

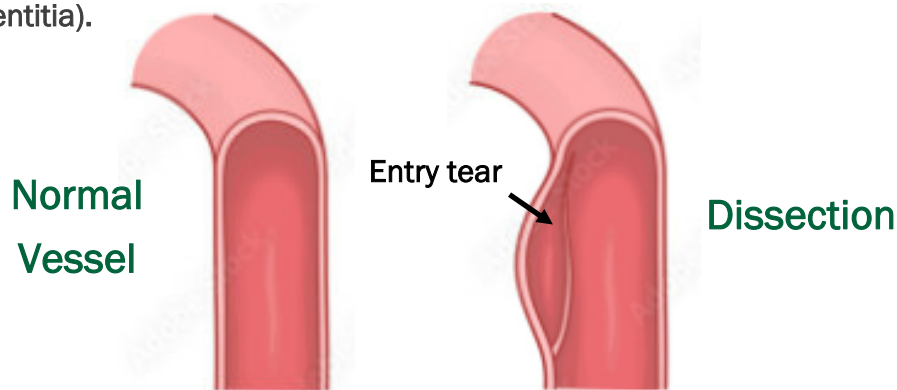
# Aortic Dissection

## The Basics

**Aortic Dissection** is a serious condition that affects the aorta. The aorta is the main and largest blood vessel in the body that takes blood from your heart and takes it to every part of the body, including the heart itself, the brain, arms, legs and organs.

An **aortic dissection** is a tear that goes through part, but not all, of the aortic wall.

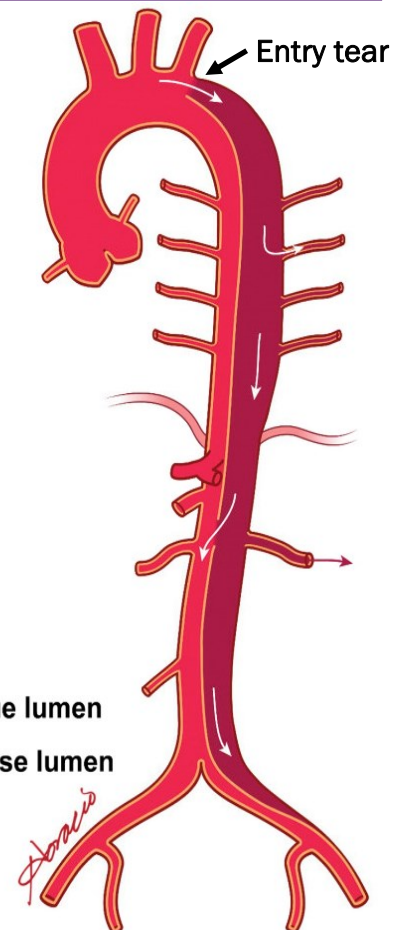
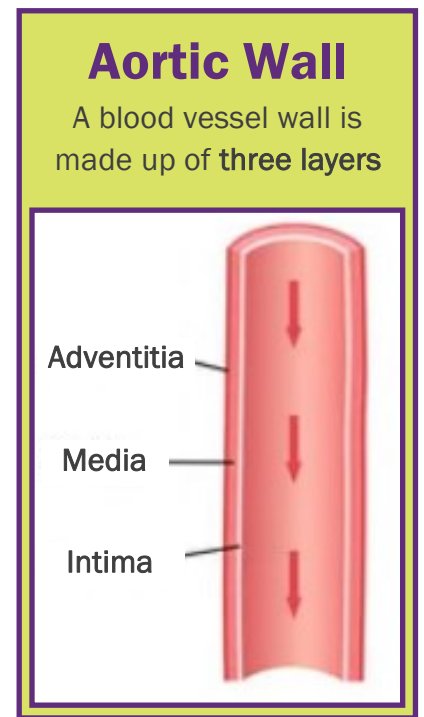
The tear happens in the inside layer (**Intima**) and blood travels in the middle layer (**Media**) and is held inside the vessel by the outside layer (**Adventitia**).



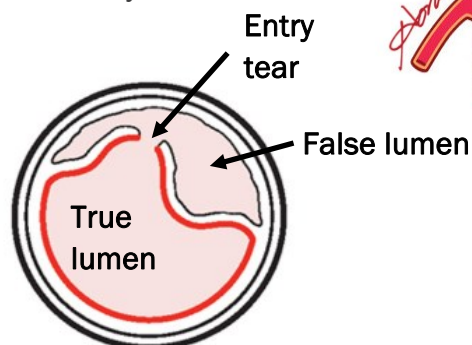
When the aorta tears, it is usually very painful, sudden, and intense. The pain may occur anywhere in the chest, up towards the head, neck and jaw, or down the back and/or abdomen. A minority of dissections cause very little pain.

The result of blood traveling within the wall of the aorta is that any part of the body can be **cut off from normal blood flow** and cause injury.

Blood flows in the normal way (through the “**true lumen**”) and contrasts with the area where the blood flows in the middle layer of the aortic wall, (the “**false lumen**”). Over time, the false lumen can expand and further weaken the aortic wall. This is why lifelong follow up is necessary.



Looking Down  
the Aorta with  
Dissection  
(Top View)



# Dissection

## Location and Types

### Type A Dissection

The **tear** is found in the **first part of the aorta**, where it exits the heart. This can be confined to just the ascending aorta or progress to involve further into the thoracic aorta and down to the abdominal aorta. This is a **surgical emergency** because it can lead to: a heart attack, a collection of blood around the heart that can compress it, or affect the aortic valve. Surgery involves opening the chest, removing the diseased part of the aorta and replacing with an **artificial graft** (most commonly a **fabric tube**). It also sometimes involves repairing or replacing the aortic valve.

Often times, after a Type A Dissection is surgically repaired, a **residual Type B Dissection** needs close monitoring for the long term.

### Type B Dissection

This occurs when there is a **tear in the descending part** of the aorta, beyond where the artery that goes to the left arm branches off. This can cause complications due to loss of blood flow to one or more major organs, or limbs, in the body. Surgery is necessary if there is **rupture** (blood leaking out of the aorta), **uncontrolled pain**, or if there is **lack of blood flow to the organs or legs**. Often times an operation can be done using large **stents** introduced through arteries of the legs. Sometimes a larger open surgery is necessary. Most Type B Dissections are “**uncomplicated**”, and treated by **controlling your blood pressure and heart rate** and followed long term.

