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Fiber and Health

While we know eating whole grains and fiber is good for us, most of us don't get enough. Adults in America today manage to only eat about 15 grams of fiber each day, just half the recommended amount.¹ However, in a world full of highly processed foods, it can be difficult to get the fiber we need.

This issue of *Ask the Doctor* will look at fiber: why we need it, what it can do for us, which types of fiber are best, and how to make sure we are getting enough. Some exciting new fiber supplements provide a significant amount of healthy fiber in a tasty chewable tablet and can give us added benefits, not found anywhere else.

Fiber can:

- ▼ Prevent cancer³
- ▼ Lower "bad" cholesterol levels, raise "good" cholesterol levels⁴, and strengthen diseased hearts¹
- ▼ Lessen the risk of diabetes⁶ and improve diabetes already diagnosed⁷
- ▼ Help us lose weight⁸
- ▼ Strengthen our immune systems¹⁰
- ▼ Keep our bowels healthy¹¹ and relieve constipation¹²

Q. What is dietary fiber?

Fiber is the part of plant foods we can't digest or absorb.² Fiber has no calories and is not recognized as an essential nutrient. However, it seems the very make up of fiber is the key to its healthy benefits.

cellulose, hemicellulose, and lignin, do not dissolve in water. **Soluble fibers**, such as gum and pectin, do dissolve in water. We need both types of fiber every day. Each form functions differently and provides different health benefits.²

HEALTH FACT:

Fiber has been shown to be beneficial in affecting cancer, cholesterol levels, diabetes, obesity, the immune system, and digestive tract health.

Foods high in soluble fiber include oat bran, oatmeal, beans, peas, rice bran, barley, citrus fruits, strawberries and the edible part of apples. Oat bran has the most soluble fiber of any grain; however, the whole oat grain is a good source of insoluble fiber as well.²

Foods high in insoluble fiber include wholewheat breads, wheat cereals, wheat bran, rye, rice, barley, most other grains, cabbage, beets, carrots, Brussels sprouts, turnips, cauliflower and apple skin.²

Fibers are classified into two categories according to their structure and how they work in the body. **Insoluble fibers**, such as

**Q. How does fiber affect...
Cancer?**

When we eat fiber, its bulk fills our stomach and leaves little room for foods containing fat.¹³ The less unhealthy fat we eat, the lower our chances are for developing cancer. In addition, eating lots of fiber also speeds up digestion through the stomach, small intestine, and large intestine (or colon), limiting the amount of time cancer-causing chemicals can get into the bloodstream. Some fibers have been shown to actually absorb cancer-causing substances that then leave the body in the stool.¹⁴⁻¹⁸

While all women (and men, too) need the hormone estrogen, too much can lead to cancer, especially of the uterus and breast. Excess estrogen levels can occur as we get older and our estrogen ratios get out of balance. Eating a diet high in fiber can bind or soak up the excess estrogen, increasing the rate at which it is excreted from the body.^{9,33}

Cholesterol?

When we eat a big bowl of oatmeal, we are much less likely to follow up with fried eggs and bacon. Soluble fiber also binds cholesterol as it moves through the intestinal tract. Since the fiber is not absorbed, the bound cholesterol is not absorbed, and out with the stool it goes.^{4, 19-22}

The Food and Drug Administration has reported that in recent studies, total cholesterol levels dropped between 0.5 percent and 2 percent for every gram of soluble fiber eaten per day.²³

High fiber intake can also significantly lower the risk of heart attack. In one study, men who ate the most fiber-rich foods (35 grams a day, on average) suffered one-third fewer heart attacks than those who had the lowest fiber intake (15 grams a day). In this study, each 10 grams of fiber added to the diet decreased the risk of dying from heart disease by 17 percent.²⁴

Diabetes?

There are two types of diabetes, aptly named Type 1 and Type 2.²⁵ Fiber is beneficial to both. In diabetes, glucose (sugar) builds up in the blood. When

glucose builds up in the blood instead of going into cells, the cells may be starved for energy. And, over time, high blood glucose levels can damage eyes, kidneys, nerves, and the heart.

Type 1 diabetes is usually diagnosed in children and young adults and was previously known as juvenile diabetes. In Type 1 diabetes, the body does not produce insulin. Insulin is necessary for the body to be able to use glucose. Glucose builds up in the blood instead of going into cells.²⁵ However, when people with diabetes eat the stickiest soluble fiber — the gums and pectins — these fibers coat the lining of the stomach and delay its emptying. As a result, sugar absorption is slowed after a meal and the amount of insulin needed is often lowered.^{6,26,27}

Fiber can actually help **prevent** Type 2 diabetes. This disease occurs most commonly in people who are overweight and middle-aged. Eating a high fiber diet can keep us away from those fried fatty foods that can pack on the pounds. High fiber diets can be loaded with fruits and vegetables, both low in calories and high in fiber.² Studies have shown people who eat a diet high in fiber have a very low risk of getting Type 2 diabetes.²⁸⁻³⁰

Obesity?

In fighting the battle of the bulge, fiber can be a real lifesaver. Eating large amounts of fiber keeps us from eating large amounts of high calorie and fat laden ice cream sundaes, fettuccini alfredo, and deluxe pizzas. High fiber food makes us feel fuller since fibers called cellulose and hemicelluloses take up space in the stomach. Our total food intake is less. Since high fiber foods are low in fat, not only do we take in less food volume, we take in less food fat, too.^{31,32}

The immune system?

A healthy immune system protects us from diseases we might catch, such as colds or the flu, as well as diseases that start in our own cells, such as cancer and autoimmune diseases. White blood cells are the soldiers of our immune

system. They fight both foreign invaders and cancer cells. Studies have shown eating a high fiber diet can actually make white blood cells stronger and more effective disease fighters.^{10,32,33}

Digestive tract health?

If we mostly eat foods low in fiber or with no fiber, the muscles that make up our colon walls don't have to work very hard to move the fecal matter or stool through the system. The colon walls get lazy, lose their shape, and weaken. Weak colon walls can develop pockets where stool gets caught and bacteria can grow, causing serious infection. A high fiber diet keeps our colon's muscles fit.^{11,36,37} Finally, constipation is most often caused by the lack of fiber. Fiber, especially insoluble fiber, keeps bowel movements large and soft. Large and soft stools are easier to pass and help prevent hemorrhoids, too.^{12,38}

While it's easy to see fiber can dramatically improve our health, it is still difficult to get enough. Many people find liquid fiber supplements gritty and unpleasant, and have a difficult time establishing a fiber routine. That's where

HEALTH FACT:

Adding supplemental chewable fiber tablets to our diet can provide incredible health benefits in a totally convenient form. Chewable fiber tablets containing inulin and fructooligosaccharides (FOS), two soluble dietary fibers, are packed with nutritional goodness.

chewable fiber tablets can help us out. By providing an easy to eat, high source of fiber, chewable tablets containing both soluble and insoluble fibers can really improve our health.

Q. How can a chewable fiber tablet improve our health?

Adding supplemental chewable fiber tablets to our diet can provide incredible health benefits in a totally convenient form. **Chewable fiber tablets** containing **inulin and fructooligosaccharides** (FOS), two soluble dietary fibers, are particularly valuable. Both inulin and FOS have been extensively studied in the laboratory and in clinical trials, too.

Inulin (not to be confused with insulin) and FOS are naturally occurring dietary fibers that come from a variety of vegetables, especially chicory root. Inulin and FOS have the most impact on the health of our colons. Because they are not absorbed from our stomach or intestines, they remain in the colon until they are excreted with stool. While inulin and FOS are in the colon, they increase the friendly bacteria, (commonly referred to as normal intestinal flora) by providing the nutrients they need to grow and multiply. Studies have shown that even inulin alone can increase the levels of friendly bacteria. These bacteria produce natural antibiotics that eliminate potentially harmful bacteria, including *Salmonella*, *Campylobacter*, and *E. coli*.³⁹ Researchers believe adequate and consistent amounts of healthy intestinal flora can also keep us from getting colon cancer.

In a clinical trial, FOS was studied in children and babies who became sick with a gastrointestinal disease common in little kids. Not only did FOS decrease the diarrhea and vomiting, but the children felt better and were able to return to daycare more quickly.⁴⁰ Unlike other fibers, inulin and FOS do not block, but rather **improve the absorption of calcium, magnesium, and iron**. Recently, human studies have determined adding inulin and FOS to the diet increased calcium absorption 20% to 58%.^{41,42}

The most recent study of inulin involved young girls aged 11 to 14. Adolescence is the optimal time to build bones. Just like saving money in a bank that builds interest, we store calcium in our bodies by building bones. If we don't get enough of this mineral from our diet, our bodies will take calcium right from our bones. The result can be osteoporosis, a serious disease that can result in brittle and porous bones that easily break.

In the study, 29 girls ate a fortified diet containing 1,300 mg of calcium during two three-week periods. During one of the three week periods, the girls were given 8 grams of inulin each day. During the other three-week period they were given a placebo of 8 grams of sucrose each day. The girl's calcium absorption and

calcium excretion were measured through urine tests. During the time period the girls received the inulin, their calcium increased significantly by 20%. That means these girls were able to store away 20% more calcium in their "bone banks."⁴¹

Q. How much fiber do we need each day?

The US Surgeon General, the American Heart Association, and the American Cancer Society all want us to eat 20-35 grams of fiber each day.^{43,1,44} We need to eat both kinds of fiber. Some simple ways to increase your fiber intake are to eat fresh fruit or vegetables rather than juice. Eat the skin and membranes of cleaned fruits and vegetables. Include bran, whole grain breads, and whole grain cereals in your diet daily.²

It's important to know many commercial oat bran and wheat bran products (muffins, chips, and waffles) actually contain very little bran. They also may be high in sodium, total unhealthy fat and saturated fat. Just because bread or muffins are brown doesn't mean they are good for you. Read the label carefully and check for the fiber content. If the product contains fiber, both the soluble fiber and insoluble levels of the product will be listed.²

Q. What should I look for in a chewable fiber tablet?

The chewable fiber tablet should contain at least 2 grams total of the soluble fibers inulin and fructooligosaccharides, and insoluble fibers. The preferred insoluble fiber is from oat bran.

Q. I have heard if you eat more fiber, you should drink more water. Do I need extra water with these types of chewable fiber tablets?

Drinking extra water is always a good choice. However, the above formula does not require you to drink water while you chew your fiber. Just chew and enjoy.

Q. How many chewable fiber tablets should I take each day?

If the chewable fiber tablet you are taking has 2 grams of combined fibers, 1-2 a day is best to start with. You can adjust this dosage according to your comfort levels and daily fiber intake. Build dosages slowly, so your body can

get used to the extra fiber. A large increase in fiber over a short period of time may result in bloating, loose stools, gas, and discomfort.²

Conclusion

Sometimes it's embarrassing to talk about our colon, bowel movements, intestinal gas, and other things associated with expelling waste material from our bodies. Yet these bodily functions are very important for the crucial role they play in our health. Many doctors believe all health issues are related in some way to the process of digestion. Fiber is an excellent way to dramatically improve this process, which is interconnected to every single function in our bodies.

We know we need fiber. We know fiber can drastically improve our health, but we also know fiber can be a tough nut to swallow and sometimes hard to find. Until now. With a few dietary changes like eating more fresh fruits and vegetables, having whole grain cereals or bread at breakfast, and chewing 2 or more chewable fiber tablets every day, we can reap the benefits of healthy fiber.

Adding chewable fiber tablets that have at least 2 grams of total fiber, including inulin and FOS, to our diet is an easy way to get our fiber and improve our health. Increasing fiber in this manner can help prevent constipation, cancer, diabetes, obesity, and heart disease.



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