

Topics and Issues

Just For the Health of Pilots

Just About Everything You Need to Know About Fiber in Your Diet

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The subject of dietary fiber sounds about as dull as flossing your teeth, judging an accordion competition, or updating your Jeppesen charts. But, fiber is the bedrock of all good nutrition.

The perfect diet: To meet the dietary guidelines for Americans, the U.S. Department of Agriculture and the Department of Health and Human Services recommended that most of the calories come from whole grain products, fresh fruits and vegetables, lowfat milk products, lean meats, fish, poultry, and dry beans. Fewer calories should come from fats and sweets.

This classic diet contains lots of fiber, a substance found only in plant foods, and is mostly indigestible. The majority of our fiber should come from whole-grain breads and cereals, beans, peas, and fresh vegetables and fruits. Every item in this perfect diet can be found in a supermarket.

There are two types of fiber, classified by whether they dissolve in water: soluble fiber (such as oatmeal) and insoluble fiber (such as All-Bran). The average American diet contains 10 grams or less of fiber, but we need at least 25-30 grams per day for optimum health.

What are the benefits of fiber?

- Blood sugar regulation: Soluble fiber allows a slow, gradual absorption of sugar from the intestines, preventing jolting highs and lows of the blood glucose level. Helps prevent maturity-onset diabetes and is an essential part in the management of diabetes.
- Obesity control: High fiber diets help you feel full, slow the emptying of your stomach, and contain fewer calories. High fiber diets make you full, not fat. Controlling obesity reduces the incidence of



cancer, heart disease, stroke, diabetes, and high blood pressure.

- Cancer prevention: High fiber diets reduce the risk of cancer of the breast, bladder, and prostate. The International Journal of Cancer (April 12, 1999) reaffirmed the reduced incidence of cancer of the colon and rectum associated with a high fiber diet. Soluble fiber soaks up water and makes stools bulky, causing carcinogens, bile acids, and cholesterol to pass rapidly through the intestines.
- Less constipation, diverticular disease, irritable bowel syndrome, and hemorrhoids: Soft, formed stools solve the problem of constipation ("irregularity" is a wuss word). You are getting enough fiber if your stools float. (Easier gauge than counting fiber grams.) Fiber adds lots of water to hard stools, making them softer, lighter, and much easier to pass. Irritants, wastes, toxins, and carcinogens (cancer-inducing agents) have less time in contact with the intestinal wall.
- Cholesterol reduction: This is one of the most important effects of a high fiber diet. Cholesterol is an ingredient of bile, which is used in the digestion of certain foods. A large portion of bile (bile acids) is excreted in the intestines and then reabsorbed to make more cholesterol. Soluble fiber sops up these bile acids and then excretes them in the stool. This can-with a decrease in dietary saturated fat-significantly reduce elevated cholesterol levels.

The best way to increase fiber is to make plant foods the foundation of your diet. A good source of fiber contains at least two grams per serving. Most packaged foods indicate the amount of fiber on the label. Plant foods usually have both kinds of fiber, but here are some of the important ones of the soluble and insoluble type:

Soluble fiber: Beans and oatmeal head the list. Other good sources are prunes, peas, rice bran, corn, apple pulp, bananas, pears, citrus fruits, carrots, strawberries, raspberries, and blueberries. Soluble fiber absorbs many times its weight in water and forms a viscous paste-like substance, making a great "mop" for clearing cholesterol-producing substances from the stool.

Insoluble fiber: Wheat bran and whole-grain cereals and breads are the mainstays. Also included are most leafy vegetables (such as lettuce, spinach, and cabbage), apple skins, beets, carrots, cauliflower, Brussels sprouts, broccoli, turnips, beans, and peas. (As you can see, there is some overlap, as most plant foods contain both soluble and insoluble fiber-beans being the main one.) Insoluble fiber softens stools.

Fiber Facts

- High fiber foods are naturally low in fat and cholesterol.
- Instead of fruit juice, eat the whole fresh fruit, including thin skins and pulp.
- It's very important to increase your fiber intake gradually to avoid bloating, gas, and abdominal discomfort-go slowly.
- You absolutely must drink plenty of water; fiber soaks up loads of it. Avoid "sludge" in your intestinal tract!
- Canned beans produce less gas, but are often loaded with salt. People with high blood pressure who are sensitive to salt should read all labels carefully and avoid foods with high sodium.
- One serving of All-Bran supplies almost half the daily requirement of fiber.
- Read labels carefully. "Organic" or "natural" really mean nothing, as all foods are both organic and natural. "Lite" and "light" also mean nothing. "Reduced fat" may

only mean that some of the fat has been replaced with sugar. "No fat" could be a label for a bowl of pure sugar. Also, read the portion sizes. Some foods are so high in fat, sugar, or salt that the portion recommended may be only a tiny amount. (Called portion distortion.)

- No laxatives are ever needed if you are on a high fiber diet.
- Get your fiber from foods, not from concentrates sold in the pharmacy. Foods contain not only fat, protein, carbohydrate, and fiber, but also micronutrients such as vitamins, minerals, and hundreds of phytochemicals (from "phyto," meaning plant) necessary for good nutrition and health.

In planning your lifetime diet, stick to the fundamentals recommended by all the respected health organizations. Avoid quack diets and fad diet books. (Three of the current books recommend:

1. nothing but cabbage soup,
2. special foods according to your blood type, and
3. Certain foods at different times of the day.)

Go figure.

Yours for good health and safe flying,

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Dr. Stoutt is a partner in the Springs Pediatrics and Aviation Medicine Clinic, Louisville, Ky., and he has been an active AME since 1960. No longer an active pilot, he once held a commercial pilot's license with instrument, multiengine, and CFI ratings.

***Note:** The views and recommendations made in this article are those of the author and not necessarily those of the Federal Aviation Administration.*

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