



Diabetes Solution Revised and Updated

The Complete Guide to Achieving Normal Blood Sugars

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A BASELINE MEASURE OF YOUR DISEASE AND RISK PROFILE

The goal in the treatment program laid out in this book is to give you the tools and the knowledge to take control of your disease by normalizing blood sugars. My interest is in treating not just the symptoms of diabetes, but diabetes itself. Essential to treatment is learning to monitor your own blood sugars.

Before you begin to monitor and then normalize your blood sugars, you should have a baseline analysis of your disease. How much of your pancreas has “burned out” in part from high blood sugars? Have you already developed some easily measured long-term complications of diabetes? What are your risks for other diabetic complications?

Answering these questions will aid you and your doctor in learning the extent and the consequences of the disease. Your test results will also serve as valuable baseline data to which you will be able to compare the effects of blood sugar normalization. Once your blood sugars have been normalized, such tests can be repeated from time to time, to show what you’re achieving. Your improvements will give both you and your physician ongoing incentive for sticking to the program.

The remainder of this chapter describes a number of tests your doctor or his laboratory can perform in order to give both of you a picture of your diabetic condition. I have laid these out *not* because it’s necessary for you to memorize them, research them, and know all the ins and outs of them, but so that you can get the treatment you deserve.

By outlining these tests, I’m giving you a “shopping list” of tests I perform on myself and on my patients.

Generally, I recommend as many as you can afford or your insurance or health maintenance organization (HMO) will pay for. Completing more of the tests will add more dimensions to the picture you gain of your disease. As some of these tests are costly, any or all may be skipped if you cannot afford them or if your insurance or HMO won’t pay for them.

It is your physician’s obligation to provide you with copies of all your test results, whether from laboratory tests or from physical examinations. This is your right; however, you must request them. The laws governing medical records vary state by state, and legislatures are listening to health care consumers and making changes regularly. At this writing, however, it is most often the case that medical records are the property of the doctor, so do not neglect to request copies of any results. Such results can be potentially of great value when you visit another physician or specialist for treatment of any problems.

BLOOD AND URINE TESTS

Glycated Hemoglobin (HgbA1C)

Glucose binds to hemoglobin (the pigment of red blood cells) when new red cells are manufactured. Since the average red cell survives about four months, the percentage of hemoglobin molecules that contain glucose (HgbA1C) provides an estimate of average blood sugar over this time frame. One of the benefits of this test is that it gives your physician an index by which to test the accuracy of your own blood glucose self-monitoring results. If your measurements are strictly normal but your HgbA1C is elevated, then your doctor has a clue that something is awry.

There are, however, a couple of significant drawbacks to this test. First is that the test is only a measure of *average* blood sugars. Second, elevated blood sugars may take 24 hours to have any long-term effect on HgbA1C, and if blood sugar is elevated for only part of each day and is normalized or too low the rest of the time, your HgbA1C results may appear deceptively low. Thus, if your blood sugars are only elevated for a few hours after meals, your HgbA1C may not be affected, but many tissues and organs throughout your body will be injured.

The other drawback is that the upper and lower ranges of “normal” values reported by most labs are usually erroneously high and low, respectively. In other words, the ranges are usually much too wide. Thus, it’s up to your physician to decide, based upon his experience, what the proper normal range for his lab should be. Many doctors have their own formulas for estimating average four-month blood sugar levels from HgbA1C. A normal value should correspond to blood sugars of about 85–95 mg/dl. The experience I’ve had with the lab I use (the largest in the United States) for my patients is that a truly normal HgbA1C ranges from 4.2 percent to 4.6 percent, which corresponds to blood sugars of about 83–90 mg/dl. Mine is consistently 4.5 percent.

Serum C-Peptide (Fasting)

C-peptide is a protein produced by the beta cells of the pancreas whenever insulin is made. The level of C-peptide in the blood is a crude index of the amount of insulin you’re producing. The level is usually zero in type 1 diabetics, and within or above the “normal range” in mild type 2 obese (insulin-resistant) diabetics.

If your blood serum C-peptide is elevated, this would suggest to your physician that your blood sugar may be controllable merely by diet, weight loss, and exercise. If, at the other extreme, your C-peptide is below the limits of measurability, you probably require injected insulin for blood sugar normalization. C-peptide measurements, to be most significant, should be checked after a 12-hour fast when blood sugars are normal. The test can be best interpreted if blood sugar is measured at the same time.

Because a physician experienced in treating diabetes can probably make such decisions with only the help of your blood sugar profiles (see Chapter 4), this test, while of interest, is not absolutely necessary.

Complete Blood Count (CBC)

Part of most medical workups, this is a routine diagnostic test that can disclose the presence of ailments other than diabetes. A CBC measures the number of various types of cells found in your blood—white cells, red cells, and platelets. A high level of

white blood cells, for example, can disclose the presence of infection, while too few red blood cells can indicate iron deficiency anemia. Many diabetics have inherited thyroid dysfunction, which can cause low-normal to low white cell counts. A white cell count less than 5 suggests that a full thyroid profile should be performed. This must include free and total T3 and T4.*

A CBC can also detect certain hematologic malignancies, which are usually more effectively treated the earlier they are discovered.

* It's worth noting that one of the hallmarks of diabetes is fatigue. However, diminished thyroid function can cause profound fatigue and coldness. If you're still "always tired" or "always cold" after normalizing blood sugars, talk to your physician about a thyroid profile. This test can be costly

Standard Blood Chemistry Profile

This battery of twelve to twenty tests is part of most routine medical examinations. It includes gauges for such important chemical indicators of health as liver enzymes, blood urea nitrogen (BUN), creatinine, alkaline phosphatase, calcium, and others. If you have a history of hypertension, your doctor may want to add red blood cell magnesium to this profile.

Serum Albumin

Although serum albumin is usually included in the blood chemistry profile, it is not widely appreciated that low levels are associated with double the all-cause mortality of high levels. It is thus very important that patients with low serum albumin receive further workup to determine the cause.

Part 2 Tests Continued

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"Getting to the Heart of Diabetes" is a guide to understanding CVD, diabetes and insulin

resistance. This is a small guide with 4 chapters, Diabetes, Insulin Resistance, Controlling Diabetes and Warning Signs for heart attacks and strokes. After reading the booklet, your patient can take the next step by putting their new knowledge into action. As part of the program patients receive the following free of charge.....

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