Introduction

You need your heart for all your body needs. It pumps about 2000 gallons of blood a day. It takes about 20 seconds for blood to reach every cell in the body. An artery carries blood out from the heart. A vein carries blood back to the heart. An average adult heart weighs about 10-13 ounces (300 to 350 grams). The rate which the heart pumps varies depending on what your doing. When at rest the heart pumps more slowly. When you run the heart rate increases to provide muscles and other tissues with additional oxygen they need. The typical heart rate is 72 beats per minute. Each beat gives out 2-3 ounces of blood pumped into the arterial system. At this heart rate it beats about 104,000 times a day. The Superior and Inferior are the biggest veins in the body.
The Superior is really the biggest. These veins have a lot of carbon dioxide and have oxygen-poor blood. The aorta is the biggest artery in the whole body. Which will be covered in the report. The pulmonary vein takes the blood out of the heart and takes it to the lungs.
Today we will talk about many different parts of the heart:
The Three Layers of Muscle, Atriums, Ventricles, Systole and Diastole, Treatments for the Heart, Valves, and many Diseases.

The Three Layers of Muscle

The heart has three layers of a muscular wall. A thin layer of tissue, the pericardium covers the outside, and another layer, the endocardium, lines the inside. The myocardium is the middle layer and is the biggest of all. Myocardial Infarction is a disease later read about in this report. The pericardium is a fibrous sac which is very smooth lining. In the space space between the pericardium and epicardium is a small amount of fluid. This fluid makes the movement of the heart muscles smooth. Myocardium is the heart muscle itself.

Atriums

The right atrium is a low pressure pump that moves blood into the right ventricle through the tricuspid valve. The atria are the two upper chambers of the heart. The right atrium receives blood from the veins which is low in oxygen and high in carbon dioxide; this blood is then transferred to the right lower chamber, or right ventricle, and is pumped into the lungs.

Ventricles

The ventricle is a muscular chamber that pumps blood out of the heart and into the circulatory system.

Right Ventricle

The right ventricle has a thicker and stronger muscular wall than the right atrium. The right ventricle pumps the oxygen-poor blood through the pulmonic valve into the lungs where blood gives up carbon dioxide it has carried from tissues. At the same time blood absorbs oxygen. From the lungs pumping action moves blood to a receiving chamber on the other side of the heart. The left atrium, gently pumps the blood to the left ventricle through the mitral valve.

Left Ventricle

The left ventricle gives a powerful pumping action to send the oxygen enriched in blood into the aorta. The aorta is the principal artery which subdivides and delivers the blood to the body's

tissues including brain, organs, and extremities.

Systole and Diastole

Systole is the contraction of the ventricles of the heart which forces blood out. Diastole is the relaxation of ventricles to allow blood to enter.

Treatments for the Heart

Angioplasty is a technique used to clear arteries that have become blocked with fatty deposits. Angiography is used to x-ray the blood vessels.

Valves

In the heart there are two valves that prevent backflow of blood from the ventricles into the atria. On the right side of the heart is the tricuspid valve, composed of three flaps of tissue; on the left is the two-piece mitral valve.

DISEASES

Congenital Disorders

Range of minor to serious congenital disorders are very evident at or shortly after birth.

Ventricular Septal Defect

Ventricular Septal Defect is most common for heart malformation. An infant born with a defect has an opening between the lower chambers (ventricles) of its heart so there is an increased blood flow from the left side to the right side because the left side has more pressure than right side. The lungs at this state are under very high in pressure.
Treatment for this disease depends on it size of defect. About 30%-50% of small defects close spontaneously during the first year of life.

Artrial Septal Defect

Atrial Septal defect is a opening which is high in the heart between the upper chambers (atria). This disease is more common in female infants than in male infants, and it often occurs with children who have Down syndrome.

Disorders of Heart Rate and Rhythm

The control mechanism for heart rate involves electrical impulses. One of the four chambers, right atrium, contains group cells called sinus node. The sinus node acts as a pacemaker, which produces electrical impulses that signal the muscle of the heart to expand and to contract in the pumping cycle. The heart rate of a human can get up to 200 beats a minute if you exert yourself. If something goes wrong with the sinus node and normal pacing of heart is disturbed or bothered, one of a number of rhythmic disorders can happen.
Too rapid or fast of a heartbeat is called tachycardia, and too slow of a heartbeat is called bradycardia. The heart can also be affected by tobacco or use of other drugs.

Heart Arrhythmias

Here are some signs of this disease: None, skipped heartbeats, light-headedness, chest discomfort, and shortness of breath. If the rhythm of heart beat is disturbed problem is arrhythmia. You maybe unaware of the problem.

Heart Murmurs

Heart murmurs can be heard by a physician as a soft hissing sound which follow the normal sounds of heart action. Heart murmurs can tell you if that blood is leaking out through a valve and can signal a serious heart problem. Heart murmurs can sometimes fix themselves.

Myocardial Infarction

Myocardial infarction is a disease of myocardium muscle in the heart. Heart muscle and it's linings can get a disease for instance myocardial infarction. You might not have done anything wrong even though, but it still could happen. Myocardium gets blood from the coronary artery. When not enough blood reaches the this muscle it is called myocardial infarction. It is usually rare, but it can damage the heart muscle very badly.

Cardiomyopathy

Here are some signs for this disease: short times of fast heartbeats, breathlessness, weakness, chest pain, fainting, and fluid retention. Fluid retention is also known as redema. Redema means swelling of body tissues due to excessive fluid. When the muscle of the heart is damaged or defective it could led to a disease known as cardiomyopathy. This could happen by bacteria or enlargement of the wall.

Diseases and Disorders for Heart Valves

Each valve consists of 2 or 3 thin folds of tissues. When closed valve prevents blood from flowing to the next chamber or from returning from the previous one. When a valve opening is narrowed and flow through is limited, the condition is stenosis. Each valve may be subject to stenosis or obstruction. In some cases a valve will lose its shape or sag (prolapse) or fail to close which causes a back flow of blood (regurgitation) could also be caused by infection or congenital problems.

Tachycardia

Tachycardia occurs normally during and after exercise or during stress and represents no danger to healthy individuals. In some cases, however, tachycardia occurs without apparent cause.The heart can beat as many as 240 times per minute in tachycardia. Tachycardia can be ended by lying down.

Vascular System and Diseases of It

The vascular system consists of blood vessels in the body. The vessels become smaller as they extend farther from the heart. The aorta delivers its flow to large arteries into smaller vessels. Arterioles supply tiny capillaries which nourish tissues. Oxygen is going from the capillaries to the tissues, and carbon dioxide from tissues taken up into the capillaries. Arteries have to be strong as well as flexible because of the pressure of the blood being pumped through the venous system. Veins get bigger when they get closer to the heart.

Disorders of Blood Vessels

A disease or a disorder for the blood vessels can be fatal.

Coronary Artery Disease

The coronary arteries supply and maintain the myocardium. Coronary artery disease can cause a heart attack or hypertension when blood vessels get small or filled up with cholesterol, scar tissue, or calcium. Other problems can happen also. For instance disorders for the heart valves or for the heart muscle and pericardium.

Conclusion

The heart is something you need every day you can't live with out it. Exercise, eat a balanced diet, and always have checkups. People don't think a checkup will really do anything, but believe it because it will. You might not know you have something wrong with your heart or something else in your body and then you might get ill. So, don't eat junky foods too often. Keep your heart safe and healthy as long as you can. Today I have talked about the heart and many other things as well such as the diseases of the heart, the vascular system, and more.

This Concludes My Report