Diabetes and Prediabetes: What’s the Latest?
By Dr. Bob Goldstone

Diabetes still remains one of the most prevalent diseases in the United States, with an estimated 24 million Americans with insulin-dependent type 1 diabetes mellitus and many more with the type 2 disease. While diabetes is easy to diagnose when blood sugar values and other measurements are high, the lower level required for the diagnosis has always been in question. In particular, is there such a thing as prediabetes, and how is it treated differently than a diagnosis of diabetes itself?

Generally, the diagnosis of diabetes takes into consideration three values, used not only in clinical practice but also in insurance medicine laboratory evaluation. The blood glucose level is a measurement of blood sugar in the body at any given time. It may vary from hour to hour, and minute by minute. Fructosamine is the glucose level on serum proteins and provides the state of glycemic control for the preceding 1 to 2 ½ weeks. Hemoglobin A1C (HbA1C) is a measurement of glucose in red blood cells that provides an evaluation of the state of glycemia for the preceding 8 to 12 weeks. While blood glucose and fructosamine are ideal in clinical practice for adjusting dosages of medication and evaluating short-term control of diabetes, HbA1C has proven to be the best indicator of longer or sustained diabetic control.

In January 2010 and again in January 2011, the American Diabetes Association (ADA) began recommending HbA1C as a criterion for the diagnosis of diabetes and prediabetes. Traditionally, the ADA had relied on values of plasma glucose (a fasting level of 126 mg/dl or higher), a glucose load value of no more than 200mg/dl (as in the older and more frequently given glucose tolerance tests), and any random blood sugar over 200mg/dl at any time with symptoms of hyperglycemia. As the measurement of HbA1C became more standardized and accurate, the ADA now relies on it for classifying and making the diagnosis of diabetes as a more representative single blood test.

The ADA considers an HbA1C of 6.5% or greater to be diagnostic of diabetes. As the median length of time that this blood marker measures in terms of control is an average of 8 to 10 weeks (a red blood cell lives up to 120 days in the body), it assumes that the level of glucose has been higher than normal for a sustained length of time. The “normal” level for A1C is anything less than 6%, although a majority of healthy nondiabetic individuals have numbers from 4 to 5.5%.

Since 1997, the ADA has recognized the existence of intermediate levels of glucose elevation that are out of normal range but have not yet reached the diagnostic levels for diabetes. These levels make up the diagnosis of what is now call prediabetes. They apply to fasting glucose, to levels based on values obtained on a glucose tolerance test, and now to HbA1C. The new ADA guidelines recommend HbA1C levels of 5.7% to 6.4% for the diagnosis of prediabetes.

Why is a diagnosis of prediabetes important? The American Academy of Clinical Endocrinology emphasized that individuals with A1C levels between 6.0 and 6.5 are at substantially increased risk of developing diabetes itself – up to 10 times the risk. Knowing this fact can allow people to make both lifestyle changes and dietary changes that can significantly delay the onset of diabetes and resultant complications. Doctors sometimes institute pharmacological therapy as well at this stage, including medications such as metformin, which improve blood sugars and are considered first line drugs in keeping blood sugar in control in non-insulin dependent diabetes.

What is considered adequate control? In non-insulin dependent diabetics, the ADA recommends keeping HbA1C levels as close to 6% as possible. It is shown by multiple studies that doing this reduces the risk of diabetic eye disease (retinopathy), nerve disease (neuropathy), kidney failure or compromise (nephropathy), and cardiovascular events. In those who are older, have cardiovascular disease, or need multiple medications or insulin, a less aggressive goal of 7% is set, as control of diabetes that is “too tight” has its own set of problems, including low blood sugar, difficulty in consistent control, and neurologic compromise.

Most (if not all) blood panels that insurers obtain have HbA1C levels as a part of them. Others reflex the value if a high glucose or fructosamine level is found. Those with prediabetes or
borderline values can qualify for both standard and preferred life insurance policies when the rest of their history and self-care/doctor follow-up is evaluated and found to be favorable. Many doctors are quite proactive in starting medication at a very early stage when the risks of diabetes are higher and insurers focus on the degree of blood sugar control and positive life style changes to make competitive offers rather than the fact that a medication is being used.

The information contained on this page is not intended to provide medical advice, which should be obtained directly from your physician.

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