

Aortic aneurysm

An aneurysm is a protuberance in a blood vessel caused by weakness in the blood vessel wall. Aneurysms are dangerous because they may rupture. The aorta is the large artery that connects to the heart and transports blood to the rest of the body. On occasion it develops an aneurysm when the blood vessel wall is injured. The weakening of the aorta may be caused by plaque, which is fat deposited on the blood vessel walls (atherosclerosis). Aortic aneurysms may occur throughout the aorta, from its origin, where it is joined to the heart, through the chest cavity (thorax) and down to the abdomen.

Causes of aneurysms

Aneurysms may be caused by many underlying problems. These include:

- Atherosclerosis (also called arteriosclerosis)
- Hypertension (high blood pressure)
- Injury in a blood vessel as a result of trauma
- Congenital abnormalities
- Aging
- Marfan's syndrome (a genetic disease that causes abnormal weakness of the blood vessel walls)

The risks associated with aneurysms are:

- Formation of atherosclerotic plaque at the site of the aneurism
- Formation of a clot at the site which subsequently detaches, which increases the likelihood of a stroke
- Increase in the size of the aneurysm, which causes pressure against other organs and causes pain
- Rupture of the aneurysm —because the artery wall becomes thinner in this place, it becomes fragile and can rupture when subjected to stress.
- Sudden rupture of the aortic aneurysm can be life-threatening.

A small aneurysm generally does not imply any risk and may not cause symptoms. The doctor should examine it regularly to detect whether it is growing. When aneurysms grow, pain in the area of the aneurysm is a typical symptom. The larger the aneurysm is, the more likely it is to rupture.

Diagnosis of aneurysms

Aneurysms are diagnosed through detection tests performed on patients with risk factors for developing them or upon being discovered by chance when a test is performed for unrelated symptoms. They may also be discovered as part of a physical exam when your doctor palpates a suspect area during the examination. An aneurysm can be detected through X-rays or with imaging techniques such as echocardiography, ultrasound, magnetic resonance (MRI) or computerized tomography (CAT).

Treatment of an aneurysm

Once an aneurysm is discovered, the treatment depends on its size and location. It is possible to administer medications to lower blood pressure and try to delay the growth of small aneurysms. Aneurysms are surgically treated when they grow to the point that the risk of rupture exists. The aneurysm is removed and replaced with a graft, which is an artificial substitute for the damaged portion of the aorta. If the aneurysm is close to the aortic valve (the heart valve that separates the aorta from the heart), replacement of the valve also tends to be recommended.