

Push Away Prediabetes

Simple steps to
STOP
sugar surges.

By Fehmida Zakeer

During a routine health checkup, Joanne (name changed) discovered that her blood sugar was higher than normal. She was 40 years old and had required insulin injections for gestational diabetes during her two pregnancies. Both times, following delivery, her blood sugar levels returned to normal. Considering Joanne's history, her physician advised a reduced-calorie, high-protein diet, along with daily 30-minute swimming sessions. Within six months, her blood sugar once again dropped to normal levels.

Prediabetes is a condition in which blood sugar is higher than normal, but not high enough for a diagnosis of type 2 diabetes. About 54 million people in the United States have prediabetes, according to the American



Risk Factors for Prediabetes

- Age above 45
- Family history of diabetes
- High blood pressure
- High levels of LDL (bad cholesterol) and low levels of HDL (good cholesterol)
- Overweight, with a BMI higher than 25
- Women with PCOS, gestational diabetes, multiple pregnancies
- Sedentary lifestyle, smoking, excessive alcohol intake
- African Americans, Pacific Islanders, Latinos, Native Americans, Asian Americans

Diabetes Association. The Diabetes Prevention Program (DPP) Study, conducted over a three-year period at 27 centers around the country and reported in the *New England Journal of Medicine* in 2002, led researchers to determine conclusively that lifestyle modifications, along with medications (in some cases), can help reverse prediabetes and restore normal blood sugar levels. The DPP trial showed that lifestyle changes—like 30 minutes of brisk walking five days a week along with modest weight loss (5 to 7 percent of body weight)—decreased the risk of progression to diabetes by 58 percent, while the drug tested in the study provided a 30 percent decrease in risk.

Prediction of an Imbalance

People of all races and ages are susceptible to prediabetes, although it is more common among Latinos, African Americans, Asian Americans, Native Americans and Pacific Islanders. According to Paula S. Yutzy, a registered nurse and the director of diabetes education at the Diabetes Center of Mercy Medical Center in Baltimore, "Anyone who has a family history of type 2 diabetes, is overweight and has high blood pressure or high cholesterol needs screening for prediabetes."

Ann G. Kulze, M.D., author of *Dr. Ann's 10-Step Diet* (Top Ten Wellness and Fitness, 2004) says, "According to recent reports, an astounding 40 percent of Americans above the age of 40 are prediabetic. Dietary and lifestyle factors are responsible for the majority of cases of prediabetes."

Regular exercise is vital for keeping healthy blood glucose levels. Try 30 minutes of aerobic activity five days a week and 20 to 30 minutes of weight-bearing exercise two to three days a week.



Push Away

Kulze adds, "Being overweight (especially in the abdominal area) is the single most common risk factor for the development of prediabetes, followed by physical inactivity and hereditary factors." Diets high in trans fats, refined carbs, red meat and sugar-sweetened beverages also have been associated with impaired glucose tolerance, also known as prediabetes and type 2 diabetes, she explains.

"Women with gestational diabetes have about a 50 percent

chance of developing diabetes in the five to 10 years after the pregnancy," Yutzy says. "This is why they should be checked for diabetes at the eight-week checkup and yearly after that." Obesity and age further increase the risk, she says.

The most worrisome fact about prediabetes is that changes to the heart and eyes are already taking place, paving the way for more complications later. "Studies show that any level of fasting blood

The Herbal Connection

Many herbs have been used to regulate blood sugar levels in the traditional medicine systems of cultures around the world. Charlene Kannankeril, a naturopathic physician in Washington, D.C., says that it is "absolutely possible to regulate blood sugar through herbal treatment." As with any other medicine, Kannankeril says, "botanical medicine does have its own precautions. When taking any of these herbs, it is important to monitor your own blood sugar."

Note: Do not take herbs for diabetes without the advice of a health-care provider, particularly if you also are taking a pharmaceutical medication.

Gymnema (*Gymnema sylvestre*). The sugar-lowering capacity of this herb has been studied since the late 1920s. It is important in Ayurveda for its capacity to control the undesirable increase of blood sugar in blood. "Gymnema curbs the sweet tooth, since one of its actions is interfering with the body's ability to taste sweet," Kannankeril says. "If you eat a cookie and it doesn't taste sweet, you're less likely to eat it again when you have a sugar craving."

Bitter melon (*Momordica charantia*)



Bitter melon

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contains flavonoids thought to be responsible for its hypoglycemic effects. Plant extracts fed to animals during experimental studies have shown evidence of its beneficial action in lowering blood sugar. Mona Morstein, supervising physician at the Southwest Naturopathic Medical Center in Scottsdale, Arizona, says, "The bitter taste is unpalatable for many and hence a supplement extract works fine."

Fenugreek (*Trigonella foenum-graecum*), taken with meals, has been shown in studies to ensure a slow and steady absorption of sugar by the body and also to promote the secretion of insulin when sugar levels threaten to spike above normal.

Cinnamon (*Cinnamomum* spp.) has been credited with reducing not only blood sugar, but also harmful cholesterol and triglycerides.

Ginseng (*Panax ginseng*, *P. quinquefolius*), has been shown in several studies to reduce blood sugar.

Onion and garlic (*Allium cepa* and *A. sativum*), well-known for their anti-inflammatory properties, also contain compounds that help lower glucose levels in diabetics, increase the secretion of insulin and slow down its degradation.

glucose above 99 mg/dL is associated with long-term damage to the body, especially the cardiovascular system," Kulze says. The health implications from full-blown diabetes include kidney ailments, sight problems, impotence, heart conditions and vascular disorders. These lead to a diminished quality of life and ultimately fatality. "The important fact to consider is that a majority of these can be prevented by maintaining a healthy body weight, eating right and getting adequate physical activity," Kulze says.

Nutritious Platter

"Limiting sugar and sweets is one of the primary dietary recommendations in the treatment of prediabetes," Kulze says. "Consumption of 'bad,' white carbohydrates results in surges of blood glucose and insulin

that over time can lead to the development of prediabetes in carbohydrate-sensitive and insulin-resistant individuals." Carbs to avoid include the highly refined, high-glycemic-index options like white flour products, white rice, white potatoes, sugar and products containing them.

Kulze recommends substitution of high-glycemic foods with carbohydrates of a low to moderate glycemic index, like non-starchy vegetables, some fruits, beans and whole grains. "Also strictly avoid trans fats (hydrogenated oils, shortening, stick margarine) and minimize saturated fats (fatty cuts of meat, butter, full-fat dairy products)," she says. "Consume more of the monounsaturated fats like canola oil, extra virgin olive oil, nuts, seeds, avocados and omega-3 fatty acids present in oily fish. Omega-3 fatty acids seem to provide some



At the grocery store, shop in the produce section (broccoli, dark leafy greens, berries, cherries, apples and pears are the best bets) and avoid highly refined and processed white foods—sugar, flour, rice and potatoes.

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Herbs Health

Being overweight is the most common risk factor for prediabetes. Doctors often recommend reduced-calorie diets and daily exercise to bring patients to a healthy weight and their blood sugar to normal levels.

protection against insulin resistance.”

Even when including lots of vegetables and fruits in the diet, it is important to avoid the higher-glycemic varieties like potatoes and parsnips, and the sweeter tropical fruits like mango, papaya and pineapple. Instead, focus on eating broccoli, dark leafy greens, and temperate fruits like berries, cherries, apples and pears.

According to Kulze, whole grains are always the best choice, and it's also important to include some source of protein with every meal. “This is because blood glucose and insulin levels are more stable, and appetite is minimized with regular consumption of protein,” she says. Beans, along with fish (especially oily varieties), skinless poultry, wild game, soy, omega 3-enriched eggs, nuts, seeds and lowfat dairy products, are excellent protein packages, Kulze says.

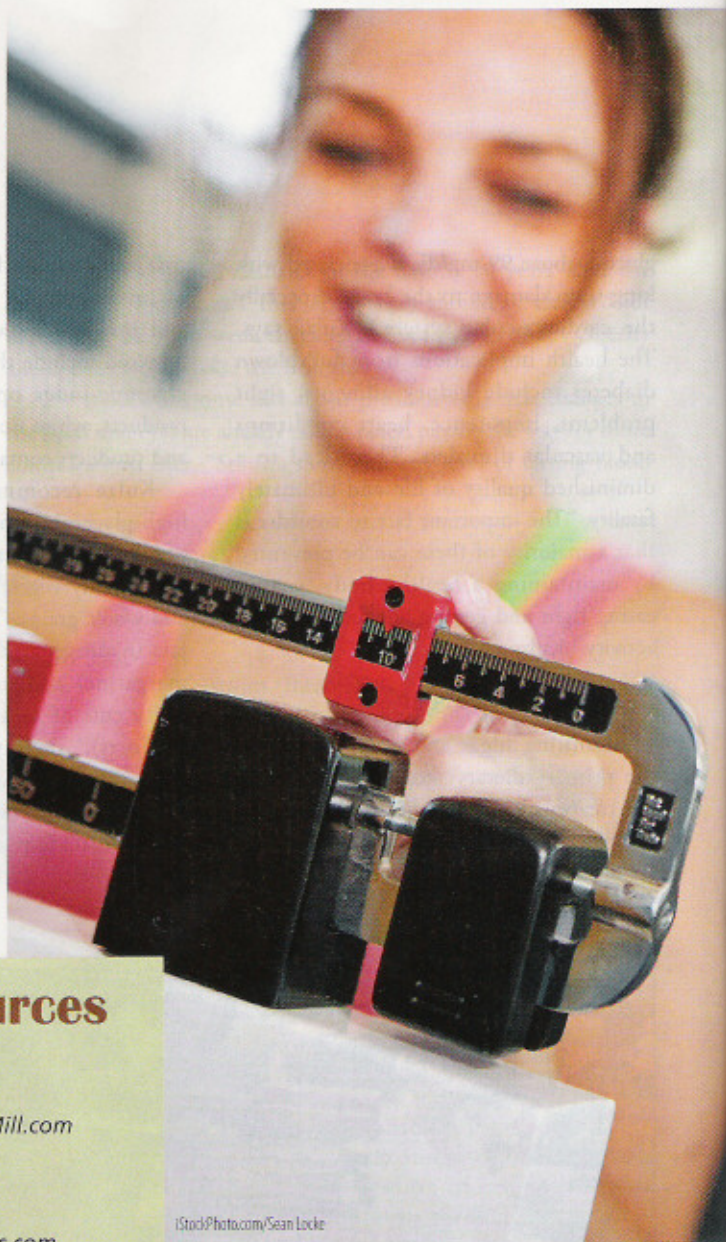
“Another valuable strategy is to regularly consume foods that enhance insulin's sensitivity, or make your insulin work better,” Kulze says. “These include foods high in the mineral chromium, such as broccoli, whole grains, shellfish, mushrooms and brewer's yeast.” She also recommends adding soy products to the diet. “Soy is especially beneficial, since soy foods help stabilize blood glucose and insulin levels in prediabetics in addition to boosting ‘good’ HDL cholesterol levels and improving kidney function,” she says.

Healthy Practices

Physical exercise is another vital tool to keep blood glucose levels in check. Yutzy stresses the importance of physical exercise and says it could be as simple as going for a walk. “Start with only 10 minutes a day and work up to 30 minutes daily,” she says. “It is not how fast you go, it is *that* you go.”

Moderate aerobic activities—vigorous house cleaning, raking leaves, walking stairs, swimming laps, shooting baskets, jumping rope, cycling and water aerobics—are other excellent ways to bring down sugar levels to normal. “It is never too late to embark on an exercise regime,” Kulze says. “Those who have led sedentary lives need to start low and go slow. Any prediabetic should have an appropriate physical exam by a health-care provider prior to embarking on a program of exercise.”

Resistance exercises like Pilates, weight machines, free weights and yoga might help control prediabetes, according to recent studies. Kulze's ideal exercise program includes 30



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Resources

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Eden Foods
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minutes of aerobic activity five days a week and 20 to 30 minutes of resistance exercise two to three days weekly.

“Just like full-blown type 2 diabetes, there has been an explosive increase in prediabetes prevalence over the past 25 years in the United States,” Kulze says. “The single most powerful strategy available to prevent, minimize or even reverse prediabetes is to maintain an optimal weight or lose weight if overweight/obese. A majority of patients with prediabetes can reverse their condition through appropriate diet and lifestyle changes.” †

Fehmida Zakeer is a freelance health writer based in Chennai, India.