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Inside News: 3 Living With Psoriasis... 4 Rice & Diabetes... Touch Affects Impressions, Decisions... HIV/AIDS Research

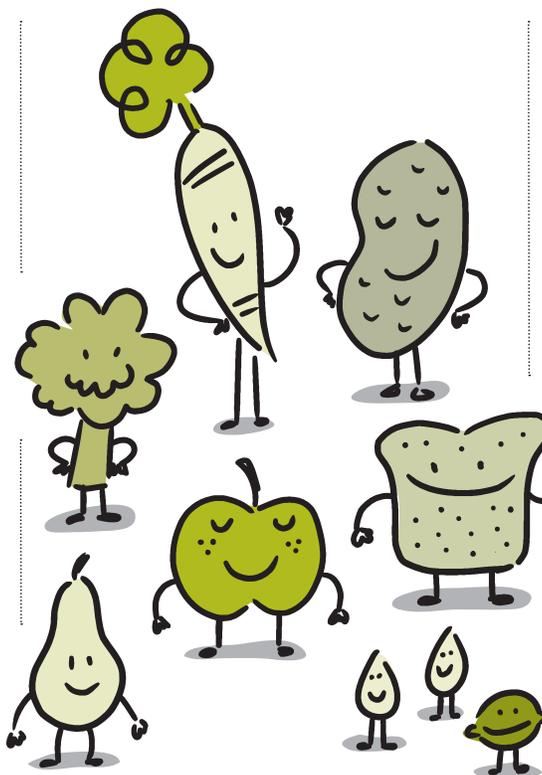
Rough Up Your Diet Fit More Fiber Into Your Day

Fiber—you know it's good for you. But if you're like many Americans, you don't get enough. In fact, most of us get less than half the recommended amount of fiber each day.

Dietary fiber is found in the plants you eat, including fruits, vegetables and whole grains. It's sometimes called bulk or roughage. You've probably heard that it can help with digestion. So it may seem odd that fiber is a substance that your body can't digest. It passes through your digestive system practically unchanged.

"You might think that if it's not digestible then it's of no value. But there's no question that higher intake of fiber from all food sources is beneficial," says Dr. Joanne Slavin, a nutrition scientist at the University of Minnesota.

Fiber can relieve constipation and normalize your bowel movements. Some studies suggest that high-fiber diets might also help with weight loss and reduce the risk for



cardiovascular disease, diabetes and cancer.

The strongest evidence of fiber's benefits is related to cardiovascular health. Several large studies that followed people for many years found that those who ate the most fiber had a lower risk for heart disease. The links between fiber and cardiovascular health were so consistent that these studies were used by the Institute of Medicine to develop the Dietary Reference Intakes for fiber.

Experts suggest that men get about 38 grams of fiber a day, and women about 25 grams. Unfortunately, in the United States we take in an average of only 14 grams of fiber each day.

High fiber intake seems to protect against several heart-related prob-

lems. "There is evidence that high dietary fiber consumption lowers 'bad' **cholesterol** concentrations in the blood and reduces the risk for developing coronary artery disease, stroke and high blood pressure," says Dr. Somdat Mahabir, a nutrition and disease expert with NIH's National Cancer Institute.

Fiber may also lessen the risk for **type 2 diabetes**, the most common form of diabetes. Fiber in the intestines can slow the absorption of sugar, which helps prevent blood sugar from spiking. "With diabetes, it's good to keep glucose levels from peaking too much," explains Dr. Gertraud Maskarinec of the University of Hawaii.

In a recent NIH-funded study, Maskarinec and her colleagues followed more than 75,000 adults for 14 years. Consistent with other large studies, their research found that diabetes risk was significantly reduced in people who had the highest fiber intake.

"We found that it's mostly the fiber from grains that protects against diabetes," Maskarinec says. However, she notes that while high fiber intake may offer some protection, the best way to reduce your risk of diabetes is to exercise and keep your weight in check.

Weight loss is another area where

continued on page 2



Definitions

Cardiovascular

The system of heart and vessels that circulates blood through the body.

Cholesterol

A waxy, fat-like substance that your body needs to function normally. A high level in the blood, however, is a major risk factor for heart disease.

Type 2 Diabetes

A disease in which blood levels of glucose—a type of sugar—are too high.

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continued from page 1

fiber might help. High-fiber foods generally make you feel fuller for longer. Fiber adds bulk but few calories. "In studies where people are put on different types of diets, those on the high-fiber diets typically eat about 10% fewer calories," says Slavin. Other large studies have found that people with high fiber intake tend to weigh less.

Scientists have also looked into links between fiber and different types of cancer, with mixed results. Much research has focused on colorectal cancer, the second-leading cause of cancer death nationwide. Protection against colorectal cancer is sometimes stronger when scientists look at whole-grain intake rather than just fiber. One NIH-funded study of nearly 500,000 older adults found no relationship between fiber and colorectal cancer risk, but whole-grain intake led to a modest risk reduction.

Different types of fiber might affect your health in different ways. That's why the Nutrition Facts Panels on some foods list 2 categories of fiber: soluble and insoluble. Soluble fiber may help to lower blood sugar and cholesterol. It's found in oat bran, beans, peas and most fruits. Insoluble fiber is often used to treat or prevent constipation and diverticular disease, which affects the large intestine, or colon. Insoluble fiber is found in wheat bran and some vegetables.

Still, experts say the type of fiber you eat is less important than making sure you get enough overall. "In general, people should not be too

**Web Links**

For more about fiber and health, see our links online:

<http://newsinhealth.nih.gov/issue/Aug2010/Feature1>

concerned by the specific type of fiber," says Mahabir. "The focus should be more on eating diets that are rich in whole grains, vegetables and fruits to get the daily fiber requirement."

Whole grains, fruits and vegetables are also packed with vitamins and other nutrients, so experts recommend that you get most of your fiber from these natural sources. "Unfortunately, a lot of people tend to pick low-fiber foods. They go for white bread or white rice. Most of the processed foods—foods that are really convenient—tend to be low in fiber," says Slavin.

For people who have trouble getting in enough fiber from natural sources, store shelves are filled with packaged foods that tout added fiber. These fiber-fortified products include yogurts, ice cream, cereals, snack bars and juices. They generally contain isolated fibers, such as inulin, polydextrose or maltodextrin. These isolated fibers are included in the product label's list of ingredients.

The health benefits of isolated fibers are still unclear. Research suggests they may not have the same effects as the intact fibers found in whole foods. For instance, there's little evidence that isolated fibers help lower blood cholesterol, and they have differing effects on regularity. On the plus side, some studies

**Wise Choices
Tips to Get More
Fiber in Your Diet**

- **Bulk up your breakfast.** Choose a high-fiber cereal (5 or more grams per serving) or make a bowl of oatmeal and top it with nuts and fruit.
- **Switch to whole grains.** Look for bread that lists whole-grain flour as the first ingredient. Experiment with barley, wild or brown rice, quinoa, whole wheat pasta and bulgur.
- **Add a vegetable.** Keep a bag of frozen mixed vegetables, spinach or broccoli florets for a quick addition to any pasta sauce or rice dish. Start dinners with a tossed salad.
- **Don't forget legumes.** Try peas, different kinds of beans (pinto, kidney, lima, navy and garbanzo) and lentils.
- **Snack on fruit, nuts and seeds.** Grab a piece of fruit such as an apple, pear or banana. Keep some almonds, sunflower seeds and pistachios handy. Low-fat popcorn or sliced vegetables and hummus also make a great snack.

suggest that inulin, an isolated fiber from chicory root, might boost the growth of good bacteria in the colon.

The bottom line is that most of us need to fit more fiber into our day, no matter what its source. "It would be great if people would choose more foods that are naturally high in fiber," Slavin says.

Increase your fiber intake gradually, so your body can get used to it. Adding fiber slowly helps you avoid gas, bloating and cramps. Eat a variety of fruits, vegetables, whole grains and nuts to add a mix of different fibers and a wide range of nutrients to your diet. A fiber-rich diet can help your health in many ways. ■

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Itchy, Scaly Skin?

Living With Psoriasis

The thick, red, scaly skin of psoriasis can be not only painful but also embarrassing. You may have it or know someone who does. Psoriasis affects more than 3% of the U.S. population. August is Psoriasis Awareness Month. It's a good time to learn about this uncomfortable illness.

Most people get psoriasis on their elbows, knees, scalp, back, face, palms and feet. It can show up on other parts of the body, too, including fingernails, toenails, genitals and inside the mouth. Besides being uncomfortable, these patches of skin can make you self-conscious about the way you look.



Wise Choices Treating Psoriasis

Doctors often use a trial-and-error approach to find a psoriasis treatment that works. These include:

- **Topical Treatments.** Ointments or creams applied directly to the skin. These include corticosteroids, vitamin D3, retinoids, coal tar or anthralin.
- **Light Therapy.** Both natural light from the sun and artificial ultraviolet light can reduce symptoms. Light therapy should be administered by a doctor, since spending time in the sun or a tanning bed can cause skin damage and increase the risk of skin cancer.
- **Systemic Treatment.** Doctors may prescribe systemic treatment—medicines taken by pill or injection.
- **Combination Therapy.** Combining different treatments can prove more effective.
- **Psychological Support.** People with moderate to severe psoriasis may benefit from counseling or a support group.

"Psoriasis can be socially isolating for many people," says Dr. Joel Gelfand, a psoriasis researcher at the University of Pennsylvania. "Often, people can become depressed."

Psoriasis is not a disease you can catch from others. It's caused by an overactive **immune system**. The immune system essentially raises false alarms, which lead to **inflammation** and a rapid turnover of skin cells.

Normally, skin cells take about a month to grow deep in your skin and then rise to the surface. In psoriasis, the cells rise in a matter of days, before they have a chance to mature. The new cells and existing cells all pile up on the surface of the skin. The result is redness, irritation and discomfort.

Unfortunately, psoriasis can affect more than just the skin. It causes some people to have swollen joints and arthritis. Studies have also linked psoriasis to higher risks for diabetes, obesity, abnormal cholesterol, strokes and heart attacks.

"For these reasons, it's especially important for psoriasis patients to get their blood pressure checked, quit smoking if they smoke and maintain a healthy body weight," Gelfand says.

Researchers are continuing to look into the causes of psoriasis. The **genes** you inherit affect your chances of getting the disease, but other factors are also involved, too. "We're understanding more about psoriasis every day," Gelfand says.

Symptoms of psoriasis can come and go. There are several forms of psoriasis—each with a distinctive appearance—and some people have more severe cases than others.



Web Links

For more about psoriasis, see our links online:

<http://newsinhealth.nih.gov/issue/Aug2010/Feature2>



Anyone with psoriasis should pay attention to stress, dry skin, infections and certain medications, as these factors could make the condition worse. Your doctor can give you some guidance.

The good news, says Gelfand, is that the past decade has brought about more treatments for psoriasis than ever before. Doctors now have many more options to help their patients manage and cope with the disorder. ■



Definitions

Immune System

The system that protects your body from viruses and other microscopic threats.

Inflammation

A protective response of the body, usually to infection or injury, that can cause redness and swelling.

Genes

Stretches of DNA, a substance you inherit from your parents.



Health Capsules

For links to more information, see these stories online:
<http://newsinhealth.nih.gov/issue/Aug2010/Capsule1>

Think Twice Before Eating White Rice?

Eating more white rice raised the risk for type 2 diabetes in a large clinical study, whereas eating more brown rice reduced the risk.

Type 2 diabetes is one of the fastest growing health problems in Americans of all ages. Being overweight or inactive increases your chances of developing the disease. Research suggests that eating more refined foods, including white bread and sugary foods, might also raise the risk.

The new study followed about 200,000 people for up to 22 years. The people who ate at least 5 weekly

servings of white rice had a 17% higher risk than those who ate less than 1 serving per month.

On the other hand, people who ate at least 2 servings of brown rice a week had an 11% lower risk of developing type 2 diabetes than those who ate less than 1 serving a month.

"We believe replacing white rice and other refined grains with whole grains, including brown rice, would help lower the risk of type 2 diabetes," says study co-author Dr. Qi Sun of Brigham and Women's Hospital in Boston. ■

Touch Affects Impressions, Decisions

Something you're touching can influence how you feel about unrelated events, situations and objects without you realizing it, according to new research.

From infancy, we use our hands to explore and interact with our environment. Our hands play an important role in helping us to learn, communicate and develop social bonds. Given how important touch is to our development, NIH-funded researchers designed a series of experiments to test whether the weight, texture and hardness of an object can affect our judgment about unrelated things.

Weight is often associated with seriousness and importance—for example, a "weighty matter" or "light reading." The researchers gave people

either light or heavy clipboards and asked them to evaluate resumes from a job candidate. Those holding heavy clipboards rated the candidates better overall and more serious about the position.

Roughness and smoothness are associated with difficulty and harshness; think of "a rough day" or "smooth sailing." The researchers asked people to solve a puzzle with rough or smooth pieces. Then they had them read about a social interaction. The people who'd done the rough puzzle thought the interaction was more difficult and harsh than those who'd done the smooth puzzle.

Hardness and softness are associated with stability, rigidity and strictness—as in being "hard-



Featured Web Site Advances in HIV/AIDS Research

www.nih.gov/science/hiv/index.htm

Researchers have learned a lot about the human immunodeficiency virus (HIV) and the disease it causes, AIDS. Still, there is much to learn. NIH scientists continue to explore new ways to prevent and treat infection. Find out more about their discoveries and how new research might improve the health of people all around the world.

Home > Research, Training & Scientific Resources

Advances in HIV/AIDS Research

Quick Links

- Science Highlights
- Science Education
- Research in NIH Labs & Clinics
- Research Training
- Library Resources
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- Clinical Research Support
- Computational Biology
- Other Federal Resources
- Basic Behavioral/Social Research (BBSR)

Learn More About HIV/AIDS Research

For an update on what medical science is doing to fight the global HIV/AIDS pandemic, read a featured article by NIH Director Francis S. Collins and IACD Director Anthony S. Fauci, AIDS in 2010: How We're Living with HIV (NIJ) (PDF - 11 kb)

Over the past several decades, researchers have learned a lot about the human immunodeficiency virus (HIV) and the disease it causes, acquired immunodeficiency syndrome (AIDS). But still more research is needed to help the millions of people whose health continues to be threatened by the global HIV/AIDS pandemic.

At the National Institutes of Health, the HIV/AIDS research effort is led by the National Institute of Allergy and Infectious Diseases (NIAID). A vast network of NIAID-supported scientists, located on the NIH campus in Bethesda, MD, and at research centers around the globe, are exploring new ways to prevent and treat HIV infection, as well as to better understand the virus with the goal of finding a cure. For example, in recent months, NIAID and its partners made progress toward finding a vaccine to prevent HIV infection. Check out other promising areas of NIAID-funded research on HIV/AIDS at: <http://www.niaid.nih.gov/topics/hiv/aids/Pages/default.aspx>

Other NIH institutes, including the Eunice Kennedy Shriver National Institute of Child Health and Human Development and National Institute on Alcohol Abuse and Alcoholism, also support research to better control and ultimately end the HIV/AIDS pandemic. Some of these researchers have found a simple, cost-effective way to cut HIV transmission from infected mothers to their breastfed infants. Others have developed an assay to help measure the role of genital ulcers in the spread and death of people with HIV/AIDS.

Find out more about these discoveries and what they mean for improving the health of people in the United States and all around the globe.

Recently, scientists developed a simple, cost-effective way to cut HIV transmission from infected mothers to their breastfed infants. Credit: NIAID, NIH

hearted" or "soft on someone." In one experiment, people asked to feel a hard block judged others to be more rigid and strict than those who'd felt a soft blanket. Those sitting in hard chairs were less willing to compromise on the price of a car than those sitting in soft chairs.

"The old concepts of mind-body dualism are turning out not to be true at all," says Dr. John A. Bargh of Yale, one of the scientists. "Our minds are deeply and organically linked to our bodies." ■

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