

Macrovascular Disease Due to Diabetes

You are at greater risk for heart attacks, strokes and poor circulation to the legs.

People with diabetes can have problems with their blood vessels. It is common for the arteries to get narrow. This can lead to disorders all through the body.

The Metabolic Syndrome

This is a group of problems:

- too much belly fat
- high blood pressure
- high blood fats (“triglycerides”)
- low HDL (“good”) cholesterol
- high blood sugar

People with the syndrome are at risk for heart problems early in life. And they are at risk for diabetes.

Your body may not use insulin well. This may lead to cause the syndrome. The liver sends out too much sugar. The cells cannot take in the sugar for energy. The pancreas makes more insulin to make up for this. The result is more insulin in the blood. The body does not make enough insulin to keep up with insulin resistance. So, the blood sugar level may rise. The person may then go on to develop diabetes.

Each of the problems listed above raises the risk of CHD (coronary heart disease). And they may play roles in strokes and PAD (peripheral artery disease). High insulin levels and a large waist boost the risk of death from CHD. You can help prevent CHD, strokes and PAD. You should watch your weight, blood pressure and cholesterol.

Coronary Heart Disease

Some arteries carry blood to the heart. In CHD, these arteries get narrow. People who have diabetes are at risk for CHD. Women who have diabetes are at high risk for heart attacks.

The arteries to the heart tend to get wider when you exercise. This increases blood flow to the heart. But in people with diabetes, these arteries do not get as wide. So, such people are at risk for chest pain ("angina"). And they are at risk for heart attacks. Diabetes is just one risk factor for CHD. There are other risk factors:

- smoking
- high blood pressure
- high LDL ("bad") cholesterol
- low HDL ("good") cholesterol

One study compared two groups:

- people with type 2 diabetes and no history of CHD
- people without diabetes who had already suffered a heart attack

Both groups had the same risk of a heart attack. People with diabetes should deal with any risk factors for CHD.

Stroke

People who have diabetes are at risk for stroke. Stroke risk factors that are related to diabetes include:

- high A1C levels (high blood sugar)
- long history of diabetes

High blood sugar may raise stroke risk in different ways. It may:

- allow cholesterol to build up faster along arteries to the brain
- promote blood clots

Another risk factor for stroke is high blood pressure. Many people with diabetes have high blood pressure.

Peripheral Artery Disease

Some arteries carry blood to the legs. In PAD, these arteries get narrow. It's marked by leg pain with exercise that stops quickly with rest. This is a sign of poor circulation. Poor circulation can slow the healing of injuries to the skin. This may lead to sores on feet and legs.

Diabetes and smoking each raise the risk of PAD. A person with diabetes who smokes has an even greater risk. People with PAD should deal with the same risk factors noted for CHD. These are:

- smoking
- high blood pressure
- high LDL ("bad") cholesterol
- low HDL ("good") cholesterol

If you have very bad PAD you may need surgery. This will bypass the blocked blood vessels. Or you can have a surgery called angioplasty to treat PAD. A small balloon is used to open up the narrowed artery.

*****Authored by Johns Hopkins University and Johns Hopkins Health System*****