- *Multiple vitamin with minerals* - Many authorities recommend a daily multiple vitamin for the general population. Patients with ulcerative colitis need to discuss vitamin/mineral use with their physicians.
- *Vitamin D* - Vitamin D is important for bone health. Ulcerative colitis patients may be particularly susceptible to early osteoporosis, especially if they take steroids such as prednisone. Newer information has shown that there are vitamin D receptors or attachment points on the cells of many organs in the body including the colon. There is likely a reason for this. Additionally, vitamin D deficiency has been found to be much more widespread than originally thought. Some authorities are, therefore, recommending 800-1200 IU/day rather than the standard 400 IU/day. Check with your physician.

## Minerals

- *Calcium* - Even if you live in the sunbelt and your skin make lots of vitamin D, you still need an adequate amount of calcium by mouth. Milk, dairy products, shellfish, green leafy vegetables, canned fish and, if needed, calcium supplements are the main sources. The goal is at least 1200 mg of calcium a day.
- *Iron* - Many ulcerative colitis patients have low iron levels which may lead to anemia. Your physician may check the iron blood level periodically.
- *Selenium* - Some authorities believe that selenium acts like an antioxidant in the body, providing health benefits. Certain medical studies show that selenium may be low in ulcerative colitis patients and that they do better when they take a selenium supplement. 200 mg per day is recommended. Check with your physician.

## Fish, Fish Oil and Herbs

- *Fish and flaxseed oil* - Fish oil has been found in medical studies to be helpful for some ulcerative colitis patients. Flax seed oil has the same type of oil as in fatty fish. We still do not know the full benefits. Fatty fish (blue, mackerel, salmon, and sword), fish oil capsules and flaxseed oil can all be recommended. In some of the published studies, the patients took up to nine capsules per day of fish oil. This is a lot and could give you a fishy regurgitation smell.
- *Herbs* - Herbs are dried plants that are ground into powders. Because something is labeled an herb, does not transform it into a magical medicine. All plants contain hundreds of different chemicals, many of which are still not known to science. We cannot be sure what effect these known and unknown chemicals have on the inflammation process of ulcerative colitis. Until good data is available on the benefits of herbs, it is best to avoid them.

## General Advice

Here are the general recommendations that we gastroenterologists generally give to our ulcerative colitis patients.

- *Smaller, more frequent meals* - The lower intestine may handle foods better when smaller portions arrive there more frequently. Your body will let you know if 4 or 5 smaller meals work better for you.
- *Fluids* - Adequate fluid intake is a must if diarrhea is a significant symptom. For most people, the body tells you when you are thirsty and need fluid. Some authorities recommend eight glasses of water per day. The evidence for the need of this much water is sketchy.
- *Caffeine* - Caffeine in coffee, tea, soft drinks, and power drinks, stimulates the colon to contract and promotes more bowel movements. Caffeine by itself is not known to damage the intestine or colon.
- *Alcohol* - Red wine and beer contains sulfates and may contribute to the malodorous smell of flatus.
- *Allergies and food intolerance* - True food allergies (hives, trouble breathing) is rather uncommon. Shellfish and peanuts can induce such serious problems in the allergic person. However, intolerance to certain foods is very common. If a certain food disagrees with you, avoid it.
- *Junk food* - Most fast food restaurants offer a variety of healthy choices. Dairy products, such as milk, milkshakes and yogurt are available. Pizza provides considerable protein and calcium.
- *Lactose and dairy products* - Milk and dairy products provide lots of good nutrition and calcium. If you think you are lactose intolerant, you may consider a simple test. Drink 16 oz. of fat free milk on a Saturday or Sunday morning and eat or drink nothing more. If symptoms of bloating, cramps or diarrhea do not occur in 3-4 hours, you likely are not lactose intolerant.
- *Celiac Disease or sprue* - This is a disorder whereby the gluten protein in wheat and certain other grains damages the small intestine. This disorder is much more common than we have thought in the past. The symptoms may be similar to those of ulcerative colitis. A simple blood test can usually screen for this disorder. Ask your physician about Celiac Disease.

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## Fiber

Fiber is a special consideration for ulcerative colitis patients. Food fibers are healthy and should be well understood so they can be used in an effective and healthy way. All plants rely on fiber for their structure. Each plant food has both insoluble and soluble fiber. Some will be predominantly one type or the other. For instance, wheat is mostly insoluble fiber, oats are about half and half and psyllium powder is 90% soluble. Our prebiotics powders are 100% soluble.

Insoluble fiber does not dissolve in water; it is not digested by the small bowel and is not fermented by colon bacteria. It does, however, retain water and so produces large, bulky stools. Soluble fiber, on

by colon bacteria. It does, however, retain water and so produces large, bulky stools. Soluble fiber, on the other hand, does dissolve in water. It is fermented by the colon bacteria and is used as a fuel source to maintain a healthy environment in the colon. However, if too much is taken, soluble fibers will promote harmless colon gas and flatus.

Discuss your food fiber intake with your physician. [Fiber Content of Food](#) provides specific information on the amount of soluble and insoluble fiber in most foods.

## **Additional Views On Dietary Therapy For Ulcerative Colitis Patients**

### **Probiotics**

Probiotics are bacteria in food such as yogurt, other dairy products and now in pill form. There are some early medical studies that show that certain types of probiotics given in pill form can favorably influence the course of ulcerative colitis. However, the study of bacteria in the colon is difficult. Here are a few facts. The human colon has the most densely packed collection of bacteria anywhere in the world. There are over 1,000 different types of bacteria and the total number of bacteria in the colon are many trillions. The commercial probiotic preparations use from one up to six different bacteria and usually claim to have 5-10 billion organisms per pill. This sounds like a lot. But compared to trillions, it is small. Still, there are some favorable medical studies coming out, so stay tuned to the probiotic field. It also should be noted that the bacteria makeup of the colon returns to its previous state 2-3 weeks after probiotics are stopped. You need to stay on then long term if they are effective. People with immune deficiencies, such as HIV, AIDS and chemotherapy, should probably not take probiotics. Otherwise, probiotics seem to be safe, although ulcerative colitis patients should always discuss this with their physician.

### **Prebiotics**

Prebiotics are the soluble food fibers that feed the healthy bacteria in the colon. The term was coined in 1995, so the field is rather new. Researchers are evaluating many prebiotics, but only inulin and oligofructose have shown consistent results. The key thing that these two prebiotics and, hopefully, others do, is to stimulate the colon's good bacteria to grow. Inulin and oligofructose cause certain bacteria to produce acidic substances called short chain fatty acids (SCFA). SCFAs are used by the colon's own cells as a fuel source. They are what make the colon's own cells, the very site of ulcerative colitis, healthy. We still don't know just how this all works but simple reasoning would say that SCFAs are likely good for ulcerative colitis patients.

### **Hydrogen Sulfide (H<sub>2</sub>S) - The Gas**

The H<sub>2</sub>S gas is made in the colon. It is a nasty customer. It is mostly what gives flatus its foul smell. We avoid the smell when we can and make fun of it. But, there is nothing funny about H<sub>2</sub>S. Consider these facts about H<sub>2</sub>S, all medically documented.

- Half the normal population makes H<sub>2</sub>S gas in their colon. The other half makes methane gas.
- However, 90-100% of ulcerative colitis patients make H<sub>2</sub>S. That's an interesting fact, isn't it?
- H<sub>2</sub>S is a toxic gas. In higher doses, it can irritate the eyes. In even higher concentrations, it is as damaging as hydrogen cyanide. In the normal colon, there are cells that contain an enzyme that detoxifies the H<sub>2</sub>S gas.
- There is some evidence to suggest that this enzyme is deficient in ulcerative colitis patients, so that the H<sub>2</sub>S may linger and damage the colon wall.
- Most patients have ulcerative colitis in the left side of the colon where the H<sub>2</sub>S gas is mostly made.
- Certain bacteria in the left side of the colon use sulfur in our foods, water and especially in meats, to make the H<sub>2</sub>S gas.
- The good bacteria in the colon make certain acid substances, (see SCFA above) thereby acidifying the colon contents.
- Here is a possible key point. These H<sub>2</sub>S producing bacteria do not grow in an acid environment. Keeping the colon acid may be important.

### **Sulfate and Sulfides**

Sulfate is a necessary element in the diet as our body needs it for many of its functions. However, the H<sub>2</sub>S gas producing bacteria in the left colon rely on ingested sulfur to make the sulfide gas, H<sub>2</sub>S. The more sulfate you ingest, the more of it is available for colon bacteria to make sulfide gases. So where is the sulfate we ingest?

- Drinking water - up to 20% or more may come from drinking water, depending on the source. City water is monitored so there won't be too much, but well water can vary significantly. You need to measure sulfate in well water.
- Beverages - beer, red and white wine, cider, apple, grape and tomato juice, and even cow's milk have significant amounts of sulfate.
- Foods - the following have moderate amounts of sulfate:
  - eggs
  - cheese
  - milk
  - dates
  - dried apples, apricots (dried fruits are very high in sulfate)
  - almonds
  - wheat pasta
  - breads
  - peanuts
  - cruciferous vegetables (broccoli, cauliflower, Brussels sprouts, cabbage)
  - raisins
  - prunes
- Animal Protein - There are only two amino acids, methionine and cystine, that contain sulfate. These are present in all animal products, but especially in red meat. The more meat you eat, the more sulfate enters your colon.
- Supplements - *chondroitin* sulfate, *glucosamine* sulfate and MSM (*methylsulfonylmethane*) are used by many people for bone and joint disorders.

These have significant amounts of sulfate. So does carrageenan, used as a thickening agent in many prepared foods. Read the labels.

## Summary

Were I still in gastroenterology practice, I would recommend that ulcerative colitis patients follow the guidelines in the first part of this section. Additionally, I would consider:

- Reduce sulfur-containing foods in the diet, especially red meat, cruciferous vegetables (broccoli, cabbage, Brussels sprouts) and sulfur containing wine and beer. Check well water for sulfur.
- Increase foods that are high in inulin and oligofructose.
- Consider using a dietary supplement to get a significant dose of the beneficial prebiotics, inulin and oligofructose, into the colon every day.

The goal is to make your colon more acidic and inhospitable for the H<sub>2</sub>S gas producing bacteria. If your flatus no longer has a malodorous smell, then the H<sub>2</sub>S producing bacteria likely are not growing.

One final point. This information has some research behind it. Some of it is not conclusive, but it is at this time the best we have. Finally, check with your physician. She or he knows your case best. This information is for background use only. Prebiotic supplements are not meant to prevent, treat or mitigate any disease.

**Prebiotics in your diet or in a supplement naturally restore digestive balance and health. [Learn more . . .](#)**