Aortic Dissection

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The aorta is the main artery in the body. It leads down from your heart to the arteries that branch out to your kidneys, abdomen and legs. The aorta delivers blood from the heart to the entire body.

The wall of the aorta is made of three layers. A dissection happens when the inner layer of the aortic wall tears. This causes blood to flow between the layers causing them to separate or dissect. Even if the tear is small, it can spread along the whole aorta and other arteries.

An aortic dissection can cause internal bleeding, stroke, heart attack or death.

Types of Dissections

There are two types of aortic dissections:

- type A: This type starts from a tear in the ascending aorta (just above the heart).
- type B: This type starts from a tear in the descending aorta (chest and abdomen towards the legs).

Aortic Aneurysm

An aortic aneurysm is an enlargement of your aorta. It is formed by the weakening of the aortic wall. The weakened wall balloons out and becomes very weak. An aneurysm can take many years to develop. It may not cause any symptoms, so people with an aneurysm may not even know they have one.

Aortic aneurysms can be life-threatening. Over time, the aneurysm can grow bigger and may rupture without warning.

Risk Factors

An aortic dissection can happen to anyone. You are at risk if you have the following:

- **high blood pressure (hypertension)** — too much pressure in the aorta can weaken and stretch the aortic wall. This is the most important risk factor.
- **family history (hereditary)** — having a close relative (parent, sister, brother or child) who has had an aortic dissection increases your risk.
- **genetic diseases** — Marfan's Syndrome, Turner's Syndrome and Ehlers-Danlos Syndrome are genetic diseases (run in families) that have abnormal aortic tissue. They have been linked to aortic dissections.
- **abnormal aortic valve** — the aortic valve allows blood to flow from your left ventricle to all parts of your body through your aorta. Each valve has a set of flaps called leaflets. If you have an abnormal aortic valve, you have one fewer leaflets than normal. This is also known as a bicuspid aortic valve.
- **aortic aneurysms** — the stretched aortic wall may tear.

Other risk factors include:

- gender (men have aortic dissections more often than women)
- older than age 40
- atherosclerosis (hardening of your arteries)
- previous heart surgery
- cocaine, amphetamine or stimulant abuse
- smoking.

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Symptoms

The symptoms of an aortic dissection are similar to a heart attack. They are sudden and cause severe chest or back pain. The pain may:

- have a ripping or tearing sensation
- move to the back, abdomen, neck, arm or jaw as the dissection gets worse.

Other symptoms may include:

- cold sweats
- fainting
- lightheadedness
- shortness of breath
- nausea or vomiting
- generalized weakness or severe fatigue.

An aortic dissection could cause only mild pain or no pain.

If you have one or more of these symptoms, call 911 right away. Do not delay. Do not drive yourself to a hospital Emergency Department or Urgent Care.

Treatment

The type of treatment needed for an aortic dissection will depend on the location of the tear.

Type A Dissections

Type A dissections usually need surgery to repair or replace the dissection.

- During surgery, the heart and lungs are bypassed with a heart-lung machine. This will allow access to the aorta.
- The torn section of the aorta is replaced with a synthetic graft.
- The coronary arteries may be reattached to the new aorta. Sometimes the aortic valve is also repaired or replaced.
- A special adhesive is used to fill in the gap between the inside and outside layers of the aorta. This will provide extra support for the aorta.

Type B Dissections

Type B dissections are first treated through medicine and lifestyle changes, such as lowering blood pressure. Surgery and endovascular stent grafts may also be needed.

After an Aortic Dissection

- **Know your risk factors.** Be familiar with the risk factors that caused your aortic dissection. It is important to lower your risk factors to help prevent a dissection from happening again. This may include lowering your blood pressure with medicines, diet and lifestyle changes.

  Exercise is also important. Strenuous (heavy) activities such as weight lifting should be avoided. Be sure to follow any instructions your health care provider gives you.
- **Have genetic testing.** If the dissection was caused by genetic traits, it is important to have family members screened for the risk factors or existing aortic aneurysms. Family members include parent, sister, brother or child.
- **Schedule follow-up visits.** It is important to have follow-up visits with a cardiologist to help prevent aortic complications (problems).

  A follow-up visit is needed within three months of leaving the hospital. After your first follow-up visit, your health care provider will tell you how often you need schedule visits.

  A CT (computed tomography) exam or an MRI (magnetic resonance imaging) may be done at each visit to check the size of the aorta.

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