What Are the Complications of Uncontrolled Diabetes?

by COLLEEN KELLY

Diabetes Complications: What You Need to Know

As a certified diabetes educator (CDE), a common concern of my patients is of the long-term complications. Understandably so – there is a stigma associated with type 2 diabetes, especially if insulin is prescribed.

“I can’t take insulin!” I often hear. “My cousin was prescribed insulin. As soon as she started taking insulin, she ended up requiring an amputation.”

So I end up having to explain that insulin does not *cause* an amputation – if anything, it prevents the need for an amputation, and can stave off complications. But often, people are so reluctant to treat their diabetes that it can be too late.

So, even if it can be difficult to hear, let’s discuss the complications of type 2 diabetes – it can save your life.

What Are the Symptoms of Uncontrolled Diabetes?

Diabetes is often labeled as a “silent” disease. Why? Because uncontrolled diabetes symptoms typically don’t develop until blood glucose levels get quite high.

Diabetes is often diagnosed on a routine lab test. For example, your physician blood at a physical and find that your glucose level is high and find that you have diabetes. Or, you may have blood drawn for a surgery and also come away with a new diabetes diagnosis.

However, the situation sometimes occurs where blood glucose levels get to dangerously high levels – and begin to cause symptoms. These symptoms include:

- Polyuria (increased urination)
- Polydipsia (increased thirst)
- Polyphagia (increased hunger)
- Headaches
- Trouble concentrating
- Weight loss
- Fatigue

However, just because the levels are high does not necessarily mean that long-term damage has been done to the body. It does mean, though, that something needs to be done as soon as possible to reduce the levels so that long-term damage is not done to the body.

Short-term Effects of Uncontrolled Type 2 Diabetes

Hyperosmolar hyperglycemic nonketotic syndrome (HHNS) is a relatively rare but potentially fatal condition that can occur as a result of uncontrolled blood glucose levels. It is also most likely to happen if you are ill and/or dehydrated.

When HHNS occurs, blood glucose levels begin to rise rapidly. As the blood glucose level begins to rise, the excess sugar needs to go somewhere, so it exits the body through the urine. This ultimately causes dehydration, which causes excessive thirst.

Symptoms of HHNS include:

- Blood glucose levels 600 mg/dL (33.3 mmol/L) or higher
- Polyuria
- Polydipsia
- Dry mouth
- Flushed skin
- Fever
- Drowsiness
- Confusion
- Hallucinations
- Coma

Hypoglycemia

Another short-term complication of type 2 diabetes is hypoglycemia – or low blood glucose levels. It may seem silly to include low blood glucose levels on this list, but hear me out.

If you've just been diagnosed with type 2 diabetes and start taking a *sulfonylurea*, or are just started on insulin, you are at risk for hypoglycemia. You're also at risk for hypoglycemia when you make changes to your insulin regimen, so it is important to understand what hypoglycemia is.

Hypoglycemia is technically a blood glucose level of less than 70 mg/dL. Treatment includes consuming a carbohydrate, such as orange juice or regular soda, to help bring the glucose level back to a normal range.

It is important to recheck the glucose level to ensure that it has returned to that normal range.

Long-term Effects of Type 2 Diabetes

You know how when you visit your physician for a diabetes checkup, or you see your diabetes educator, they quiz you on when your last dilated eye exam was? Or you're being sent to the lab for a urine microalbumin test? Or, once again, you're being asked to take off your shoes and socks, and your feet and being poked and prodded?

Even if every test is *fine*, every single time, these tests are done on a routine basis to detect changes in your health. Once a change is detected, these tests then can detect worsening.

Long-term elevated blood glucose level affects the vasculature of the body – both the large vessels and the small vessels. When the large vessels are affected, it is called macrovascular complications, and when the small vessels are affected, it is called microvascular complications.

Next page: The complications of uncontrolled diabetes, what happens if your diabetes is left untreated and more.

What Are the Complications of Uncontrolled Diabetes?

The consequences of uncontrolled diabetes include cataracts and diabetic retinopathy, diabetic nephropathy, diabetic neuropathy, and macrovascular complications.

Cataracts and Diabetic Retinopathy

When the tiny vessels of the eyes are damaged by high blood glucose levels, cataracts and diabetic retinopathy can develop. Both of these complications can cause a loss of vision.

Prevention includes keeping blood glucose levels at a target, as well as having a yearly dilated eye exam. If you already have these complications, your eye doctor may recommend more frequent eye exams.

Diabetic Nephropathy

When the tiny vessels of the kidneys are damaged by high blood glucose levels, diabetic nephropathy develops. Diabetic nephropathy can lead to a reduction in kidney function, which can ultimately lead to a need for dialysis and/or a kidney transplant because the kidneys will be unable to filter properly.

Prevention of diabetic nephropathy is a yearly test for microalbuminuria – a urine test. This test measures protein in the urine, which is released if the kidneys begin to have issues with functioning. If microalbuminuria is diagnosed, medications can be prescribed to lessen the workload.

Diabetic Neuropathy

When high blood glucose levels damage the nerves of the body, diabetic neuropathy occurs. Neuropathy develops because blood vessels supply nerves – and these blood vessels become affected, eventually affecting the nerves.

There are various types of diabetic neuropathy, with the most common type being peripheral neuropathy, which affects the nerves of the hands and the feet. This can cause pain, numbness, tingling, and loss of sensation in the extremities.

As if diabetic neuropathy isn't serious enough, when a loss of sensation occurs, sometimes people may not realize when a sore develops. When a sore develops and goes undetected, it can become infected – and high blood glucose levels can lead to poor wound healing. You've heard the horror stories about amputations? This can be when an amputation occurs.

Macrovascular Complications

And you've probably heard that having type 2 diabetes increases your risk of other diseases, like heart disease and stroke, right? This is because of the macrovascular complications we discussed.

Type 2 diabetes can affect the large blood vessels of the body, meaning that it can contribute to plaque buildup in the vessels. When plaques build up, this can lead to heart attacks, strokes, and peripheral vascular disease.

What Happens if Type 2 Diabetes Is Untreated?

It is important to understand that type 2 diabetes is progressive. This means that for most people, once they are diagnosed, their diabetes will worsen with time. It may improve temporarily, but it will require medication (and more medications) to control throughout the trajectory of the illness.

Insulin Resistance

We know that even before type 2 diabetes is diagnosed, the body begins to develop insulin resistance.

Due to insulin resistance, the beta cells of the pancreas begin to produce more insulin due to the insulin resistance. Because of the increased activity, the beta cells start to get tired, and they begin to fail – this is typically when diabetes is diagnosed.

Once diabetes is diagnosed, a new lifestyle is needed to control blood glucose levels – diet and exercise changes, and perhaps oral or injectable medications, or insulin.

Life Expectancy

According to Stanford University, the life expectancy for someone with poorly controlled type 2 diabetes is about 7 to 10 years shorter than for someone without it.

It can also be difficult to predict an exact “timeline” for when complications when will occur. Remember how we discussed that type 2 diabetes is often categorized as a “silent disease” because it is often asymptomatic?

Damage to Internal Organs

Type 2 diabetes can and often does, cause damage to internal organs before it is even diagnosed. Sometimes, peripheral neuropathy and/or claudication may even be the presenting symptom of type 2 diabetes.

Within ten years of diagnosis, it is common for men with poorly controlled diabetes to have erectile dysfunction.

Within 20 years of diagnosis, renal failure may occur. It is not uncommon for someone to be in end-stage renal disease, after many years of diabetic nephropathy. Why? Because nephropathy can occur at any time.

What Can You Do to Prevent Diabetes Complications?

The single best thing that you can do to prevent diabetes complications?

Get your blood glucose levels under control! And this can mean different things for different people.

Whether this means empowering yourself to check your blood glucose levels regularly, taking your medications as prescribed, injecting your insulin as recommended or eating the recommended carbohydrates (or a combination of all of the above) – doing these things can and will help reduce your risk of developing complications later in life.

And what if you already have complications? Can changing your lifestyle improve your life?

Well, it may not necessarily “fix” the problem entirely, but it can help to prevent it from getting worse – and that’s worth the effort!