

SECTION 2

Favoring Fiber

Earlier, we saw how low-fat foods can tame the hormones that fuel the growth of common forms of cancer. As you'll recall, cutting the fat from your diet reduces the amount of estrogen and testosterone in the bloodstream. But in addition to reducing how quickly your body *makes* hormones, you can also augment your body's ability to rid itself of them—that is, to eliminate waste hormones. It all depends on fiber. And fiber has other important benefits, too, as we'll see in this section.

Fiber is another word for plant roughage—the part of beans, grains, vegetables, and fruits that resists digestion. Fiber helps keep you regular by moving the intestinal contents along. But it has another equally important role. It helps us rid ourselves of all manner of chemicals—including hormones—that our bodies are anxious to dispose of.

This “waste disposal” system starts in your liver, which continuously filters your blood. As blood passes through the liver's network of tiny capillaries, liver cells remove toxins, cholesterol, medications, waste hormones, and whatever else your body figures it is better off without. These undesirables are then sent from the liver into a small tube, called the bile duct, which leads to your intestinal tract. There, fiber soaks up these chemicals and carries them out with the wastes.

Now, there is plenty of fiber in vegetables, fruits, beans, and whole grains. So if these are a big part of your diet, your “waste disposal” system works pretty well. The liver pulls hormones out of the bloodstream, they slide down the bile duct, fiber picks them up, and out they go.

But what happens if your lunch consisted of a chicken breast and a cup of yogurt? These products don't come from plants—and that means they have no fiber at all. Not a speck. So when your liver sends hormones or other chemicals into the intestinal tract, there is nothing for them to attach to. They end up being *reabsorbed back into your bloodstream*, and the whole process starts over again. This endless cycle—hormones passing from the bloodstream, through the liver, into the intestinal tract, and, unfortunately, back into the bloodstream—is called *enterohepatic circulation*. It keeps hormones circulating for longer than they should. Fiber stops this cycle by carrying hormones out once and for all.

Fiber versus Colon Cancer

Fiber has another function you should know about. It may reduce your risk of colon cancer. Fiber moves intestinal contents along, so that whatever carcinogens (that is, cancer-causing chemicals) may be lurking in your waste products are escorted out of the body more quickly.

Carcinogens don't just come from factory waste and air pollution. They are sometimes present in foods. For example, when chicken, fish, or red meat is cooked at a high temperature, cancer-causing chemicals called *heterocyclic amines* tend to form as the protein molecules and other parts of muscle tissue are deformed by the intense heat. Needless to say, that is another good reason to avoid these products. However, the bile your body produces to digest fats can also encourage the production of carcinogens. A high-fiber diet helps move these compounds out of your body.

Aim for 40 Grams per Day

So where do you find the fiber you need? Animal products don't have any. That goes for red meat, poultry, fish, eggs, and dairy products, which is why people who center their diets on these foods often struggle with constipation. On the other hand, plant products in their natural state have quite a lot of fiber, which is why vegetarians rarely have any need for laxatives. The first key to building a high-fiber diet is to eat plenty of vegetables, fruits, beans, and whole grains and to avoid animal products.

But a meaty diet is not the only wrong turn you can make. Let's say that for breakfast you had a choice between old-fashioned oatmeal with whole-grain toast on the one hand, and a bagel and jam on the other. The first breakfast is loaded with fiber. But a bagel has very little. It is made from white flour—that is, wheat flour whose fiber has been removed in the refining process. Refining makes it soft and white but leaves it almost devoid of fiber.

If you choose whole-grain bread instead of white bread, you'll get much more fiber. The same is true for brown rice, which retains the grain's tan-colored outer layer, as opposed to white rice, which has lost this high-fiber layer in the refining process.

Generally speaking, the most fiber-rich foods are beans and vegetables, followed by fruits and whole grains. Yes, breakfast cereals and other grain products advertise their high fiber content. But you'll find surprisingly large amounts of it in simple bean and vegetable dishes.

Fiber comes in two forms:

Soluble fiber is the kind that dissolves in water, in the way that oatmeal, for example, gets creamy as it cooked. There is also plenty of soluble fiber in beans, barley, and several other foods. Soluble fiber is especially known for its ability to control cholesterol levels.

Insoluble fiber, which is found in wheat, rice, and many other grains, is visibly different. Rice or wheat grains just don't get "gooey" the way oatmeal does. Insoluble fiber is especially helpful for keeping the intestinal contents moving along and fighting constipation.

From the standpoint of cancer prevention, you'll want to get both kinds. If your diet is rich in beans, vegetables, fruits, and whole grains, you'll get plenty of healthy fiber. An average American gets only 10–15 grams of fiber per day. Health authorities would like to see that number rise significantly. A sensible and easily reached goal is 40 grams per day. Having said that, you may wish to reach this goal gradually, rather than in one jump. It may take a few weeks for your digestive tract to get used to the change.

Whole grains, such as brown rice and old-fashioned oatmeal, are pretty easy to digest. You'll find that cruciferous vegetables, such as broccoli, cabbage, and cauliflower, are easier to digest if they are cooked until soft. If beans cause gas for you, start with smaller quantities, be sure they are well-cooked, and try different varieties.

Quick Fiber Check

The Quick Fiber Check is a handy little tool. Using its simple scoring concept, which takes only a minute or two to learn, you'll be able to estimate the fiber content of virtually everything in the grocery store and calculate your own fiber intake.

To check your meals, write down everything you eat or drink for one full day on the form that follows. Next to each food, jot in its fiber score, using the following guide:

Beans: For each half-cup serving of beans or lentils or any food that includes about this amount of beans or lentils as an ingredient, mark 7. One cup of soymilk or one-half cup of tofu rates 3.

Vegetables: For each one-cup serving of vegetables, mark 4. An exception is lettuce, for which one cup scores 2. A potato with skin scores 4; without the skin, it scores 2.

Fruit: For each medium piece of fruit (e.g., apple, orange, banana, one cup of apple sauce, a banana smoothie), mark 3. For one cup of juice, mark 1.

Grains: For each piece of white bread, bagel, or equivalent, score 1. Whole grain breads score 2. One cup of cooked pasta scores 2. One cup of rice scores 1 for white and 3 for brown. One cup of cooked oatmeal scores 4. Score 3 for typical ready-to-eat cereals, 1 for highly processed and colored cereals, and 8 for bran, or check package information.

Meat, poultry, or fish: Score 0. Animal products do not contain fiber.

Eggs or dairy products: Score 0.

Sodas, water: Score 0.

Quick Fiber Check

Food (one food or ingredient per line):

Fiber Score

Total

Interpreting Your Quick Fiber Check Score

Less than 20: You need more fiber in your diet. As it is, your appetite will be hard to control, and you may have occasional constipation. Boosting fiber will help tame your appetite and can cut your risk of many health problems.

20–39: You are doing better than most people in Western countries, but as you bring more fiber into your diet, you will find that it makes foods more satisfying and cuts your calorie intake a bit.

40 or more: Congratulations. You have plenty of healthy fiber in your diet. It tames your appetite and helps keep you healthy. Fiber also reduces your risk of cancer, heart disease, diabetes, and digestive problems.

High-Fiber Cooking

Beans Are the Fiber Champions

Beans are loaded with fiber. If you are using canned beans, you can reduce their sodium content by choosing reduced-sodium brands or draining the liquid and rinsing the beans before serving them. If you use dried beans, you'll avoid added sodium, although cooking is usually more time-consuming.

Taming the Wild Bean: Easing Digestion

If beans give you a bit of indigestion or gas, here are some tips that will solve this problem:

1. After soaking dried beans, drain them, and then cook them in fresh water. It may also help to add a pinch of baking soda to the soaking water.
2. Make sure the beans are thoroughly cooked. Adding a strip of kombu, a sea vegetable, to the beans during cooking can also be helpful.
3. Drain and gently rinse canned beans. This also decreases the amount of salt in some brands.
4. Start with modest servings. Also, some people notice that smaller beans are easier to digest, so try black beans, black-eyed peas, and lentils first, and then work your way up to pinto and fava beans.
5. Commercial enzyme products help in the digestion of complex carbohydrates. The most common and widely available product is called Beano. A few drops added to cooked beans right before eating them won't change the taste and may help in digestion.

Cooking Yield of Dried Beans

Variety	Water / Bean Ratio	Cooking Time After Soaking	Cooked Quantity of 1 Cup Dried Beans After Soaking
Black (turtle) beans	3:1	1_ hours	3 cups
Black-eyed peas	3:1	30 minutes	2_ cups
Chickpeas (garbanzos)	4:1	1_ hours	3 cups
Kidney beans	3:1	1 to 1_ hours	2_ cups
Lentils, brown	2:1	30 minutes	3 cups
Lentils, red	2:1	15 to 20 minutes	3 cups
Lima beans	3:1	1 hour	3 cups
Mung beans	3:1	45 minutes	3 cups
Navy (pea) beans	3:1	45 to 60 minutes	2_ cups
Pinto beans	3:1	45 minutes	3_ cups
Soybeans	4:1	2 hours	2_ cups

Source: *Moosewood Restaurant Low-Fat Favorites*, Clarkson Potter publishers, 1996

Recommended Recipes

- Basic Brown Rice (page 101)
- Quick Bean Burritos (page 121)
- Tomato Corn Salsa (page 85)
- Guacamole Plus (page 83)
- Calabacitas (page 103)

To Do This Week

Drop by any large grocery store, and take a look at the beans. You'll notice they are found in three different aisles. First, you'll find bags of dried beans in a

surprising range of varieties. Then, in the canned vegetables section, you'll find baked beans, limas, and other types. And in the "ethnic" or "international" aisle, you'll find Italian varieties (e.g., chickpeas, cannellini beans), Mexican refried beans, and perhaps other types. Select at least one new bean variety or product, and give it a try this week. If you're not too big on beans, start with small servings to avoid gassiness.

While you're there, pick up a package of whole-grain rice—that is, brown rice. Brown rice retains the natural grain fiber that is missing from white rice. Try the simple cooking method in the recipe section (Basic Brown Rice, page 101).