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What is fiber?

Fiber is basically a carbohydrate that cannot be digested by humans, It is found in plants we eat such as fruits, vegetables, whole grains, beans, nuts and seeds. Unlike most nutrients, it is not absorbed by our bodies but passes through the digestive tract largely intact. Yet fiber is very important to good digestive health and also protects against several serious diseases.

There are three types of dietary fiber:

Soluble fiber dissolves in water and turns into a type of gel during digestion. This slows the process of digestion and nutrient absorption.

Good sources of soluble fiber include:

- Oat bran
- Oatmeal
- Nuts and seeds
- Legumes (dried peas, beans, lentils)
- Apples and citrus fruits
- Vegetables such as potatoes

Insoluble fiber does not dissolve in water. Instead, it absorbs many times its weight in water. This creates a soft bulk and appears to speed up the passage of foods through the stomach and intestines. It also adds bulk to the stool.

Good sources of insoluble fiber include:

- Wheat, corn and rice bran
- Couscous
- Brown rice
- Wholegrain cereals and breads
- Dried beans and peas
- Nuts and seeds

Resistant starch is the part of starchy foods (approximately ten percent) which is tightly bound by fiber and resists normal digestion. Friendly bacteria in the large bowel ferment and change the resistant starch into short-chain fatty acids which are important to bowel health and may protect against colon cancer.

Examples of starchy foods include:

- Bread
- Cereals
- 1 cup wholegrain pasta (8g) + 3 servings of vegetables (6g) + 1 cup bean soup (6g) + 3

Servings fresh fruit (9g)

- 1 cup cooked oatmeal (4g) + ½ cup wholegrain pasta (4g) + 1/2 cup sunflower seed kernels (8g) + 3 servings of vegetables (6g) + .3 servings fresh fruit (9g)

How to increase your fiber intake and avoid constipation

When increasing your fiber intake, take it slowly. Add just a few grams more at a time to allow the intestinal tract to adjust. Abdominal cramps, gas, bloating and diarrhea or constipation may result if you increase fiber intake too fast. You should also increase the amount of fluid you drink; drink at least two liters of water daily as fiber absorbs water.

- Eat high-fiber breakfast cereals. Add 1-2 Tbsp of unprocessed bran and wheat germ for extra fiber, or try adding nuts, dried fruits and seeds. Eat wholegrain breads instead of white.
- Don't peel fruits and vegetables – much of the fiber content is in the skin. Snack on fruits, nuts, and seeds.
- Add bran (barley/wheat/rice) or soy grits to soups, casseroles, yogurt, desserts, cookies, cakes.
- Exercise regularly to strengthen the abdominal muscles and stimulate the gut.
- Read food labels for fiber content.
- Add beans to soups, stews and salads.
- Get plenty of fluids as fiber absorbs water!
- Eat bean or lentil based dishes in place of meat ones a couple of times a week.
- Eat whole fruits instead of drinking fruit juice.
- Snack on raw vegetables instead of chips, crackers, or chocolate bars.
- Experiment with international dishes that use whole grains and legumes as part of the main meal. For example, Dahl curries (lentils) and Tabouli salad (bulgur wheat).
- Avoid regular use of harsh laxatives as they can over stimulate the intestinal muscles and may make normal bowel activity impossible. It may take several weeks to restore bowel function of daily fiber) were 25 percent less likely to develop polyps than those eating fewer than 12 grams.

Heart disease - If you have a high intake of dietary fiber, your risk for heart disease can be significantly reduced. In one Harvard study, those who had a high dietary fiber intake had a 40 percent lower risk of getting heart disease than those with a low intake, the fiber in whole grains appears to be particularly beneficial. Several studies also suggest that higher intake of fiber may help prevent metabolic syndrome (a combination of medical disorders including obesity, insulin resistance, high blood sugar, dyslipidemia and high blood pressure).

Digestive disorders - Because insoluble fiber speeds up the passage of foods through the stomach and intestines, it helps to prevent and alleviate constipation, the fiber in wheat bran and oat bran is particularly effective. Fiber may also help reduce the risk of diverticulosis, a disease which involves inflammation of the bowel and affects a huge

percentage of the American adult population. Increased fiber consumption can also help to alleviate the symptoms of this disease.

Good nutrition. Many high-fiber foods are also rich sources of vitamins, minerals, and antioxidants, if you are eating enough fiber, you will inevitably also get more of these nutrients.

How much fiber do I need?

The recommended daily intake of fiber is 20-35g per day for adults, adolescents, and older children. The average American only gets 10-15g of fiber per day, Desirable fiber intake for children (under 18) is calculated by age + 5g. For example, a six-year old needs $6 + 5g = 11g$ of fiber per day.

It is possible to have too much fiber. Excess fiber can interfere with the absorption of minerals such as calcium, iron, magnesium and zinc and upset nutritional balance.

Combinations of foods that would provide you with enough fiber across the day include:

- High-fiber breakfast cereal (5g) ÷ 4 slices wholegrain bread (6g) + 3 servings fresh fruit (9g) + 1 medium potato with skin (4g)
- 1 cup brown rice (3.5g) + 3 servings of vegetables (6g) + ½ cup corn, peas or lentils (5g) + 1 ¼ oz almonds (5g) + 3 servings fresh fruit (9g)
- Rice
- Pasta
- Potatoes
- Legumes

Fiber and weight control

Fiber can assist weight control in sever & ways. Fiber-rich foods such as fruit, vegetables, potatoes, wholegrain breads and brown rice contain few calories for volume. Because they are bulky, they keep you feeling fuller for longer. Similarly, you're also inclined to eat less of high-fiber foods because they are so filling. Even the extra chewing time can contribute to feelings of satiety.

On the other hand, low-fiber foods such as candy and chips are more concentrated in calories and less filling. Therefore, you can easily overeat and consume excessive calories from low-fiber foods before your appetite is satisfied.

For example, compare an apple (high-fiber) and a glass of apple juice (low-fiber). Two or three apples are needed to produce one glass of apple juice. In the juicing process, all the fiber is removed and the sugar and calories become more concentrated. When you choose the apple juice instead of the apple, you consume more calories.

Why is fiber important?

Including fiber in your diet leads to many health benefits.

Type 2 diabetes - A high-fiber diet seems to reduce the risk for type 2 diabetes. Foods that are high in fiber often have a low glycemic index and thus help to regulate blood sugar levels. Low-fiber foods, on the other hand, are high on the glycemic index and cause big spikes in blood sugar levels. A diet low in cereal fiber and high in high-glycemic index foods can more than double the risk for the disease,

Cancer - Do high-fiber diets reduce the risk of colon cancer? Research suggests varying results. The most recent, large-scale study provides evidence in favor of fiber's protective role, observing that those eating a high fiber diet (36g or more