

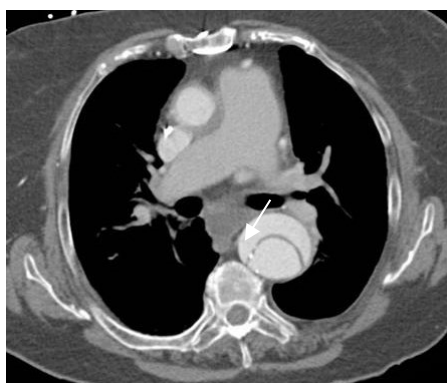
Acute Aortic Dissection

Information for patients and families
prior to transfer to specialist aortic centre

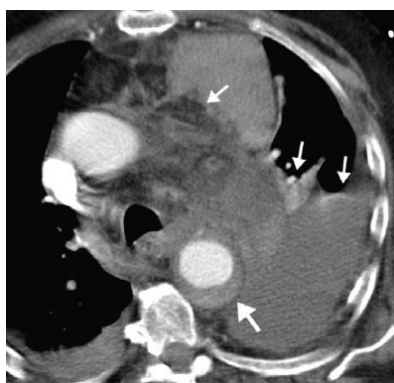
What is aortic dissection?

The aorta is the largest blood vessel in the body. It carries blood from the heart through the chest and the abdomen. An **aortic dissection** develops when the wall of the aorta loses its elastic nature, tears, and a flap forms.

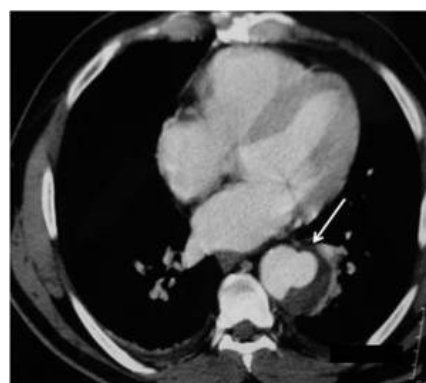
Intra-mural haematoma and penetrating aortic ulcer are variants of aortic dissection, together these three conditions are called **acute aortic syndrome**.



Dissection *'flap' in aorta*



Haematoma *bleed*



Ulcer *local out-pouching*

Where does this occur?

Aortic dissection most commonly occurs close to the heart. This is called a **Type A dissection**. Aortic dissection lower down in the chest or in the abdomen is called a **Type B dissection**.

Occasionally, aortic dissection involves the aortic arch (in the chest) but does not extend to the ascending aorta, this is called a **Non-A Non-B dissection**.

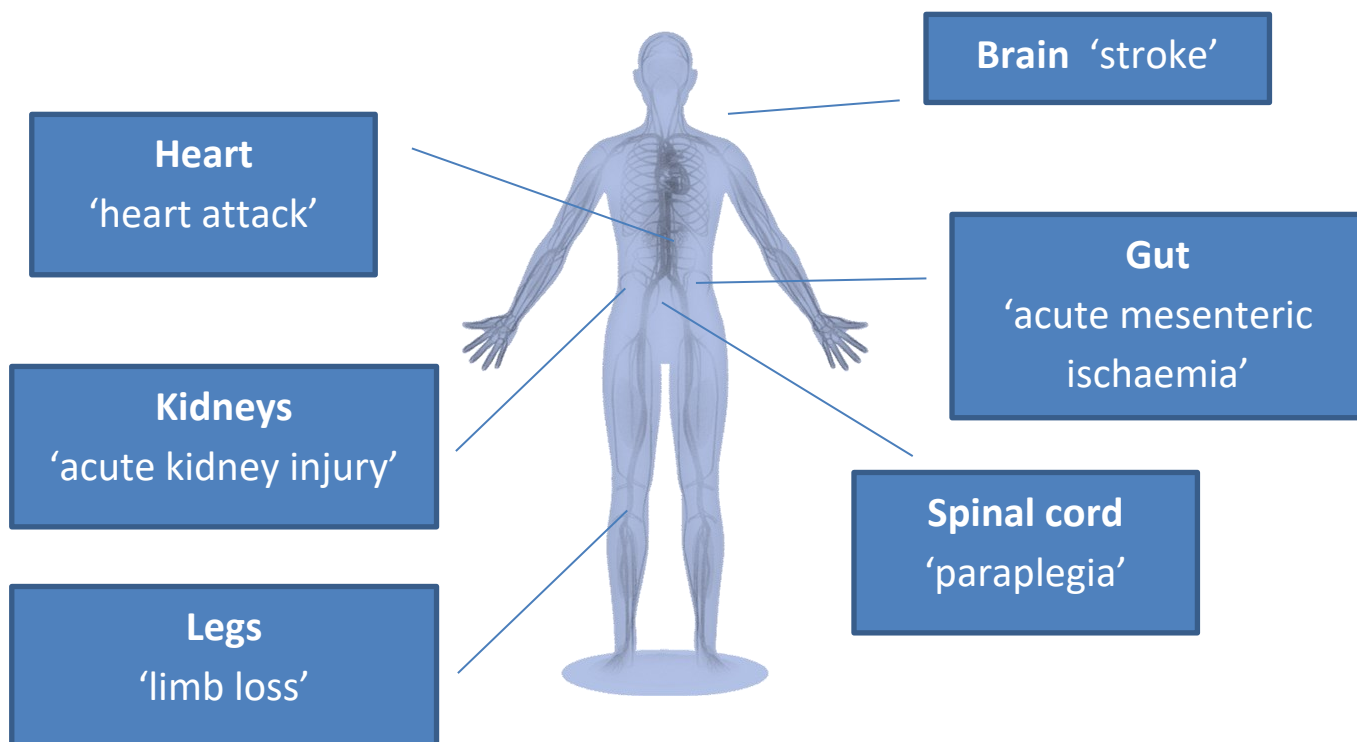
Ask the doctor to make a sketch:



Is aortic dissection dangerous?

Aortic dissection is life-threatening. People die from rupture - internal bleeding. For **Type A** the risk of dying is as high as 1-3% per hour until surgery is performed.

The other immediate concern is the **blood supply to vital organs** as this can be interrupted by the dissection flap:



Why has this happened?

People aged less than 60 years old are most likely have a pre-existing weakness of the middle layer of the aortic wall. This can be inherited, or it can be the result of a new change to a gene ('new gene mutation').

In people over 60 years, then the likely cause is stiffening of the middle layer of the aorta with aging, a process made worse by high blood pressure and smoking.

Aortic dissection can also occur following any aortic surgery and is more common in aortas that have already enlarged (aortic aneurysm).

What is the treatment?

Treatment is to reduce the strain on the aorta and repair the damaged segment. If there has been internal bleeding, then blood products are given to correct for the blood loss.

ANTI-IMPULSE THERAPY

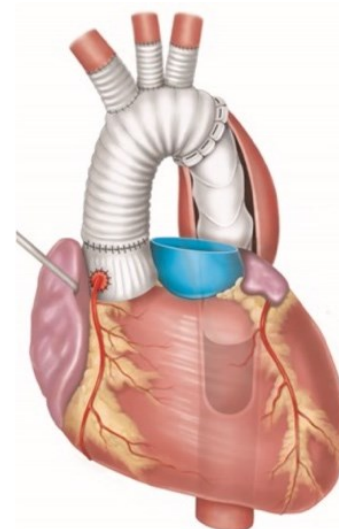
The priority is to reduce the stress on the aorta using medications to reduce both blood pressure and heart rate. This will be started immediately in the Emergency Department if the blood pressure is high. It is continued in the specialist centre in a critical care area if patient does not need immediate surgery.

OPEN SURGICAL REPAIR

Open surgical repair involves opening the chest ('thoracotomy') to repair the dissection by sewing in an artificial piece of artery (a '**graft**').

An example is shown in the picture to the right.

This is **major surgery** and is undertaken with the heart stopped for a period whilst the graft is stitched into place in the aorta ('heart bypass / circulatory arrest').

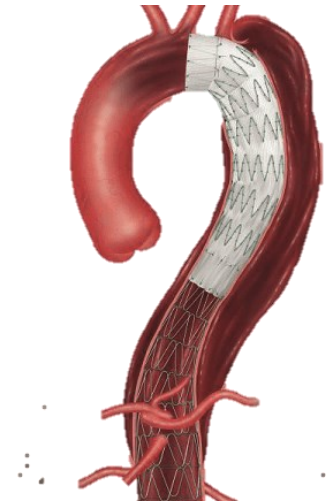


AORTIC STENT GRAFT

A stent graft consists of synthetic fabric tubes (the 'graft') mounted onto metal skeletons (the 'stents').

The stent graft is inserted through a small incision in the groin, positioned using X-rays and deployed.

The aim of the stent graft is to allow blood to only flow through the stent graft tubes into the dissection '**true lumen**'. This lumen will then expand, improving blood supply to more distal aortic branches.



Why is transfer to a specialist centre needed?

Only **Plymouth, Bristol, Oxford, Southampton** and **Brighton** in Southern England, and outside of London, have the specialist teams and resources available 24/7 to manage people with acute aortic dissection.

We know that transfer away from your local hospital is unsettling but for most people it is necessary to provide the best care and best outcomes.

Can relatives follow the ambulance?

We ask next of kin to make their own way to the receiving hospital. Going with a friend, or another family member, is best in these difficult circumstances.

What happens at the receiving hospital?

Some patients will be taken to the Emergency Department for further assessment, others will go straight to the Intensive Care Unit or Operating Theatre.

Contact: enquiries@england.nhs.uk

This publication can be made available in a number of alternative formats on request.