

Glossary of Terms

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Aneurysm: A ballooning of the wall of a vein or an artery or the heart itself due to weakening of the wall by disease, traumatic injury or an abnormality present at birth.

Angiocardiology: A diagnostic method involving injection of a dye into the bloodstream. Chest x-rays taken after the injection show the inside dimensions of the heart and great vessels, as outlined by the dye.

Anoxia: Literally, no oxygen. This condition most frequently occurs when the oxygen supply to a part of the body is critically diminished. This may result in the death of the affected tissue.

Antiarrhythmic Drugs: Drugs that are used to treat disorders of the heart rate and rhythm, such as lidocaine, procaine amide, quinidine, digitalis, propranolol, atropine, and isoproterenol.

Anticoagulant: A drug that delays clotting (coagulation) of the blood. When given in cases where a blood vessel has been plugged by a clot, an anticoagulant tends to prevent new clots from forming, or the existing clots from enlarging, but does not dissolve an existing clot. Anticoagulants are also used to prevent clots from forming on artificial material, such as artificial valves.

Aorta: The main artery to the body, originating from the base of the heart, arching up over the heart like a cane handle, and passing down through the chest and abdomen near the spine. The aorta normally receives blood from the left ventricle of the heart and moves it to the many lesser arteries that conduct blood to all parts of the body, except the lungs.

Aortic Stenosis: A narrowing at the valve opening, or just above or below the valve, between the left ventricle of the heart and the large artery called the aorta.

Arrhythmia: Any variation from the normal rhythm of the heartbeat.

Arterial Blood: Blood that picks up oxygen in the lungs and normally passes from the lungs to the left side of the heart via the pulmonary veins. This blood is then pumped by the left side of the heart into the arteries that carry it to all parts of the body.

Artery: Any blood vessel that carries blood away from the heart to the various parts of the body. Arteries usually carry oxygenated blood, except for the pul-

monary artery, which carries unoxygenated blood from the heart to the lungs, where it picks up oxygen.

Asymptomatic: Without symptoms. A person is considered asymptomatic when he does not exhibit functional evidence of a disease or condition.

Atresia: The absence of a normal opening.

Atrial Septal Defect: An opening in the wall, or septum, that normally divides the left and right upper heart chambers, called the atria.

Atrial Septum: Sometimes called the interatrial septum, this is the muscular wall that divides the left and right upper chambers of the heart, called the atria.

Atrium: Sometimes referred to as the auricle. The atrium is one of the two upper chambers of the heart. The right atrium receives unoxygenated blood from the body. The left atrium receives oxygenated blood from the lungs.

Bacterial Endocarditis: An inflammation of the inner layer of the heart caused by bacteria, sometimes resulting as a complication of another infectious disease, an operation or injury. The lining of the heart valves is most frequently affected, especially valves with previous damage from rheumatic disease or congenital abnormality.

Balloon Angioplasty: A technique accomplished during cardiac catheterization or surgery using a balloon tipped catheter inserted into a vessel, usually to dilate a narrowing or to open a blockage. This is a fairly new procedure.

Balloon Valvuloplasty: A procedure in which a balloon is inserted into the opening of a narrowed heart valve, then inflated to stretched the valve open. When the procedure is complete, the balloon is removed.

Bicuspid Valve: Any valve with two leaflets. The term may refer to a normal mitral valve or an abnormal aortic or pulmonary valve, which normally has three leaflets.

Blood Pressure: The force that flowing blood exerts against the artery walls. Two blood pressures are usually measured: 1) The upper, or systolic, pressure occurs each time the heart contracts to pump blood into the aorta. This part of the heartbeat is called systole; and, 2) The lower, or diastolic, pressure occurs when the heart relaxes and refills with blood. This part of the heartbeat is called diastole. The blood pressure is expressed by two numbers, with the upper one written over the lower one (systolic/diastolic).

Blue Babies: Babies having a blue color of skin, called cyanosis, caused by insufficient oxygen in the arterial blood. This often indicates a heart defect, but may have

other causes, such as premature birth or impaired respiration.

Bradycardia: An abnormally slow heart rate. Generally, anything below 60 beats per minute is considered bradycardia.

Bundle of His: Also called the atrioventricular bundle or A-V bundle. This bundle of microscopic specialized fibers lies between the atria and ventricles and is the only known normal direct connection between the atria and the ventricles, serving to conduct impulses to the ventricular heart muscle. It is named after German anatomist Wilhelm His.

Cardiac: Pertaining to the heart. Sometimes refers to a person who has heart disease.

Cardiac Arrest: The cessation of the heartbeat. As a result, blood pressure drops abruptly and circulation of blood ceases.

Cardiologist: A specialist in the diagnosis and treatment of heart disease.

Cardiology: The study of the heart and its functions in health and disease.

Cardiopulmonary Resuscitation (CPR): An emergency measure used by one or two people to artificially maintain another person's breathing and circulation if these functions suddenly stop. CPR is done by keeping the airway open, performing rescue breathing and external cardiac compression, or heart massage, to keep oxygenated blood circulating through the vital organs of the body.

Cardiovascular: Pertaining to the heart and blood vessels.

Carditis: Inflammation of the heart.

Catheter: A thin, flexible tube that can be guided into body organs. A cardiac catheter is made of woven plastic, or other material to which blood will not adhere, and is inserted into a vein or artery, usually of an arm or a leg, and gently threaded into the heart. Its progress can be watched on a fluoroscope.

Catheterization: In cardiology, the process of introducing a thin, flexible tube, called a catheter, into a vein or artery and guiding it through the heart chambers and surrounding vessels for purposes of examination or treatment.

Cineangiocardiology: A diagnostic method similar to angiocardiology, except that instead of still x-ray pictures, motion pictures of the heart are made by fluoroscope as an injected opaque liquid is carried through the heart and blood vessels.

Clubbed Fingers: Fingers with a short broad tip and overhanging nail, somewhat resembling a drumstick. This condition is sometimes seen in children born with cer-

tain kinds of cyanotic heart defects and in adults with heart, lung or gastrointestinal diseases. It may also be hereditary and insignificant.

Coarctation of the Aorta: A congenital narrowing of the aorta, the main artery that conducts blood from the heart to the body.

Congenital Anomaly: An abnormality present at birth.

Congenital Heart Defect: Malformation of the heart or of its major blood vessels present at birth.

Congestive Heart Failure: Heart failure is a condition in which the heart is unable to pump the amount of needed blood to the body. This results from any anatomic or chemical abnormality that leads to congestion in the body and/or lung tissues. Congestive heart failure usually develops gradually over several years, although it can be acute (short and severe). It can be treated by drugs and/or, in some cases, by surgery.

Coronary Arteries: The two arteries that arise from the aorta, then arch down over the top of the heart and branch out to provide blood to the working heart muscle.

Cyanosis: Blueness of skin caused by insufficient oxygen in the blood. When hemoglobin is not carrying oxygen, it is dark burgundy and is called "reduced hemoglobin." The blueness of the skin occurs when critical amounts of reduced hemoglobin are present.

Dextrocardia: Abnormal position of the heart within the chest. The heart normally is in the left chest. When dextrocardia is present, the heart is on the right side. This occurs frequently when a congenital heart defect is present.

Diastolic Blood Pressure: The blood pressure inside the arteries when the heart muscle is relaxed.

Digoxin (Digitalis): A drug that causes the heart muscle to pump more effectively, thereby improving the circulation of the blood, and promoting the normal elimination of excess fluid. This drug is often used to treat heart failure. It is also used for certain arrhythmias.

Diuretic: A medicine that promotes the excretion of urine. These drugs are often used to treat conditions involving excess body fluid, hypertension and congestive heart failure. One important class of diuretics is the thiazides.

Ductus Arteriosus: A connection outside the heart of the fetus between the pulmonary artery and body of the fetus. Normally this connection closes soon after birth. If it does not close, the condition is known as patent or open ductus arteriosus.

Dysrhythmia (Arrhythmia): An abnormal rhythm of the heart.

Echocardiography: A diagnostic method in which pulses of high-frequency sound, called ultrasound, are transmitted into the body and the echoes returning from the heart and other structures are made into an electronic picture. These pictures are then studied for diagnostic purposes.

Echo: A picture of the heart and vessels made by echocardiography.

Edema: Abnormally large amounts of fluid in the tissues of the body.

Eisenmenger's Syndrome: A condition in which a large congenital shunting defect is complicated by a pulmonary hypertension, or high blood pressure in the blood vessels of the lungs. A shunting defect is an abnormal opening between the heart chambers, called a septal defect, or between the great arteries, such as patent ductus arteriosus. Some oxygen-poor blood gets pumped to the body and results in cyanosis of the lips, fingernails, and toenails.

Electrocardiogram: Often referred to as ECG or EKG. A graphic record of the electric currents generated by the heart. The word "electrocardiogram" most often refers to a resting electrocardiogram, that is, the patient is lying at rest while the recording is being made. The recording can also be made during exercise or when the patient is walking about.

Endocardial Cushion Defect: A complex congenital heart malformation involving the septum, or wall, between the upper chambers of the heart, called the atria, and the septum, or wall, between the lower chambers of the heart, called the ventricles. The valves between the upper and lower chambers are also malformed.

Endocarditis: An inflammation of the inner lining of the heart or heart valves.

Enlarged Heart: A state in which the heart is larger than normal, most often related to a birth defect or underlying disease. Rarely may represent a normal variant.

Extra Beats/Skipped Beats: Single or multiple irregular beats, or palpitations, usually felt as a skip or momentary cessation of the heartbeat.

Fluoroscope: An instrument for observing the internal body organs at work. X-rays are passed through the body onto a fluorescent screen, where the shadows of the beating heart and other organs can be seen and studied.

Foramen Ovale: A hole between the left and right upper chambers of the heart that normally closes after birth.

Heart Attack: The death of a portion of heart muscle, which may result in disabil-

ity or death of the individual, depending on the extent of muscle damage. A heart attack occurs when an obstruction in one of the coronary arteries prevents an adequate oxygen supply to the heart. Symptoms may be none, mild or severe, and may include: chest pain, sometimes radiating to the shoulder, arm, neck or jaw; nausea; cold sweat; and shortness of breath or syncope (fainting).

Heart Block: A condition in which the electrical impulse that travels through the heart's specialized conduction system to trigger the events of the heartbeat is slowed or blocked along its pathway. This can result in a dissociation of the rhythms of the upper and lower heart chambers, and is the major disorder for which artificial pacemakers are used.

Heart Disease: A general term used to mean ailments of the heart or blood vessels related to structure or function. May be present at birth (congenital) or developed after birth (functional).

Heart Failure: See Congestive Heart Failure.

Heart-Lung Machine: A special instrument used to provide circulation to the body during open-heart surgery.

Heparin: A type of anticoagulant that is given by injection.

High Blood Pressure: An unstable or persistent elevation of blood pressure above the normal range.

Holter Monitoring: A process by which the ECG can be tape-recorded for 14 hours. The patient wears a small tape recorder connected to electrocardiographic leads placed on the chest for 24 hours. A written diary is kept during that period to record symptoms.

Hypertension: Commonly called high blood pressure. It is blood pressure above the normal range.

Hypertrophy: Enlargement of a tissue or organ due to increase in the size of its cells. This may result from a demand for increased work.

Hypotension: Blood pressure below the normal range. Most commonly used to describe an acute fall in blood pressure as occurs in shock syncope (fainting). It is often called low blood pressure.

Hypoxia: Less than normal content of oxygen in the organs and tissues of the body. At very high altitudes, healthy people experience hypoxia because of the decreased amount of oxygen in the air.

Isoproterenol: A drug that can be used as a cardiac stimulant to treat an abnormally slow heartbeat and to increase the strength of the heart's pumping.

Lanoxin: See Digoxin.

Mitral Valve: The heart valve between the left atrium and left ventricle. It has two flaps, or cusps.

Mitral Valve Insufficiency: An incomplete closing of the mitral valve, which is situated between the upper and lower chambers on the left side of the heart. The mitral valve normally prevents a backflow, or leak, of blood in the wrong direction. Mitral valve insufficiency is sometimes the result of scar tissue that forms after rheumatic heart disease. It can also be caused by a congenital heart defect.

Mitral Valve Stenosis: A narrowing of the mitral valve situated between the upper and lower chambers on the left side of the heart. Sometimes the result of a congenital heart defect.

Murmur: Noise made by blood flow, which may or may not be abnormal.

Open-Heart Surgery: Surgery performed inside the heart with the aid of a heart-lung machine.

Organic Heart Disease: A structural abnormality of the heart or great vessels.

Pacemaker: A small mass of specialized cells in the right atrium of the heart, which gives rise to the electrical impulses that initiate contractions of the heart. Also called the sinoatrial node, or SA node. Under certain circumstances (normal or abnormal), other cardiac tissues may assume the pacemaker role by initiating electrical impulses to stimulate contraction. The term "artificial pacemaker" is applied to an electrical device, which substitutes for a defective natural pacemaker to control the beating of the heart by a series of rhythmic electrical discharges. If the electrodes that deliver the discharges to the heart are placed on the outside of the chest, it is called an "external pacemaker." If they are placed within the chest wall, it is called an "internal pacemaker."

Palpitations: A single or multiple irregular beat usually felt as a skip or momentary cessation of the heartbeat.

Patent Ductus Arteriosus: A congenital heart defect in which a small duct, or tube, between the artery leaving the left side of the heart, the aorta, and the artery leaving the right side of the heart, the pulmonary artery, which normally closes soon after birth, remains open. As a result of its failure to close, blood from the left side

of the heart is also pumped into the pulmonary artery and thereby into the lungs. This defect is sometimes called simply patent, or open, ductus.

Patent Foramen Ovale: An oval hole, called the foramen ovale, between the left and right upper chambers of the heart, which normally closes shortly after birth, remains open.

Pericarditis: Inflammation of the membrane sac, the pericardium, which surrounds the heart.

Pericardium: A closed tissue sac surrounding the heart and vessels close to the heart. The space inside the sac, the pericardial cavity, normally contains a fluid, which provides for smooth movements of the heart as it beats.

Persistent Truncus Arteriosus: A congenital cardiac defect, characterized by a single arterial trunk arising from the heart receiving blood from both pumping chambers, the ventricles, and the pulmonary artery.

Prostaglandins: Hormone-like substances made from fatty acids, which are found throughout the body tissues. They are thought to have important roles in tissue metabolism and blood flow.

Pulmonary: Pertaining to the lungs.

Pulmonary Artery: The large artery that normally conveys unoxygenated blood from the lower right chamber of the heart to the lungs. This is the only artery in the body which normally carries unoxygenated blood; all others carrying oxygenated blood to the body.

Pulmonary Edema: Congestion of lung tissues often resulting from critical, congenital, or acquired heart or lung disease.

Pulmonary Hypertension: High blood pressure, or hypertension, in the blood vessels of the lungs. The most common causes are congenital heart defects.

Pulmonary Valve Stenosis: A congenital heart defect in which there is a narrowing of the pulmonary valve, which is situated between the right lower chamber, or the ventricle, and the pulmonary artery.

Pulmonic (pulmonary) Valve: The heart valve between the right ventricle and pulmonary artery. It has three flaps, or cusps.

Radioisotopic Scanning: A diagnostic technique involving radioactive labeling of tissues and organs by the injection of radioisotopes (minimally radioactive material) into the bloodstream. The emitted radioactivity is detected by a scanner and the resulting record of the scan is used to evaluate structural defects or functions.

Regurgitation: The abnormal backward flowing of blood through a valve of the heart.

Rheumatic Heart Disease: A complication of rheumatic fever in which damage results to all layers of the heart, particularly the valves.

Rubella: Commonly known as German measles.

Septa: The muscular walls dividing the two chambers on the left side of the heart from the two chambers on the right. The atrial septum separates the top chambers and the ventricular septum separates the bottom chambers.

SBE: See Bacterial Endocarditis.

Shock: Collapse of the circulation related to a congenital heart defect or acquired heart disease or loss of blood volume.

Shunt: A passage between two blood vessels or between the two sides of the heart, as in cases where an opening exists in the wall that normally separates them. In surgery, a shunt is the operation of forming a passage between blood vessels to divert blood from one part of the body to another.

Sphygmomanometer: An instrument for measuring blood pressure in the arteries.

Stenosis: A narrowing or stricture of an opening. Mitral stenosis, aortic stenosis, etc., means that the valve indicated has become so narrowed that it does not function normally. Also refers to narrowing of a blood vessel.

Stress Test: A diagnostic method used to determine the body's response to physical stress. Usually involves monitoring an EKG and other physiological parameters, such as breathing rate and blood pressure, while the patient is exercising – jogging on a treadmill, walking up and down a short set of stairs, or pedaling on a stationary bicycle.

Subvalvar: Below a valve.

Symptomatic: A person is considered symptomatic when he exhibits functional evidence of a disease or condition.

Systolic Blood Pressure: Pressure inside the arteries when the heart contracts with each beat.

Tachycardia: Abnormally fast heart rate. What is considered tachycardia varies with age.

Tetralogy of Fallot: A complex congenital heart malformation consisting of: 1) an opening in the wall between the lower heart chambers (ventricular septal defect), 2) a narrowing of the pulmonary valve (stenosis) and the muscular area just beneath it, 3) thickening (hypertrophy) of the right ventricle and 4) abnormal position of the great artery (aorta). These children are cyanotic.

Transplantation, Heart: The replacement of a healthy heart from a recently deceased donor into the chest of a person whose own heart can no longer function adequately. The donor's heart then replaces or assists the failing heart.

Transposition of the Great Vessels: A congenital heart defect in which the aorta arises from the right, rather than left, ventricle and the pulmonary artery arises from the left, rather than the right, ventricle. Thus the right heart pumps unoxygenated blood from the body through the aorta and back to the body, and the left heart pumps oxygenated blood from the lungs back to the lungs. Only if there is a sizeable hole between right and left chambers, called a septal defect, or a channel between the aorta and pulmonary artery, patent ductus arteriosus, will enough oxygenated blood get pumped to the body to sustain life. Babies with this condition are critically ill and cyanotic and require surgical correction in the first years of life.

Tricuspid Atresia: A severe congenital heart defect in which the valve between the upper right chamber, the atrium, and the lower right chamber, the ventricle, failed to form. Other associated defects are required for life to persist. These children are cyanotic.

Tricuspid Valve: The heart valve between the right atrium and right ventricle, comprised of three flaps or cusps.

Ultrasound: High frequency sound vibrations, not audible to the human ear. In a sonar-like application, ultrasound can be used by a cardiologist as a diagnostic tool, usually echocardiography.

Valve: An opening covered by membranous flaps between two chambers of the heart or between a chamber of the heart and a blood vessel. When it is closed, blood normally does not pass through.

Valve Conduit: An artificial tubing with an artificial valve used in some congenital heart surgeries.

Valvular Insufficiency: Valves that close improperly and permit a backflow of blood. Valvular insufficiency may result from either congenital or acquired heart disease.

Vascular: Pertaining to the blood vessels.

Vectorcardiography: A special type of EKG.

Vein: Any one of a series of vessels of the vascular system, which carries blood from various parts of the body back to the heart.

Venous Blood: Refers to blood returning to the heart. It is unoxygenated when returning from the body and oxygenated when returning from the lungs.

Ventricle: One of the two main pumping chambers of the heart. The left ventricle pumps oxygenated blood through the arteries to the body. The right ventricle pumps unoxygenated blood through the pulmonary artery to the lungs. Capacity of each ventricle in an adult averages 85 cc. or about 3 ounces.

Ventricular Septal Defect: A congenital cardiac defect in which there is an abnormal opening in the wall, or septum, that divides the right and left lower heart chambers, called the ventricles.

