Diabetic Complications: Retinopathy

What is retinopathy?

The retina is the part of the eye needed to see. There are two types of retinopathy that affect people with diabetes. Nonproliferative retinopathy involves a change in the structure of small blood vessels in the retina. Proliferative retinopathy is the abnormal growth of new vessels in the retina and vitreous. The vitreous is a jelly-like substance next to the retina.

Why is it important to know about retinopathy?

Retinopathy is the top cause of new blindness among adults in the United States. It causes 12-14% of new cases each year. About 5% of the 16 million diabetics in the United States suffer from blindness as a result of retinopathy.

What are the risk factors for developing retinopathy?

The risk of developing retinopathy is related to the length of disease and how well diabetes is controlled. It has been shown that among those with diabetes for 15 years, the risk of retinopathy is 98% in Type 1 diabetics and 78% in Type 2 diabetics.

Can retinopathy be prevented?

Keeping good control of your blood sugar lowers the risk of developing retinopathy. It also slows down the progression for those already with retinopathy.

Is there treatment for retinopathy?

In patients with both nonproliferative and proliferative retinopathy, laser surgery lowers the risk of blindness. In patients with proliferative retinopathy, those who undergo early removal of the vitreous also suffer less visual loss.

What can I do to prevent retinopathy?

• Keep good control of your blood sugar.
• Keep good control of your blood pressure.
• Ask your doctor to refer you to an eye doctor for a complete eye examination each year. You may need exams less frequently (every 2-3 years) if they are normal. You may need more frequent exams if retinopathy is getting worse.
Diabetic Complications: Neuropathy

What is neuropathy?

Nerves carry electrical messages between the brain and the body. Neuropathy occurs when nerves do not work right. The most common type of neuropathy in patients with diabetes involves injury to sensory nerves in the legs.

Why is it important to know about neuropathy?

Neuropathy is present in over 80% of diabetic patients with foot wounds. Foot wounds that do not heal may require amputation. More than 50% of amputations in the United States that are not the result of accidents are due to diabetes. Foot and leg amputations affect up to 15% of all patients with diabetes. Persons with diabetes are 40 times more likely to experience amputation than are persons without diabetes.

How does neuropathy lead to amputation?

If a person is unable to feel pain from a callus or crack in the skin, they are less likely to care for the injury properly. The wound may become infected or an ulcer may develop. Foot infections and ulcers that do not heal are dangerous to the rest of the body. In these cases, removal of the foot or leg can be life-saving.

Can neuropathy be prevented?

Keeping good control of your blood sugar prevents neuropathy.

Is there treatment for neuropathy?

There is no treatment for neuropathy. However, even in patients with neuropathy, up to 90% of foot ulcers will heal when treated properly.

What can I do to prevent neuropathy and avoid amputation?

- Keep good control of your blood sugar.
- Keep your feet clean and dry with toenails closely trimmed.
- Inspect your feet regularly for calluses, cracks in the skin, infections, and ulcers.
- Stop smoking.
- Ask your doctor to inspect your feet briefly at each routine visit.
- Ask your doctor to perform a complete foot examination each year. The exam should include inspection, palpation, and the use of a filament and tuning fork.
- Patients at high risk for infection, ulcers, and amputation may be sent to a foot care specialist for preventative care and surveillance.
Diabetic Complications: Nephropathy

What is nephropathy?

The kidneys rid the body of waste products and control its water and salt balance. Nephropathy occurs when the kidneys do not work right.

Why is it important to know about nephropathy?

Nephropathy is present in 20-40% of patients with diabetes. Nephropathy can progress to kidney failure, or end stage renal disease (ESRD). Diabetes is the most common cause of ESRD in the United States. It accounts for about one-third of all patients with ESRD.

How do we monitor for nephropathy?

When the kidneys do not work right, a protein called albumin is released in the urine. Patients who release a small amount of albumin in the urine, called microalbuminuria, are showing the earliest signs of nephropathy. Patients who progress to release large amounts of albumin in the urine, called macroalbuminuria, are likely to develop ESRD.

Can nephropathy be prevented?

Keeping good control of your blood sugar prevents nephropathy. Good blood sugar control has been shown to lower the risk of developing microalbuminuria by 39% and the occurrence of macroalbuminuria by 54%.

Is there treatment for nephropathy?

Drugs called angiotensin converting enzyme (ACE) inhibitors and angiotensin receptor blockers (ARB) have been shown to reduce the risk of nephropathy and ESRD in patients with diabetes.

What can I do to prevent nephropathy and avoid ESRD?

- Keep good control of your blood sugar.
- Keep good control of your blood pressure.
- Ask your doctor to test for micro- and macroalbuminuria each year.
- Patients with both micro- and macroalbuminuria should be treated with either an ACE inhibitor or ARB.
- Patients with both micro- and macroalbuminuria should limit the amount of protein they eat.