



Pre-Diabetes and Diabetes Prevention



Dr. Johnson is a family practice doctor in Grand Forks with a special interest in diabetes -- and a special knack for writing. As a member of the Dakota Diabetes Coalition, he has generously made himself available to answer questions through our listserv. ***If you have comments about the column, or questions for Dr. Johnson to address in future columns, please contact gailhand@qwest.net***

Visit our website!

<http://www.ndhealth.gov/diabetescoalition/>

Q. What's pre-diabetes? Is it just another term for "borderline" diabetes?

A. Pre-diabetes refers to a blood sugar reading that is abnormally elevated -- but not high enough to qualify as a diagnosis of diabetes. A normal fasting blood sugar is less than 100. When a person's fasting blood sugars are 126 or higher, on two separate occasions, it's officially diabetes.

Diabetes can also be diagnosed if a random or casual blood sugar is greater than 200. Therefore, in order for a person to be considered pre-diabetic, a fasting blood sugar would be between 100 and 125. If an individual had a blood sugar of greater than or equal to 126 on one day, and less than 126 on a different day, that is pre-diabetes.

Pre-diabetes is also diagnosed when a random or casual blood sugar is greater than 140 and less than 200. Women who have or have had gestational diabetes should be considered pre-diabetic as well, since 30 to 50% of them will eventually convert to type 2 diabetes.

Pre-diabetes range blood glucose values are one component of the Metabolic Syndrome:

Waist measurement: Men >40 inches

Women >35 inches

Triglycerides: ≥ 150 mg/dL

HDL cholesterol

Men <40 mg/dL

Women <50 mg/dL

Blood pressure $\geq 130/80$ mm Hg

Fasting glucose 100-125 mg/dL

“Borderline diabetes” is an antiquated term that was never well defined. Sometimes it was used to soften the blow of a diagnosis of diabetes, which would have been more appropriate. Sometimes health care providers used that term as a hedge—they may not have been sure of the latest clinical definition of diabetes, which is subject to change. Recently, the glucose values associated with diabetes diagnosis have been dropping.

Does pre-diabetes lead to type 2 diabetes? Can this be prevented?

About 10% of patients with pre-diabetes convert to type 2 diabetes every year. Right now, there are about 22 million Americans who know they have type 2 diabetes. There are another 6 million Americans with type 2 diabetes who have not been diagnosed—and a staggering 41 million people with pre-diabetes. With current trends, that will put the diabetes population well over 50 million in this country alone over the next decade.

As depressing as that is, this is not strictly a problem for adults. Currently, the American Academy of Pediatrics estimates that in children between the ages of 12 and 19 years, one male in every 10 and one in every 25 females has pre-diabetes.

You know what to do!

Strategies to prevent pre-diabetes from converting to diabetes include the usual mantra: people need to move their bodies more, and be thoughtful about what they eat. Studies to date, including the Diabetes Prevention Trial, show that lifestyle changes work better than medications! Switching to

a good diet and getting plenty of exercise may reduce the chance of pre-diabetes progressing into type 2 by some 50%.

Even a 5-10% weight loss can be beneficial. Metformin and/or TZD's may offer some benefit, but current agents have not been shown to achieve the results seen with lifestyle intervention. Furthermore, these agents do not have FDA indication for pre-diabetes.

Persons with pre-diabetes have elevated risks of diabetes-like complications, particularly cardiovascular disease. So working with patients to improve their weight, blood pressure and cholesterol is important. In most cases, aspirin prophylaxis is appropriate. Typically, these patients would be screened with fasting blood sugar every six months.

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[Prediabetes, Dr. Johnson's Column #9, Oct. 19, 2007](#)

Make sure you are up to date and following guidelines. The ADA Standards of Care for diabetes are updated each January and can be found at this site:

http://care.diabetesjournals.org/cgi/reprint/30/suppl_1/S4

