



*Palo Alto Medical
Foundation*

A Sutter Health Affiliate

South Asians and Pre-diabetes

Pre-diabetes is when your blood sugar is higher than normal but not high enough to diagnose you with diabetes. If you have pre-diabetes, you view this condition as an opportunity to make immediate lifestyle changes to prevent the onset of diabetes. Read the following information and see our video on pre-diabetes at www.pamf.org/southasian/video/prediabetes.html.

How is pre-diabetes measured?

There are two types of tests that diagnose pre-diabetes. The most common test is a fasting blood sugar (FBS), which is typically measured the morning after an overnight fast (10 to 12 hours). If your FBS is less than 126 but more than 99 mg/dL, then you have pre-diabetes. Specifically, you have impaired fasting glucose or IFG, which is one type of pre-diabetes.

The other form of pre-diabetes is measured by a specialized test called a glucose tolerance test. This is a test where you drink a sugar sweetened drink that tastes like orange soda and then you have your blood sugar checked two hours later. If your blood sugar is 140 to 199 mg/dl, then you have impaired glucose tolerance or IGT.

In summary, having IFG or IGT means you have pre-diabetes.

Why is pre-diabetes common in South Asians?

South Asians have a very high prevalence of diabetes, so it makes sense that pre-diabetes is epidemic in this population. A combination of genetics, a diet that is high in refined carbohydrates (such as white rice, breads and sweets) and a sedentary lifestyle are major contributing factors. Excess fat, particularly around the stomach, also puts South Asians at higher risk.

Do all individuals who get pre-diabetes eventually become diabetic?

No. Not all pre-diabetics have the same risk of becoming diabetic. Some will never develop diabetes while others will inevitably become diabetic. The more diabetes risk factors you have, the greater your chances of becoming diabetic. Some of the risk factors that increase your chances of developing diabetes are listed below.

- Increased weight, especially around your stomach (a BMI of 23 or higher is abnormal for South Asians)
- A history of diabetes in your parents, siblings or your children
- High triglycerides (type of cholesterol)
- Low HDL (healthy, protective cholesterol)
- High blood pressure
- Diabetes during pregnancy (called gestational diabetes)

How can I prevent pre-diabetes from becoming diabetes?

Many of the diabetic risk factors mentioned above are preventable. Below are some of the primary ways South Asians can reduce their chance of becoming diabetic.

- **Lose weight.** The BMI (body mass index) cutoff has been lowered to 23 for South Asians in comparison to 25 for the general population. To calculate your South Asian adjusted BMI, visit www.pamf.org/southasian/healthy/screening/bodysize.html.
- **Exercise regularly.** Aim for a minimum of 30 minutes of aerobic exercise at least five times per week. For tips on exercise, refer to www.pamf.org/southasian/healthy/fitness.html.
- **Increase overall fiber intake.** This should be a primary dietary goal for South Asians (*see separate section below*).
- **Reduce white rice intake.** This is a major cause of elevated triglycerides in the South Asian diet. Healthier alternatives are brown rice, whole grain couscous, quinoa, bulgur or other healthier grains. Visit www.pamf.org/southasian/video/grains.html for suggestions.
- **Replace starchy vegetables** such as potatoes, corn, peas and winter squash with less starchy vegetables such as spinach, broccoli, carrots and green beans. Sweet potatoes are a healthier alternative to white potatoes.
- **Choose beverages wisely.** Soft drinks, sugar sweetened juices, lassi and even frequent cups of coffee or tea with added sugar can raise blood sugar levels. Make water your primary beverage.

Fiber: A South Asian's Best Friend

A high-fiber diet can reduce the risk of many of the conditions South Asians are at risk for, including diabetes, high cholesterol and heart disease. A high-fiber diet also reduces the risk of cancer, promotes weight loss and optimizes digestive health. All South Asians should aim for at least 30 grams of fiber each day, which is very easy to achieve. Below are some tips for increasing fiber in your diet.

- **Cereal:** Choose a cereal with at least 5 grams of fiber per serving. Some brands have more than 10 grams per serving. Steel cut oatmeal

(cooks quicker when soaked overnight) is better than rolled oats. Beware of added sugar with many varieties of flavored instant. Add toppings such as berries, nuts, raisins, flaxseed or wheat bran to further increase fiber content.

- **Breads:** Replace naans and puris with rotis or chapatis made with 100-percent whole wheat flour. Store-bought breads should list 100-percent whole wheat in the ingredients and contain at least 3 to 4 grams of fiber per slice.
- **Replace white rice:** White rice is stripped of fiber and raises blood sugar and triglycerides. Healthier high-fiber alternatives are brown rice, whole grain couscous, quinoa, bulgur or other healthier grains. Grains such as couscous and quinoa not only have more fiber, but also cook quickly and go well with South Asian cuisine.
- **Fruits and vegetables:** Eat plenty of these throughout the day to boost fiber intake. Each meal should be accompanied by a fruit and vegetable with additional servings between meals. Remember that fruits such as watermelon, grapes, mango and pineapple are high in sugar.
- **Beans, peas and lentils:** These are a staple of South Asian cuisine and are high in fiber and protein. Try to eat more meals include these ingredients.
- **Snacks:** Choose high-fiber snacks such as fruits, vegetables (carrot sticks), whole wheat crackers, nuts, seeds and low-fat popcorn. Keep track of calories when snacking, especially with nuts.
- **Toppers and mixers:** Crushed bran cereal, flaxseed, unprocessed wheat bran and chopped or ground nuts can be mixed into baked products or used as toppings to increase the fiber content of your favorite foods and snacks.
- **Supplements:** Getting fiber from natural foods is preferred. However, supplements such as Metamucil or Citrucel are also effective ways of getting fiber into your diet.

Side Effects

Adding too much fiber too quickly to your diet can cause increased gas, abdominal bloating and cramps. Increase fiber intake gradually over a few weeks and drink plenty of water to soften your stools and prevent constipation.

Visit www.pamf.org/prana for more information on South Asian health.