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ANA 202

Anatomy

1. From the video provided use it to describe the heart and its functions.

The hearth is an organ about the size of a fist, it lies behind and to the left of the breast bone or the sternum. The inside of the heart is divided into four chambers, the top two chambers are known as the atria(which a collection chambers for blood) the bottom two chambers are called the ventricles and they receive blood from the atria and pump the blood to the lungs and the body. The chambers are seperated by valves which control the blood flow of blood. There are 4 valves in the heart.

* Tricuspid valve
* Pulmonic valve
* Mitral valve
* Aotic valve

The circulation in the heart begins at the right side of the heart where blood from the body comes to the right atrium the the blood goes to the right ventricle through the tricuspid valve. The right venticle then pumps the blood through the pulmonic valve to the lungs to receive oxygen. Once it has received oxygen the blood flows to the left atrium and then it passes through the mitral valve to the left ventricle where the oxygenated blood goes to the the aorta through the aortic valve and then to the rest of the body.

The heart arteries(coronary ateries) provide oxygen and nutrients to the heart muscle. The right coronary artery supplies blood to the bottom and back of the heart. The left coronary splits to two vessels, one supplies blood to the front of the heart while the other supplies blood to the left part of the heart.

An electrical system transmits signals through out the heart to control pumping, the electrical signal starts in the sinoatrial node which is located in the upper portion of the right atrium. It is known as the natural pacemaker of the heart. The signal passes to the lower portions of the heart via the atrioventricular node.

The main purpose of the heart is to pump blood through blood vessels, ateries and veins to all parts of your body.

## Write on five different cogenital anomalies of the heart

## **Atrial Septal Defect (ASD)**

## An ASD is a hole in the wall between the upper chambers, or the right and left atria, of your heart. A hole here lets blood from the left atrium mix with blood in the right atrium. Some ASDs close on their own. Your doctor may need to repair a medium or large ASD with open-heart surgery or another procedure. He might seal the hole with a minimally invasive catheter procedure. He inserts a small tube, or catheter, in your blood vessel all the way to your heart. Then he can cover the hole with a variety of devices.

## **Pulmonary valve stenosis**

Pulmonary valve stenosis is a defect where the pulmonary valve, which controls the flow of blood out of the right heart pumping chamber (the right ventricle) to the lungs, is narrower than normal. This means the right heart pump has to work harder to push blood through the narrowed valve to get to the lungs.

## **Tetralogy of Fallot**

Tetralogy of Fallot is a rare combination of several defects.

The defects making up tetralogy of Fallot are:

* ****ventricular septal defect**** – a hole between the left and right ventricle
* ****pulmonary valve stenosis**** – narrowing of the pulmonary valve
* ****right ventricular hypertrophy**** – where the muscle of the right ventricle is thickened
* ****overriding aorta**** – where the aorta isn't in its usual position coming out of the heart

As a result of this combination of defects, oxygenated and non-oxygenated blood mixes, causing the overall amount of oxygen in the blood to be lower than normal. This may cause the baby to appear blue (known as [cyanosis](https://www.nhs.uk/conditions/blue-skin-or-lips-cyanosis/)) at times.

## Truncus arteriosus

Truncus arteriosus is an uncommon type of congenital heart disease. It's where the two main arteries (pulmonary artery and aorta) don't develop properly and remain as a single vessel. This results in too much blood flowing to the lungs which, over time, can cause breathing difficulties and damage the blood vessels inside the lungs.

Truncus arteriosus is usually fatal if it isn't treated.

### Ventricular septal defects

A ventricular septal defect (VSD) is a common form of congenital heart disease. It occurs when there's a hole between the 2 pumping chambers of the heart (the left and right ventricles). This means that extra blood flows through the hole from the left to the right ventricle, due to the pressure difference between them. The extra blood goes to the lungs, causing high pressure in the lungs and a stretch on the left- sided pumping chamber.

Small holes often eventually close by themselves, but larger holes need to be closed using surgery.