

DIABETES & METABOLIC SYNDROME DEFINITIONS

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I've been asked to clarify the definitions for metabolic syndrome, diabetes and the phases preceding overt diabetes. See DrG's MediSense articles about metabolic syndrome, diabetes and fructose in the September 2006, November 2007 and February 2008 issues for background.

Metabolic syndrome predicts risk for diabetes, with all its concomitant complications – nerve damage, blindness, kidney failure, heart attack and vascular disease. It usually runs in families and is associated with abdominal obesity and lack of exercise.

The National Cholesterol Education Program Adult Treatment Panel-III (NCEP ATP-III) criteria used in the United States for metabolic syndrome and the International Diabetes Federation (IDF) criteria are shown.

| | NCEP ATP III Must have \geq 3 of 5 | IDF Central Obesity + any other 2 factors |
|------------------------|--|--|
| Waist | | |
| Men | > 102 cm (40 in) | \geq 94 cm (37 in) |
| Women | > 88 cm (35 in) | \geq 80 cm (31.5 in) |
| Triglycerides | \geq 150 mg/dl | \geq 150 mg/dl or being treated for it |
| HDL-cholesterol | | |
| Men | < 40 mg/dl | < 40 mg/dl (<1.03 mmol/L) |
| Women | < 50 mg/dl | < 50 mg/dl (< 1.29mmol/L) |
| | | or being treated for low levels |
| Blood Pressure | \geq 135/ \geq 90 or on treatment for hypertension | \geq 130/ \geq 90 or on treatment for hypertension |
| Fasting Glucose | \geq 100-125 mg/dl | \geq 100 (5.6 mmol/L) & strongly recommend oral glucose tolerance test. Or previously diagnosed diabetes |

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Diabetes experts have identified two pre-diabetes states, Impaired Fasting Glucose and Impaired Glucose Tolerance. Anyone with a fasting glucose of 100 -125 mg/dl has Impaired Fasting Glucose. Those who have normal fasting glucose, but don't clear sugar out of the blood expeditiously after eating have Impaired Glucose Tolerance, defined as two-hour glucose levels of 140 – 199 after consuming 75 grams of glucose.

A diabetes diagnosis requires a fasting glucose of > 126 mg/dl or a glucose two hours after a sugar load of \geq 200 mg/dl. Glycosylated hemoglobin (HgbA1c) is a measure of what glucose levels have been over the last three months. Perfectly normal HgbA1c is <5%. Acceptable HgbA1c for good diabetes control is \leq 7%.