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Ana 202 assignment

## The heart is divided into 4 chambers. The top 2 chambers are called the atrium and is a collection chamber for blood. The bottom two chambers are called the ventricles are receive blood from the atrium and pump it to the lungs and the body. The chambers are separated by valves to control the direction of blood flow. There are 4 valves;

* Tricuspid valve
* Pulmonary valve
* Mitral valve
* Aortic valve

Circulation begins at the right side of the heart where blood from the body comes to the right atrium. This blood passes to the right ventricle where this pumps blood to the lungs to receive oxygen. Once it receives oxygen, it flows to the left atrium and then to the left ventricle where this pumps to the aorta and the rest part of the body. On the right side of the heart, the tricuspid valves separate the right atrium and right ventricle allowing blood to enter the ventricle but not flow backwards to the atrium, blood flows through the pulmonary valves to the lungs. On the left side of the heart, the mitral valves separates the left atrium and left ventricle. Blood flows from the left ventricle to the aorta to the aortic valves and to the rest of the body. Arteries carries blood with oxygen and other nutrients throughout the body, veins take blood back to the heart which pumps it to the lungs to be oxygenated. The heart arteries(pulmonary arteries) provides oxygen and nutrients to the heart muscles. The right coronary arteries supply blood to the bottom and back of the heart while the left coronary arteries splits into two vessels. One branch supplying blood to the front of the heart. The other branch delivers blood to the left side of the heart.

An electric system transmits signals to the heart to control is pumping. The electric signal starts in the SA node which is located in the upper portion of the right atrium and is known as the natural pace maker of the heart. The electric signal passes down to the 4 chambers of the heart via the AV node which controls the signal so the atrium contracts before the ventricles. In the ventricles, pathways carry the signals throughout the muscle so they contract the same time to pump blood through the lungs and through the body.

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.

## Valve Defects

Valves control the flow of blood through your heart’s ventricles and [arteries](http://www.webmd.com/heart/picture-of-the-arteries). And some minor heart defects can involve the valves, including:

**Stenosis.** When your valves become narrow or stiff, and won’t open or allow blood to pass easily.

**Regurgitation.** Your valves don’t close tightly, which lets your blood leak backward through them.

**Atresia.** This happens when your valve isn't formed right or has no opening to let your blood pass through. It causes more complicated heart problems.

**Ebstein’s anomaly.** This is a defect in another heart valve, the tricuspid valve, which may keep it from closing tightly. Babies who have Ebstein’s also often have an atrial septal defect (ASD).

**Pulmonary valve stenosis.** This is the most common valve defect in newborns. Babies with severe cases often have strained right ventricles. Your doctor can usually treat it with a catheter procedure. She will use a catheter, or thin tube, with a balloon on the end to inflate and stretch open the strained valve.

## Tetralogy of Fallot

Sometimes, if you have holes in your heart, or septal defects, you might also have other congenital heart problems. One is called the [tetralogy of Fallot](http://www.webmd.com/heart-disease/tetralogy-fallot), which is a combination of four defects, including:

* A large ventricular septal defect (VSD)
* Thickened wall around your right ventricle, or lower chamber
* Your aorta is located above the hole in your ventricular wall
* Stiff pulmonary valve that prevents blood from flowing easily from the heart to the [lungs](http://www.webmd.com/lung/rm-quiz-lungs-quiz)

A [baby](http://www.webmd.com/parenting/baby/default.htm) born with tetralogy of Fallot may need to have open heart surgery soon after birth to fix the problems. If the pulmonary valve issue isn’t too serious, the doctor might talk to you about waiting until your child is a little older

## Ventricular Septal Defect (VSD)

A [VSD](http://www.webmd.com/heart-disease/ventricular-septal-defects) is a hole in the part of your septum that separates your heart’s lower chambers, or ventricles. If you have a VSD, blood gets pumped back to your [lungs](http://www.webmd.com/lung/picture-of-the-lungs) instead of to your body.

A small VSD may also close on its own. But if yours is larger, you may need surgery to repair it.

## Complete Atrioventricular Canal Defect (CAVC)

This is the most serious septal defect. It’s when you have a hole in your heart that affects all four chambers. A CAVC prevents oxygen-rich blood from going to the right places in your body. Your doctor can repair it with patches. But some people need more than one surgery to treat it.