

# DIABETES (even mild)

Before 2025, diabetes is predicted to be the number one killer in the US. Diabetes is running rampant, but treatments can effectively prolong your life if you treat this disease promptly. Maybe we will find dietary factors, or food additives or some chemicals that are responsible, and certainly genetics plays a role.

Diet and exercise improve diabetic control. But it is rare to entirely reverse diabetes that way. Dr. Neal Barnard's Program for Reversing Diabetes is a great reference if you very motivated to change the way you approach food, but diabetes almost never is entirely reversed, rather it can be controlled well. Working on diet exercise and weight control along with taking effective medicine to control this disease quickly is the approach we will take with you. Due to their additive risks to your health, high blood pressure and cholesterol should also be controlled. Don't smoke. "I can do better" is not an excuse for bad numbers. If cost is keeping you from taking your medications, TELL US and we will look for the \$4 generics or scare up drug samples or even apply for compassionate drugs from the manufacturer.

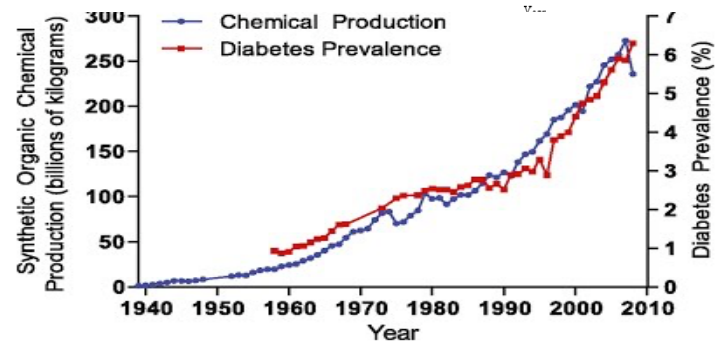
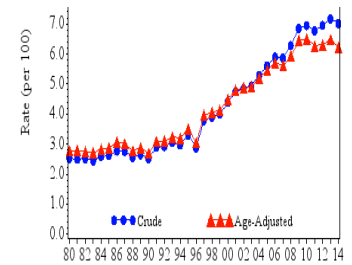
You have diabetes if your glycohemoglobin (HBA1C or A1C for short) is over 6.0. A1C refers to the amount of sugar stuck on the hemoglobin molecule in your bloodstream. This correlates well with the amount of sugar in your blood over the last 3 months. Many important enzymes get coated with sugar when your blood sugars are high and this is one of the ways the elevated sugars hurt your body. We can bring that number below 8 with good medications but if we go too low we run the risk of "hypoglycemia." Hypoglycemia usually makes you feel sweaty, anxious and gives you palpitations. Really low numbers can put a person in a coma, so we need to move slowly and deliberately when we improve your sugars.

Be motivated to get controlled NOW. For most people diabetes is a progressive disease. Oral medications can control most diabetics, but if they don't we must use insulin or other medications by injection. Checking your sugars with a glucose monitor still requires a finger-prick. Watching your sugars helps you see which foods make your sugars go too high and which medications are most helpful.

It doesn't seem fair, but with diabetes both your blood pressure and your cholesterol will have a more challenging goal. You must monitor your blood pressure at home, even if it is normal. It is very important to write your blood pressure numbers on a small spiral notebook or a calendar and BRING THOSE numbers to your office visits. Some people have "white coat" hypertension which does not need treatment and others have normal blood pressure in the office but high ones at work or at home.

Cholesterol has an additive effect with blood pressure and diabetes (and smoking and obesity). Our goal with you is now even lower: LDL under 100 instead of 130. If you can get it to 80, that's even better. All of these goals can be achieved with a combination of medications. Sure diet helps (think whole food plant based diet!) and exercise will give your organs more blood flow. But don't wait! We must control numbers now!

Talking to a diabetic educator is expensive, but not nearly as expensive as never getting that advice. Other classes are run by the hospital and may or may not be covered by your insurance. This disease makes us more vigilant to your heart (more and sooner EKGs and stress tests), nerves (loss of sensation on legs especially), kidneys (urinalysis yearly) and feet (podiatrist must see you annually) and most importantly eyes (ophthalmologist must see you annually). In years past



diabetics went blind, lost legs and died early with heart disease. Those should not happen if we are vigilant with you. Sometimes getting all this information at once is overwhelming. Sometimes not giving all this information at the start minimizes the impact of the disease. Keep this and review it until you know it cold!

Today we start metformin while getting you diabetic education, rechecking a HBA1C in 3 months, possibly adding glimepiride: (*Amaryl*) or glipizide (*Glucotrol*) [sulfonylureas] or a thiazolidinedione: pioglitazone (*Actos*) or a dipeptidyl peptidase-4 inhibitor: linagliptin (*Tradjenta*), saxagliptin (*Onglyza*), or sitagliptin (*Januvia*), or glucagon-like peptide-1: liraglutide (*Victoza*). A neat 2017 summary for docs is here: <https://www.aace.com/sites/all/files/diabetes-algorithm-executive-summary.pdf>

Then we need to check it again in 3 months and adjust accordingly. Remember that food will need to be controlled as to the times and amounts. Any time we are unable to reach our goal it is vital that we get more help in the form of a specialist in endocrinology. If we wait until we have bad control for a decade then we miss a decade's worth of protection of our body from the ravages of uncontrolled sugars. Early heart failure or heart attacks, strokes, kidney failure, loss of sensation of the legs, foot ulcers are all things we try to control with great diabetic management.



Annual podiatry exams, annual ophthalmologist eye exams (the one with the MD on their name, not just the optometrist) and monitoring of you every 6 months in the office are absolutely required now.

Monitoring your blood sugars helps you make better food choices. After you eat your glucose should be 110-180, and before meals 90-120. But don't be too hard on yourself; we base the adequacy of your control on the A1C. Monitoring the glucose helps you learn how foods affect your sugars and how you need to adjust your intake or medication accordingly.



Blood pressure control is vital. Even if your blood pressure is perfect we will likely start lisinopril or another ACE or ARB to keep your kidney in a bit more relaxed state to prevent kidney failure. Blood pressures should be in the 130/70 area. Lots of choices are available for blood pressure control, so if you have a hard time with the first medication, let's try another!

Cholesterol needs to be low. Diet is a small factor, genetics is a big factor. Exercise helps some. The statin medications [atorvastatin (*Lipitor*), lovastatin (*Mevacor*), pravastatin (*Pravachol*), rosuvastatin (*Crestor*), simvastatin (*Zocor*)], sometimes cause muscle cramps. A more balanced diet or supplementation with coenzyme Q10 (*CoQ10*) may prevent cramping. We should check a CPK blood level anytime you have a problem with a cramping if you are taking a statin. Gemfibrozole (*Lopid*- not a statin) is another good medication to lower your cholesterol and triglycerides. Don't forget the (over the counter) omega 3 oil (fish oil or flax seed) is a natural way to lower your cholesterol.

Revised 2017 TSG

We will be vigilant at your visits to your:

- Middle ("abdominal obesity")
- Blood pressure and heart exam (annual EKG a good idea)
- Signs of eye disease on eye examination
- Decreased feeling in the legs or feet
- Blisters, ulcers or infections of the feet

We will also do lab tests.

- Hemoglobin A1c [every 6 months](averages blood sugar level over the past 2 to 3 months.)
- Lipid profile [annually](This measures cholesterol, triglycerides, HDL and LDL cholesterol)
- Blood creatinine and urine microalbumin [annually](These tests look for signs of kidney disease.)

<http://www.dce.org/publications/education-handouts/>

<https://www.diabeteseducator.org/patient-resources/tip-sheets-and-handouts>

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