

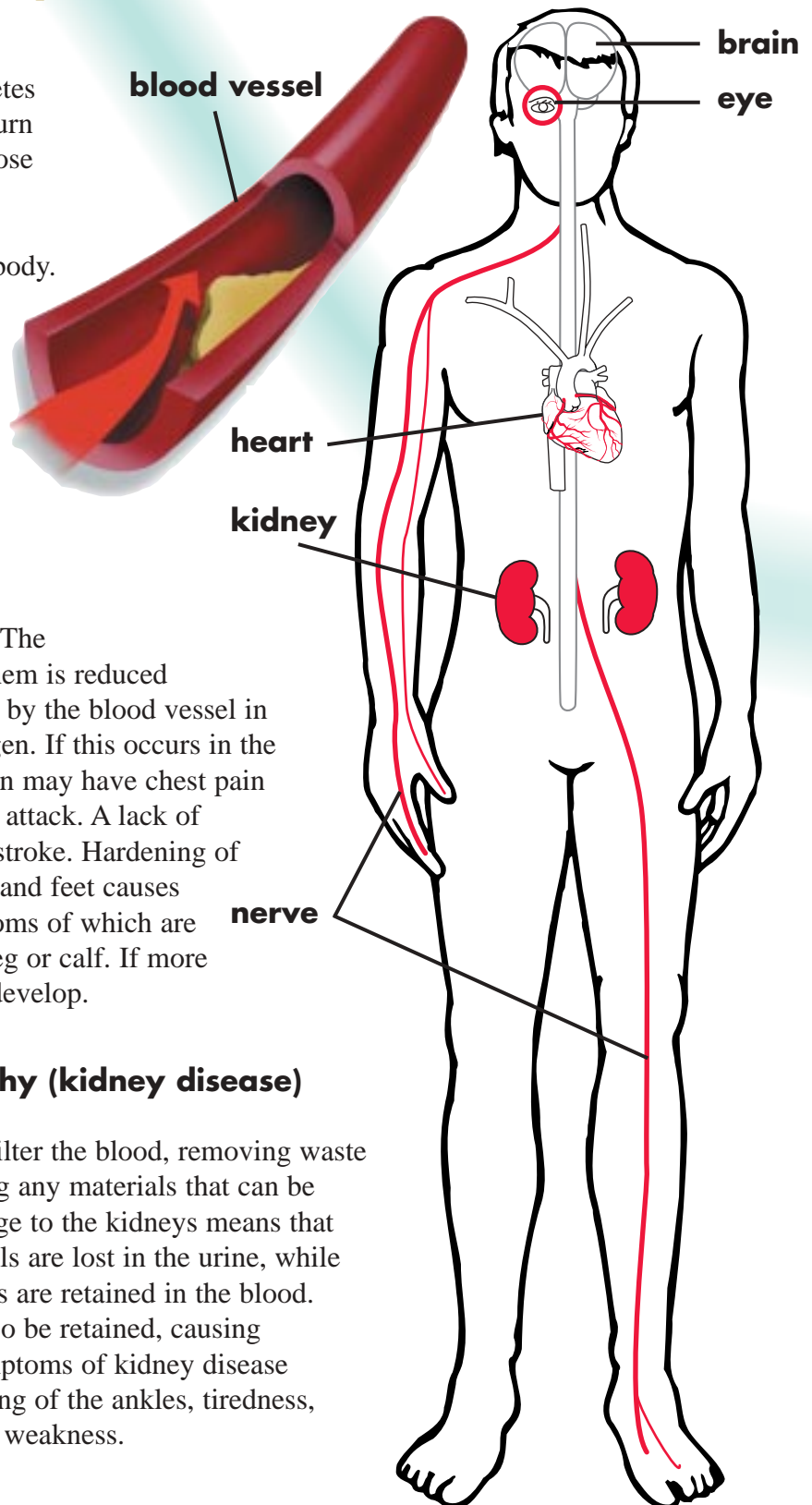
Complications of diabetes and where they appear:

From damage to symptoms

Despite treatment, in people with diabetes blood glucose levels usually do not return completely to normal (high blood glucose or hyperglycemia). Over the years, hyperglycemia can lead to serious complications in different parts of the body. You should therefore aim to keep your blood glucose as close to normal as possible, as this can reduce the risk of developing complications.

Cardiovascular complications

Cardiovascular disease is caused by damage to the arteries, which become hardened, then narrowed and blocked. The amount of blood that passes through them is reduced so that the part(s) of the body supplied by the blood vessel in question do not receive sufficient oxygen. If this occurs in the arteries that supply the heart, the person may have chest pain (angina), shortness of breath or a heart attack. A lack of oxygen reaching the brain results in a stroke. Hardening of the large and small arteries of the legs and feet causes peripheral vascular disease, the symptoms of which are aching or cramping sensations in the leg or calf. If more serious damage occurs, gangrene can develop.



kidney

Nephropathy (kidney disease)

The kidneys filter the blood, removing waste while retaining any materials that can be reused. Damage to the kidneys means that useful materials are lost in the urine, while waste products are retained in the blood. Water may also be retained, causing swelling. Symptoms of kidney disease include swelling of the ankles, tiredness, vomiting, and weakness.



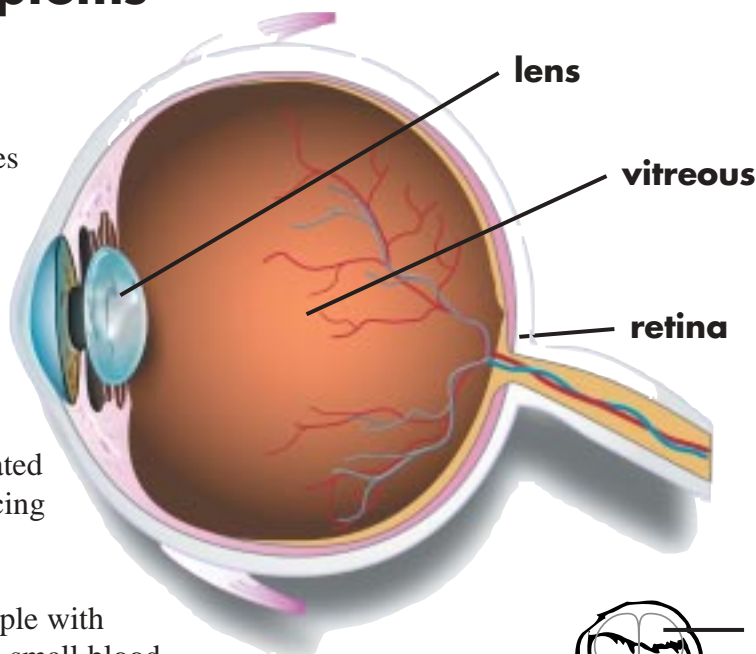
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Eyes

Several complications can occur in the eyes of people with diabetes.

Normally, the lens of the eye, which focuses light, is completely transparent. Clouding of the lens is known as **cataract**. Cataract is common in older people, but can occur at a younger age in people with diabetes. Cataracts can be treated by removing the lens of the eye and replacing it with an artificial lens.

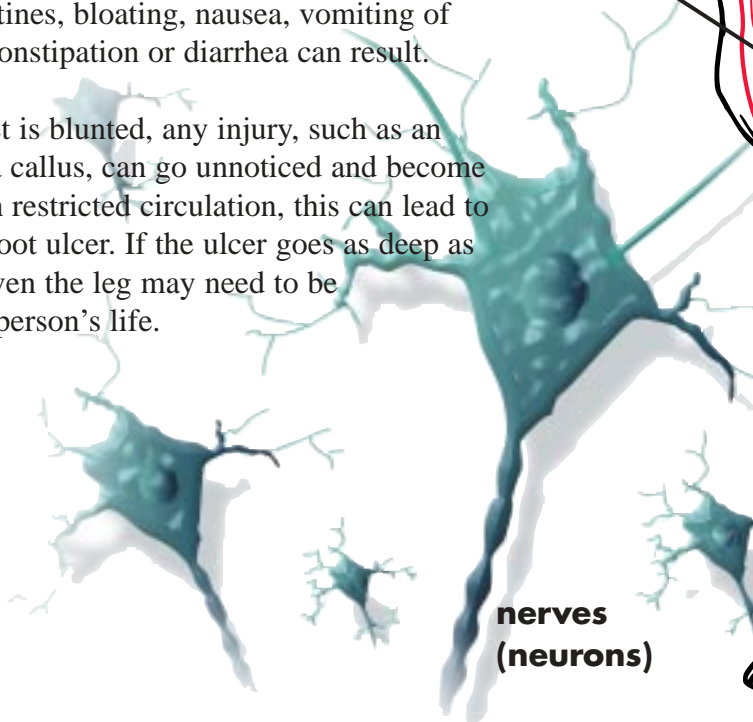
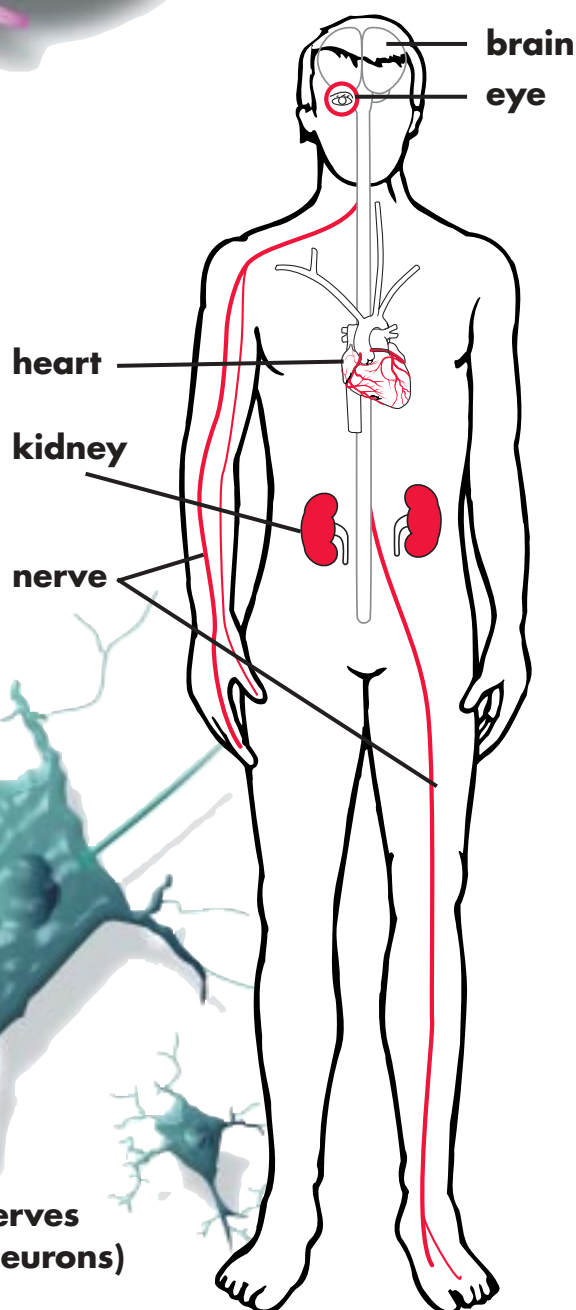
A potentially more serious problem in people with diabetes is **retinopathy**. This occurs when small blood vessels in the retina become damaged and leak fluid, blood and fat. If leakage occurs at the macula, the area at the very centre of the retina, the person is at risk of losing their sight. Sometimes, new blood vessels grow on the retina. These new vessels are very fragile and rupture easily, which can affect vision.



Neuropathy (nerve damage)

Damage to the nerves can cause numbness or pain, most commonly in the legs and feet, but sometimes in other parts of the body such as the hands, face, or chest. Nerves that control involuntary muscles can also become damaged. If that occurs in the intestines, bloating, nausea, vomiting of undigested food, and constipation or diarrhea can result.

If the feeling in the feet is blunted, any injury, such as an in-growing toenail or a callus, can go unnoticed and become infected. Together with restricted circulation, this can lead to the development of a foot ulcer. If the ulcer goes as deep as the bone, the foot or even the leg may need to be amputated to save the person's life.



nerves
(neurons)

