

Pre-Diabetes: Expanding the Role of the Diabetes Educator

What is pre-diabetes?

Pre-diabetes is a condition in which blood glucose levels are higher than normal but not high enough to be classified as diabetes. With pre-diabetes, the pancreas is not working as efficiently to release insulin and/or insulin resistance may be present.

Borderline diabetes or pre-diabetes?

Borderline diabetes is a term that is still used by some healthcare professionals. However, this term should no longer be used as it can lead to confusion. Instead, the correct term is *pre-diabetes*.

How many people have it?

About 54 million people in the United States have pre-diabetes. People with pre-diabetes are 5-15 times more likely to develop type 2 diabetes than those with normal glucose values. They're also at a high risk for developing cardiovascular disease.

Who's at risk?

Those who are at risk for pre-diabetes include:

- Overweight adults age 45 and older
- Overweight adults under age 45 and who have one or more of the following:
 - are habitually physically inactive
 - have previously been identified as having IFG (impaired fasting glucose) or IGT (impaired glucose tolerance)
 - have a family history of diabetes
 - are members of certain ethnic groups (including Asian American, African-American, Hispanic American, and Native American)
 - have had gestational diabetes or have given birth to a baby weighing more than 9 pounds
 - have elevated blood pressure
 - have an HDL cholesterol of ≤ 35 mg/dl and/or a triglyceride level of ≥ 250 mg/dl

Diagnosing pre-diabetes

Either of the tests below can be used to diagnose pre-diabetes and diabetes:

Test	No Diabetes	Pre-Diabetes	Diabetes
Fasting Plasma Glucose (FPG)	Less than 100 mg/dl	Between 100 and 125 mg/dl	126 mg/dl or greater
2 hours after meal or glucose drink (OGTT)	Less than 140 mg/dl	Between 140 and 199 mg/dl	200 mg/dl or greater

Those at risk for pre-diabetes should be screened every 1-2 years; Medicare and most insurance companies cover two screening tests per year for those with pre-diabetes. However, at this time, Medicare does not cover education or medical nutrition therapy (MNT) for pre-diabetes.

Preventing Pre-diabetes

According to the Diabetes Prevention Program (DPP) study, patients at risk for developing type 2 diabetes were able to reduce their risk over a three-year period by 58% through a sustained, modest weight loss of about 7% of body weight and moderate-intensity physical activity (i.e., walking 30 minutes daily). Referring patients to a registered dietitian for an individualized meal plan that focuses on portion control, reducing fat intake and increasing fruits, vegetables and whole grains, and encouraging regular physical activity may help them prevent diabetes.

Practical Pointers:

- Encourage “at risk” patients to be screened for pre-diabetes.
- Advise patients who have a body mass index of $\geq 25 \text{ kg/m}^2$ and/or a waist circumference of > 40 ” in men/ > 35 ” women to meet with a dietitian.
- Reinforce that a modest weight loss of 5-10% (about 10-20 pounds), along with a healthy eating plan and at least 150 minutes of physical activity per week can help prevent or delay the onset of type 2 diabetes by 11 years.
- Patients who say they have “a touch of sugar” or “borderline diabetes” may actually have diabetes. To help clarify whether a person may have diabetes, ask:
 - Have you ever been told you have diabetes?
 - Do you take any medication for your diabetes?
- Metformin may be appropriate for some people to prevent pre-diabetes from developing into type 2 diabetes, but should be used in conjunction with lifestyle changes.

Resources:

The Diabetes Prevention Program Research Group. The Diabetes Prevention Program: Description of lifestyle intervention. *Diabetes Care* 25:2165-2171, 2002.

Diabetes Prevention Program study website: <http://www.bsc.gwu.edu/dpp/index.htmlvdoc>

National Diabetes Education Program: <http://www.ndep.nih.gov/diabetes/prev/prevention.htm>

Centers for Disease Control: <http://www.cdc.gov/diabetes/faq/prediabetes.htm>