

Heart Failure Glossary

Term	Definition
Ablation	The removal or destruction of a small section of heart tissue that is a source of abnormal electrical activity causing or contributing to some types of tachycardia (fast heartbeat).
ACE inhibitors	A drug which inhibits ACE (angiotensin converting enzyme) which is important to the formation of angiotensin II. Angiotensin II causes arteries in the body to constrict and thereby raises the blood pressure. ACE inhibitors lower the blood pressure by inhibiting the formation of angiotensin II. This relaxes the arteries which not only lowers blood pressure, but also improves the pumping efficiency of a failing heart and improves cardiac output in patients with heart failure.
Adenosine	A naturally-occurring substance produced in many sites in the body which plays a role in important biochemical processes. It can cause widening of coronary arteries as well as many other effects throughout the body such as regulating heart rhythm, toning blood vessels, maintaining wakefulness and producing urine. As a drug, adenosine is used to treat some types of arrhythmias (abnormal heart rhythms), specifically those that cause a fast heartbeat.
Adrenaline	A substance produced by the <i>medulla</i> (inside) of the adrenal gland, adrenaline is synonymous with <i>epinephrine</i> . It causes quickening of the heart beat, strengthens the force of the heart's contraction, opens up the <i>bronchioles</i> in the lungs and has numerous other effects.
Aerobic Exercise	Exercise which can improve your functional ability and, in some cases, reduce symptoms of heart disease. It requires extra oxygen, is repetitive in nature and involves the large muscle groups as well as producing a heart rate of 220 minus the age of the individual. This promotes the circulation of oxygen through the blood. Examples are walking, swimming, and cycling.
Aldosterone	A hormone released by the adrenal glands which works on the kidneys to help the body retain sodium and excrete potassium. It is the main regulator of the salt and water balance in the body. It also acts on the central nervous system to increase a person's appetite for salt and make them feel thirsty. These effects directly act to increase the amount of fluid in the blood and to increase blood pressure.
Aldosterone Antagonist (Aldosterone Receptor Blocker), (Diuretic)	Drugs that act as diuretics (water pills) by blocking the body's response to the hormone aldosterone. Aldosterone promotes the retention of sodium and the excretion of potassium. Aldosterone antagonists increase urination, reducing water and salt while retaining potassium. They help lower blood pressure, increase the heart's pumping ability and help protect the heart in heart failure.
Alpha Blockers	A group of drugs used to lower <i>blood pressure</i> . They do this by blocking the effects of certain chemicals or hormones (specifically <i>adrenaline</i> or adrenaline-like substances) on alpha receptors (parts of cells that trigger physiological changes in the body). These changes can speed the heart, strengthen the heartbeat and constrict the <i>blood vessels</i> . These reactions cannot be triggered if the alpha blockers block the chemicals. (Also known as alpha-adrenergic antagonists, alpha-adrenergic blocking agents, and alpha-adrenergic blockers.)
Ambulatory Monitors	Small portable electrocardiograph machines which are able to record the heart's rhythm. Each type of monitor has unique features related to length of recording time and ability to send the recordings over the phone.

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Amiodarone	A Class III anti-arrhythmic drug (potassium channel blocker) used to slow the <i>heart rate</i> and help keep it in a regular <i>rhythm</i> . It is used to treat fast and/or irregular heart rates from the heart's <i>upper and lower chambers</i> including <i>atrial fibrillation</i> , <i>ventricular tachycardia</i> and <i>ventricular fibrillation</i> . Side effects are usually dose-related and regular follow-up is necessary to determine kidney, liver and lung function.
Amyloidosis	A disorder resulting from the abnormal depositing of a particular protein, called amyloid, in various tissues of the body. Amyloid protein can be deposited in a localized area, and not be harmful, or it can cause serious changes in virtually any organ of the body, including the heart and blood vessels. Medical researchers agree that this condition is not well understood and requires more research.
Anemia	A condition characterized by less than a normal amount of circulating red blood cells. Anemia reduces the amount of oxygen available to the body. It is not a disease but rather a symptom of other illnesses with symptoms of fatigue, light-headedness, breathlessness, palpitations, and headache. Signs of anemia may include a rapid pulse or rapid breathing.
Aneurysm	An abnormal widening or ballooning-out of the wall of an artery (a vein or the heart) due to weakening of the wall by disease, injury or an abnormality present at birth. When aneurysms grow too large, they can rupture and the bleeding can be life-threatening. If an aneurysm has grown too large, it should be removed. Some common locations for aneurysms include the aorta (the major artery leading away from the heart), brain (cerebral aneurysm), leg, intestine and splenic artery. The dilated aortic artery is usually without symptoms and often identified by chance.
Angina Pectoris (Angina)	Medical term for chest pain or discomfort caused by inadequate blood flow and oxygenation to the heart muscle. Angina is a symptom of a condition called <i>myocardial ischemia</i> . It occurs when the heart muscle (<i>myocardium</i>) doesn't get as much blood (hence as much oxygen) as it needs for a given level of work. Insufficient blood supply is called <i>ischemia</i> . <i>Stable angina</i> (or <i>chronic stable angina</i>) refers to "predictable" chest discomfort such as that associated with physical exertion or mental or emotional stress. Rest and/or nitroglycerin usually relieve stable angina. <i>Unstable angina</i> refers to unexpected chest pain and usually occurs at rest. It is typically more severe and prolonged and is due to a reduced blood flow to the heart caused by the narrowing of the coronary arteries in atherosclerosis. Unstable angina is an acute coronary syndrome and should be treated as an emergency.
Angiogenesis	The spontaneous or drug-induced growth of new blood vessels called "collateral blood vessels." The growth of these vessels may help to relieve coronary artery disease by rerouting blood flow around clogged arteries.
Angiography	An X-ray test used to detect and diagnose diseases of the <i>blood vessels</i> , such as weakening of the vessel walls and the narrowing or blocking of vessels in many areas of the body, including the brain, neck (<i>carotids</i>), heart, <i>aorta</i> , chest, pulmonary circuit, kidneys, gastrointestinal tract, and limbs, and to examine the <i>chambers</i> of the heart. The X-ray is taken after the vessels have been injected with dye which allows them to be seen on film. The pictures that are obtained are called <i>angiograms</i> . Coronary angiography is done during a <i>cardiac catheterization</i> . (Also known as Angiocardiography, Angiogram and Arteriography.)

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Angioplasty (Balloon Angioplasty)	A medical procedure in which a balloon is used to open narrowed or blocked blood vessels of the heart (coronary arteries). It is not considered to be a type of surgery, but is an invasive procedure. A catheter with a deflated balloon on its tip is passed into the narrowed artery segment, the balloon is inflated to compress the fatty matter into the artery wall and stretch the artery open to increase blood flow to the heart. Then the balloon is deflated and the catheter is removed. (Also known as Percutaneous Coronary Intervention (PCI), Balloon Angioplasty, and Coronary Artery Balloon Dilation.)
Angiotensin	A chemical produced by the body which acts as a <i>vasoconstrictor</i> , causing the muscles around the blood vessels to contract, thus narrowing the blood vessels. This can cause high blood pressure. Angiotensin also stimulates <i>aldosterone</i> secretion.
Angiotensin converting enzyme	Usually abbreviated ACE, angiotensin converting enzyme is an enzyme which helps create a protein called angiotensin II. Angiotensin II can raise blood pressure by causing your blood vessels to narrow. See also ACE inhibitors.
Angiotensin-Converting Enzyme (ACE) Inhibitors	A group of drugs used to treat high blood pressure and heart failure. ACE inhibitors block a specific enzyme (ACE or angiotensin-converting enzyme) which retains salt in the kidney and can cause heart and blood pressure problems. ACE inhibitors have been shown to decrease the risk of dying from a heart attack.
Angiotensin II Receptor Blockers (or Inhibitors) (ARBs)	A class of drugs used to treat high blood pressure and heart failure. They do not interfere with the body's production of angiotensin. They block the effects of angiotensin, preventing it from constricting the muscles around the blood vessels and narrowing the blood vessels. In this way, they keep the coronary arteries open, which lowers blood pressure, increases blood flow to the heart and reduces the heart's workload. Often used in patients who cannot tolerate ACE inhibitors. (Also known as Angiotensin-2 Receptor Antagonists).
Ankle-brachial Index (ABI) Test	A painless exam which compares the blood pressure in the feet to the blood pressure in the arms to determine how well the blood is flowing. This test is used to diagnose <i>peripheral artery disease</i> (PAD). It takes only a few minutes and can be performed by a healthcare professional as part of a routine exam.
Anomalous Coronary Artery	A coronary artery which has an abnormality or malformation. The malformation is congenital (present at birth) and may be located anywhere along the artery surface. Likewise, it may affect the overall size and shape of the affected coronary artery or arteries. ACA may also occur along with other congenital heart defects.
Antiarrhythmic Medication	A group of drugs which helps control and slow heart rate. They do this by either slowing the activity of tissue that is initiating electrical impulses too quickly in the heart's natural pacemaker (the <i>sinoatrial</i> or <i>SA node</i>) or by slowing the transmission of fast electrical impulses inside the heart.
Anticoagulant (Blood Thinners)	A group of drugs which decrease the ability of the blood to clot, or coagulate. They are sometimes called blood thinners, although they do not actually thin the blood. They are used to treat certain blood vessel, heart and lung conditions. They are also given to certain people at high risk for forming blood clots, such as those with artificial heart valves or who have atrial fibrillation. Anticoagulants do not dissolve clots but may prevent existing clots from becoming larger and causing more serious problems, and are often prescribed to prevent first or recurrent heart attack or stroke. Common anticoagulant drugs are heparin and warfarin.

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Anti- hypertensive Drugs	A group of drugs commonly prescribed to help lower <i>blood pressure</i> when appropriate diet and regular physical activity alone have not succeeded. They include <i>diuretics</i> , <i>angiotensin-converting enzyme (ACE) inhibitors</i> , <i>angiotensin receptor blocker (ARBs)</i> , <i>vasodilators</i> , <i>alpha-blockers</i> , <i>beta-blockers</i> , <i>calcium channel blockers</i> and <i>central alpha-agonists</i> . Many patients with <i>high blood pressure</i> may require more than one drug to achieve control. Some of these drugs may also be prescribed for heart failure and arrhythmia patients.
Antioxidant	Vitamins (A, C, and E) that may help to limit the cellular damage caused by free radicals (which are released when tissue is being injured, such as during the progression of heart disease). Studies suggest certain antioxidants may protect against coronary artery disease.
Antiplatelet Agents	A group of drugs used to keep blood clots from forming by preventing blood platelets from sticking together. They help prevent clotting in patients who have had a heart attack, <i>unstable angina</i> , <i>ischemic strokes</i> , <i>transient ischemic attacks (TIA)</i> and other forms of cardiovascular disease. They are usually prescribed preventively, when plaque buildup is evident in the arteries but there is not yet a large obstruction. Aspirin and clopidogrel are examples.
Aorta	Large artery leaving the heart. All blood pumped out of the left ventricle travels through the aorta on its way to other parts of the body.
Aortic Insufficiency	Aortic insufficiency refers specifically to the aortic valve, which is the valve the blood passes through as it leaves the heart and enters the aorta. When blood leaks back through the valve it is known as aortic insufficiency. Small amounts of aortic insufficiency may be inconsequential, but larger amounts require repair or replacement of the aortic valve.
Aortic Stenosis (AS)	A congenital heart defect in which the aortic valve, between the left ventricle and the aorta, is narrowed. It occurs when the aortic valve didn't form properly. Sometimes stenosis is severe and symptoms occur in infancy. Otherwise, most children with aortic stenosis have no symptoms. In some children, chest pain, unusual tiring, dizziness or fainting may occur. The need for surgery depends on how severe the stenosis is. A procedure called balloon valvuloplasty has been used in some children. Children with aortic stenosis need lifelong medical follow-up.
Aortic Valve	The heart valve between the left ventricle and the aorta. It has three flaps (cusps). The aortic valve prevents
Aortic Valve Homograft	When replacement of an aortic valve is necessary it is possible to replace the valve with another human valve known as an aortic valve homograft. This operation involves cardiopulmonary bypass.
Aortic Valve Repair	The <i>aortic valve</i> is the last valve in the heart through which the blood travels prior to circulating in the body. When this valve is leaking or too tight, a surgeon may be able to repair the valve rather than replace it.
Aortic Valve Replacement	When the aortic valve is diseased, it can become either too narrow or leaky. In such cases, the aortic valve may need to be replaced with either a prosthetic or human valve.
Aortic Valve	The aortic valve is the last valve through which the blood passes before it enters the aorta or main blood vessel of the body. The valve's role is to prevent blood from leaking back into the left ventricle from the aorta after it has been ejected from the heart.

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Aphasia	A total or partial loss of the ability to use words due to brain injury or disease. It's most often caused by a stroke that injures the brain's language center. Some people with aphasia recover quickly and completely after a stroke. Others may have permanent speech and language problems.
Arrhythmia	An irregular heartbeat.
Arterial Grafting	In patients who require coronary artery bypass graft surgery, it is sometimes desirable to use arteries from other parts of the body to provide the bypass grafts. This is known as arterial grafting. The alternative is to use vein grafts for coronary bypass surgery.
Arterial Switch Operation (ASO)	An open-heart procedure used to correct many forms of transposition of the <i>great arteries (TGA)</i> . In TGA, a congenital heart defect, the <i>aorta</i> and <i>pulmonary artery</i> are reversed. The aorta receives the oxygen-poor blood from the <i>right ventricle</i> , but this blood is carried back to the body without receiving more oxygen. Likewise, the pulmonary artery receives the oxygen-rich blood from the <i>left ventricle</i> but carries this blood back to the lungs. In ASO, the aorta and pulmonary artery are <u>switched back to their normal positions</u> so the aorta is connected to the left ventricle, and the pulmonary artery is connected to the right ventricle. The coronary arteries, which carry the oxygen-rich blood that nourishes the heart muscle, also need to be re-attached to the new aorta.
Arteries	Blood vessels carrying blood away from the heart to the tissues.
Arteriography	A testing procedure in which a dye visible to X-rays is injected into the bloodstream. Then X-ray pictures are taken and studied to see if the arteries are damaged, narrowed or blocked. Arteriography is done during cardiac catheterization. (Also known as <i>Angiocardiology</i> , <i>Angiogram</i> and <i>Angiography</i> .)
Arterioles	Any of the small terminal twigs of an artery that ends in capillaries. When they contract, they increase resistance to blood flow, and blood pressure in the arteries increases.
Arteriosclerosis	Commonly called " <i>hardening of the arteries</i> ," this includes a variety of conditions causing artery walls to thicken and lose elasticity. Arteriosclerosis can occur because of <u>fatty deposits</u> on the inner lining of arteries (atherosclerosis), <u>calcification</u> of the wall of the arteries, or <u>thickening</u> of the muscular wall of the arteries from chronically elevated blood pressure. It also is associated with aging. <i>Atherosclerosis</i> is a form of arteriosclerosis.
Artery	One of a series of vessels that carry oxygenated blood from the heart to the various parts of the body. Their thick elastic walls expand as blood flows through the arteries. There are two divisions, pulmonary and systemic. The pulmonary arteries carry deoxygenated blood from the right ventricle to the lungs. The systemic arteries carry oxygenated blood from the left ventricle to the rest of the body.
Artificial Heart	A prosthetic device implanted into the body to replace the original biological heart.
Asystole	An abnormal heart rhythm characterized by an absence of electrical activity. Because there is no electrical activity, there is no heartbeat. This condition is followed by death if not treated and reversed immediately.
Atherectomy (Directional Coronary Atherectomy or DCA)	A procedure to remove plaque from arteries. An ultra-thin wire is threaded through a special catheter into the blocked artery. Several devices may then be used. One is a high-speed rotating "burr" that grinds the plaque into very tiny pieces. Another is a small rotating cutter that "shaves off" pieces of the blockage. Still another is a laser catheter that vaporizes the plaque. (See Laser Angioplasty.)

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Atherosclerosis ("hardening of the arteries")	A form of arteriosclerosis in which the inner layers of artery walls become thick and irregular due to deposits of fat, cholesterol and other substances. This buildup is called "plaque." As the interior walls of arteries become lined with these deposits, the arteries become narrowed, reducing the blood flow through them. Eventually the plaque can erode the wall of the artery and diminish its elasticity. Plaque deposits can also rupture, causing blood clots to form which can block blood flow or break off and travel to another part of the body. This is a common cause of heart attack and stroke. If a clot blocks the blood supply to the arms or legs, it can cause difficulty walking and eventually gangrene if not treated.
Atria (singular of Atrium)	The two upper chambers of the heart responsible for moving blood to the ventricles, which are the lower chambers of the heart. The right atrium receives blood from the veins in the body and transports blood to the right ventricle, and the left atrium receives blood from the lungs and transports it to the left ventricle. (<i>Atrium</i> refers to one chamber of the heart).
Atrial Fibrillation	"A-fib" is a disorder of heart rate and rhythm in which the heart's two small, upper chambers (atria) quiver rapidly like a bowl of gelatin and empty blood into the heart's lower chambers (ventricles) in a disorganized manner instead of beating effectively. Blood not pumped completely out of the atria when the heart beats may pool and clot. If a piece of a clot enters the bloodstream, it may lodge in the brain causing a stroke (ischemic stroke). Causes of atrial fibrillation include dysfunction of the sinus node (the heart's pacemaking area in the right atrium), coronary artery disease, rheumatic heart disease, hypertension and hyperthyroidism. Since 15 percent of strokes occur in people with atrial fibrillation, its treatment is important to stroke prevention.
Atrial Flutter	Very rapid beating of the heart's upper chambers (atria). This rhythm occurs most often in people with heart diseases such as <i>pericarditis</i> , <i>coronary artery disease</i> and <i>cardiomyopathy</i> . Atrial flutter is typically not a stable rhythm and often degenerates into <i>atrial fibrillation</i> . It may persist for months or even years. The resulting rhythm is organized, but so rapid that the atria are not able to fully empty their contents into the ventricles.
Atrial Myxoma	A myxoma is a benign tumor of the heart. It resides in the atrial chamber and causes symptoms when its growth produces a tumor so large it obstructs blood flow through the heart chambers. Treatment of atrial myxoma is removal of the tumor.
Atrial Septal Defect	An abnormal hole located in the walls between the two <i>atria</i> . Tiny defects called <i>patent foramen ovale</i> are present in up to 30% of people and are of no consequence except in unusual circumstances. Moderate size to larger size defects should be corrected and may require heart surgery, though there are now devices that can close the hole without open heart surgery.

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Atrioventricular (AV) Node	The AV node is one of the major elements in the cardiac conduction system, which controls the heart rate and rhythm. This system generates electrical impulses and conducts them throughout the muscle of the heart, stimulating the heart to contract and pump blood. The AV node serves as a gate (an "electrical relay station") slowing the electrical current before the signal is permitted to pass to the ventricles. This delay ensures that the atria have a chance to fully contract before the ventricles are stimulated and prevents rapid conduction to the ventricle in cases of atrial fibrillation or atrial flutter. After passing the AV node, the electrical current travels to the ventricles along special fibers embedded in the walls of the lower part of the heart. In certain types of supraventricular tachycardia, a person could have two AV nodes; this will cause a loop in electrical current and uncontrollably rapid heartbeat.
Atrium	Either of the heart's two upper chambers (left and right), divided by a muscular wall (<i>septum</i>) in which blood collects before being passed to the <i>ventricles</i> (the heart's lower chambers). The plural of atrium is <i>atria</i> .
Bacterial Endocarditis	(See Endocarditis)
Balloon Valvuloplasty	A non-surgical procedure performed in the cardiac catheterization laboratory to treat <i>mitral stenosis</i> . Long, slender tubes called <i>catheters</i> are placed into <i>blood vessels</i> in the groin and guided into the <i>chambers</i> of the heart. A tiny hole is created in the wall between the upper two chambers of the heart. This hole provides an opening to access the <i>left atrium</i> with a special catheter that has a balloon at the tip. The catheter is positioned so the balloon tip is directly inside the narrowed valve. The balloon is inflated and deflated several times to widen the valve opening. Once the opening of the valve has been widened enough, the balloon is deflated and removed. During the procedure, an <i>echocardiogram</i> (ultrasound of the heart) may be performed to get a better picture of the <i>mitral valve</i> . (Also used to treat <i>Aortic Stenosis</i> .)
Batista Procedure	During this surgical procedure, to treat heart failure, the surgeon cuts out a piece of the patient's enlarged left ventricular muscle. The intention is to (1) reduce the size of the left ventricular cavity, (2) improve left ventricular function and (3) reverse congestive heart failure. Long-term results found the procedure unsuccessful, however, the procedure has led to better surgical techniques to treat those with heart failure (see infarct exclusion surgery).
Beta-Blockers (Beta-Adrenergic Blocking Agents)	A class of drugs that (1) slow the heartbeat, (2) lessen the force with which the heart muscle contracts and (3) reduce blood vessel contraction in the heart, brain and throughout the body. They do this by blocking the action of beta-adrenergic substances such as adrenaline (epinephrine) in the "sympathetic" portion of the autonomic (involuntary) nervous system at the beta receptor. By blocking the action of the sympathetic nervous system on the heart, beta-blockers relieve stress on the heart . They may be used to treat abnormal heart rhythms (<i>arrhythmias</i>) and prevent abnormally fast heart rates (tachycardias) or irregular rhythms such as premature ventricular beats. Since they reduce the demand of the heart muscle for oxygen, they may be useful in treating angina (chest pain) , which occurs when the oxygen demand of the heart exceeds the supply. They have become an important drug in improving survival after a person has had a heart attack . Beta-blockers are also used to treat high blood pressure and other heart conditions by reducing the heart rate and the heart's output of blood.

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Bicuspid Aortic Valve	A congenital heart defect in which the aortic valve (valve between the left ventricle and the aorta) has only two flaps (cusps or leaflets) instead of the normal three. Because of this, patients with a bicuspid valve may develop a narrowed or leaking aortic valve. Narrowing or leakage do not necessarily develop in childhood, but may occur in adulthood. This sometimes requires surgical repair.
Blood Clot	A jelly-like mass of blood tissue formed by clotting (coagulating) factors in the blood. A blood clot is a normal reaction of the body that occurs if a <i>blood vessel</i> is injured. This is desirable <u>if it occurs to stop the bleeding caused by an injury</u> . However, blood clots can become very dangerous <u>if they occur within the bloodstream</u> . This can happen when <i>plaque</i> deposits in the blood vessel walls rupture and a blood clot forms. If a piece of the blood clot breaks away and gets into the bloodstream, it can block the flow of blood to the heart or brain and cause a <i>heart attack</i> or <i>stroke</i> . A blood clot in an <i>artery</i> is called an <i>arterial</i> thrombosis. A blood clot in the <i>vein</i> is called a venous thrombosis. When an arterial or venous thrombosis breaks loose and travels through the bloodstream, it is called an <i>embolus</i> . Blood clots also can form inside the <i>atria</i> if blood isn't pumped out completely and pools due to <i>atrial fibrillation</i> or flutter.
Blood Pressure	The force or pressure exerted by the heart against the walls of the arteries. It is produced primarily by the contraction of the heart muscle. It's measurement is recorded by two numbers. The first (systolic pressure) is measured after the heart contracts and is highest. The second (diastolic pressure) is measured before the heart contracts and lowest. A blood pressure cuff is used to measure the pressure. Elevation of blood pressure is called "hypertension".
Blood Vessels	Hollow tubes that carry blood from the heart and lungs to every cell in the body and back to the heart and lungs. These tubes are flexible and respond to circumstances and hormonal changes in the body by dilating, (becoming larger) or constricting (becoming smaller). <i>Arteries</i> are blood vessels that carry blood <u>from</u> the heart. <i>Veins</i> are blood vessels that carry blood <u>back to</u> the heart.
Blood Vessel Dilators (Vasodilators)	Drugs that cause the blood vessels (especially the arterioles) to expand by relaxing their muscular walls. This lowers blood pressure and reduces the heart's workload. ACE inhibitors and nitroglycerine are examples of vasodilators.
Body Mass Index (BMI)	A formula to evaluate a person's body weight relative to height. BMI is determined by weight in kilograms divided by height in meters squared (kg/m ²). It is a useful, indirect measure of body composition and in most people it correlates highly with <i>body fat</i> . In studies by the National Center for Health Statistics, BMI values less than 18.5 are considered underweight. Those from 18.5 to 24.9 are healthy. Overweight is defined as a body mass index of 25.0 to 29.9. A BMI of about 25 kg/m ² corresponds to about 10 percent over ideal body weight. People with a BMI in this range <u>have a moderate risk of heart and blood vessel disease</u> . Obesity is defined as a BMI of 30.0 or greater (based on criteria of the World Health Organization), or about 30 pounds overweight. People with a BMI of 30 or more are <u>at high risk of cardiovascular disease</u> . Extreme obesity is defined as a BMI of 40 or greater.

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Bradycardia	Slowness of the heart rate (less than 60 beats per minute). Bradycardia can be present in otherwise normal individuals and is common in well-trained athletes and in most persons during deep sleep. It can also be related to heart metabolic abnormalities and heart disease. If it presents no symptoms, it usually doesn't require treatment. However, with symptoms such as fainting (syncope), chest pain (angina), heart failure and high blood pressure, it should be treated.
B-type Natriuretic Peptide (BNP)	A chemical gaining attention as a possible marker for <i>heart failure</i> . Higher BNP levels seem to correlate with worse degrees of heart failure.
Bundle Branch	Part of the electrical pathway of the heart delivering electrical impulses to the ventricles of the heart.
Bundle Branch Block	Normally, the electrical impulse travels down both the right and left bundle branches at the same speed and the <i>ventricles</i> contract at the same time. If there is a block in one of the branches, it's called a <i>bundle branch block</i> . A bundle branch block causes one ventricle to contract just after the other ventricle.
Bypass Surgery	(See Coronary Artery Bypass Graft.)
Calcium Channel Blockers (Calcium Antagonists)	A class of drugs used to block the movement of calcium into the heart and blood vessel muscle cells. This causes the muscles to relax, lowering blood pressure, slowing the heart rate and decreasing oxygen demands of the heart. These medications lower blood pressure in patients with hypertension, but have little effect on normal blood pressure. Since they (1) decrease the heart's pumping strength, (2) slow the heart rate and (3) relax blood vessels, they are also used to treat other heart conditions, such as chest pain (<i>angina</i>) and abnormal heart rhythms (<i>arrhythmias</i>).
Capillaries	Tiny blood vessels connecting arteries to veins. These blood vessels carry oxygen and nutrients to individual cells throughout the body.
Carbohydrate	One of the three main nutrients in food. Major sources are sugars found in cakes, sodas, candies and jellies; and starches from breads, pasta's, bran, noodles, potatoes and vegetables. The more carbohydrates you take in, the more your blood glucose goes up.
Carbon Dioxide	A gas created during metabolism, when the cells use oxygen to burn fat and release energy. The lungs release carbon dioxide when breathing out.
Cardiac	Pertaining to the heart.
Cardiac (Cardiovascular) Rehabilitation	Cardiovascular rehabilitation is a medically supervised program to help heart patients recover quickly and improve their overall physical and mental functioning. The goal is to reduce the risk of another cardiac event or to keep an existing heart condition from getting worse. Cardiac rehabilitation programs allow patients to have medically supervised counseling, exercise, vocational guidance and assistance with making the lifestyle changes necessary for a healthy heart. Research shows patients who participate in rehabilitation programs have a higher survival rate and a better quality of life.

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Cardiac Arrest	Cardiac arrest is the sudden, abrupt loss of heart function. It's also called sudden cardiac arrest or unexpected cardiac arrest. Most cardiac arrests occur when the electrical impulses in the diseased heart become rapid (<i>ventricular tachycardia</i>) or chaotic (<i>ventricular fibrillation</i>) or both. This irregular heart rhythm (<i>arrhythmia</i>) causes the heart to suddenly stop beating. Cardiac arrest can be reversed if it's treated within a few minutes with <i>cardiopulmonary resuscitation</i> (CPR) and an electric shock (<i>defibrillation</i>) to the heart to restore a normal heartbeat. <i>Sudden cardiac death</i> (SCD) occurs within minutes after symptoms appear unless cardiac arrest is reversed. The term "massive heart attack" is often wrongly used in the media to describe sudden death from cardiac arrest. The term "heart attack" refers to death of heart muscle tissue due to the loss of blood supply, not necessarily resulting in a cardiac arrest or the death of the heart attack victim. A heart attack may cause cardiac arrest and sudden cardiac death, but the terms aren't synonymous. (See Sudden Cardiac Death)
Cardiac Catheterization	A heart procedure used to diagnose heart disease. During the procedure, a catheter (inserted into an artery in your arm or leg) is guided to your heart, contrast dye is injected, and X-rays of the coronary arteries, heart chambers, and heart valves are taken.
Cardiac Computed Tomography (CT Scan), Computerized Axial Tomographic Scan (CAT scan)	An X-ray imaging technique that uses a computer to produce <i>tomographic</i> , or cross-sectional, images of the chest (including the heart and <i>great vessels</i>) or the brain. It's used to diagnosis and evaluate heart diseases such as aortic diseases, <i>cardiac</i> masses and pericardial disease and to define the areas in the brain affected by stroke.
Cardiac Enzymes	Enzymes in the body which are sometimes called heart damage markers because they are released into the bloodstream when heart muscle cells are damaged. There has been an increased emphasis on developing blood tests which would detect injury in the heart muscle as early as possible. These blood tests can confirm or refute suspicions raised early in the evaluation of heart disease, especially in the emergency setting.
Cardiac Output	The amount of blood pumped by the heart each minute.
Cardiac Positron Emission Tomography (PET)	A non-invasive nuclear imaging technique that uses tomographic (cross-sectional) images and radioactive tracers to study and quantify how the heart tissue works. Cardiac PET scans are used to diagnose coronary artery disease (CAD) and can be used to identify injured but viable (living) myocardium (heart muscle).
Cardiac Rehabilitation	A structured, supervised program of education and activity with the goal of lifestyle modification, progressive exercise, psychological support, nutritional counseling, and patient education to restore maximum functional capacity by patients who have experienced heart trauma.
Cardiac Resynchronization (Biventricular Pacing)	A treatment for heart failure using a three-lead biventricular pacemaker implanted in the chest. The pacemaker sends tiny electrical impulses to the heart muscle to coordinate or resynchronize the pumping of the chambers of the heart, improving the heart's pumping efficiency. Both ventricles are paced to contract at the same time. This can reduce the symptoms of heart failure.
Cardiologist	Doctor specializing in the diagnosis and treatment of heart disease.
Cardiology	The study of the heart and its functions in health and disease.

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Term	Definition
Cardiomyopathy (Myocarditis)	A serious disease affecting the heart, involving an inflammation and reduced function of the heart muscle. There are multiple causes including viral infections. In cardiomyopathy, the heart muscle becomes inflamed and weakened, causing symptoms of heart failure, which can mimic a heart attack. Cardiomyopathy can be classified as primary or secondary. Primary cardiomyopathy can't be attributed to a specific cause, such as <i>high blood pressure</i> , <i>heart valve disease</i> , <i>artery</i> diseases or congenital heart defects. Secondary cardiomyopathy is due to specific causes. It's often associated with diseases involving other organs as well as the heart. There are three main types of cardiomyopathy: <i>dilated</i> , <i>hypertrophic</i> , and <i>restrictive</i> .
Cardio- myoplasty	An investigational procedure in which skeletal muscles are taken from a patient's back or abdomen and wrapped around an ailing heart. This added muscle, aided by ongoing stimulation from a device similar to a pacemaker, may boost the heart's pumping motion. This procedure is experimental, and is performed in limited numbers. Recent research suggests that it may not be as effective as originally hoped.
Cardiopulmonary Bypass (Heart/Lung Machine)	A procedure to circulate and oxygenate the blood while surgery is performed on the heart. It involves diverting blood from the heart and lungs through a heart/lung machine and the return of oxygenated blood to the aorta.
Cardiopulmonary Resuscitation (CPR)	An emergency lifesaving procedure performed when a person's own breathing or heartbeat have stopped. It involves assessing the airway; if necessary breathing for the person; determining if the person is without a pulse; and if necessary, applying pressure to the chest to circulate blood. It uses a combination of chest compressions and mouth-to-mouth breathing (rescue breathing). The chest compressions keep oxygenated blood circulating and the breathing provides oxygen to the lungs until an effective heartbeat and breathing can be restored or the patient can be put on advanced cardiac life support.
Cardiovascular	Pertaining to the heart and <i>blood vessels</i> (<i>aorta</i> , <i>arteries</i> , <i>arterioles</i> , <i>capillaries</i> , <i>venules</i> , <i>veins</i> , <i>venae cavae</i>). ("Cardio" means heart; "vascular" means blood vessels.) The circulatory system of the heart and blood vessels is the <i>cardiovascular system</i> .
Cardioversion	Delivering an electrical shock to a person's heart to rapidly restore an abnormal heart rhythm (arrhythmia) back to normal. External cardioversion is performed with a defibrillator, either in an emergency situation or as a scheduled treatment for arrhythmia. Internal cardioversion is delivered by a device similar to a pacemaker, called an implantable cardioverter defibrillator (ICD). ICDs are used to treat arrhythmias in the lower heart chamber (ventricle) such as ventricular tachyarrhythmia or fibrillation. These arrhythmias can cause sudden cardiac death (SCD) because of the dangerously fast heart rate. Internal cardioversion is also used to treat arrhythmias of the upper heart chamber (atrium) in some cases. The device used in this case is called an atrial defibrillator.
Carotid Artery	One type of major artery in the neck carrying oxygenated blood from the heart to the brain. The other type is <i>vertebral artery</i> .
Carotid Artery Disease (Carotid Artery Stenosis)	A progressive disease involving the buildup of fatty material and plaque in the carotid arteries (narrowing the artery and restricting blood flow). It is a major risk factor for ischemic stroke.

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Carotid Artery Stent	The <i>carotid artery</i> is a major artery in the neck which carries blood to the brain. <i>Carotid angioplasty</i> is used to open a narrowed artery to allow more blood to flow through to help prevent stroke. Stents are used to prop an artery open after angioplasty. A stent is a wire mesh tube that is collapsed into a small diameter, put over a balloon catheter and moved into the area of blockage. When the balloon is inflated, the stent expands and locks in place, holding the artery open. The stent stays in the artery permanently to prop it open and improve blood flow.
Carotid Bruit	An abnormal sound in the neck of a person with carotid artery disease, created by the blood as it flows through the diseased artery.
Carotid Phonoangiography	A test using a sensitive microphone placed on the neck, very close to the carotid artery. It records sounds and detects blockages, such as those caused by <i>carotid artery disease</i> .
Catheterization	(See Cardiac Catheterization)
Central Agonists (Central Alpha-Agonists)	Drugs which lower heart rate and reduce <i>blood pressure</i> . They work by preventing the brain from sending signals to the nervous system to speed up the heart rate and narrow the <i>blood vessels</i> . As a result, the heart doesn't pump as hard and blood flows more easily through blood vessels.
Cerebral Angiography	A procedure used most frequently to confirm cases of stroke, tumor, bulging of the artery walls (aneurysm), a clot or narrowing of the arteries and to evaluate the arteries of the head and neck before surgery. It is used to get more exact information after something abnormal, such as bleeding within the brain, has been detected by an MRI or CT scan of the head. The arteries are not normally seen in an X-ray, so a contrast dye is injected into one or more arteries to make them visible. For the cerebral angiography, the dye is injected into one or both of the carotid, or vertebral, arteries in the neck (leading to the brain). (Also known as carotid angiography, vertebral angiogram and head angiography.)
Cerebral Embolism	An embolism occurs when foreign material, such as a broken-off piece of <i>plaque</i> or a <i>blood clot</i> travels through the bloodstream and becomes lodged in a <i>blood vessel</i> blocking the flow of blood. When an embolism blocks the flow of blood to the brain, it is called a cerebral embolism. A type of <i>stroke</i> .
Cerebral Hemorrhage	Bleeding within the brain, resulting from a ruptured aneurysm or a head injury. It results in a hemorrhagic stroke.
Cerebral Thrombosis	Formation of a <i>blood clot</i> inside a <i>blood vessel</i> or <i>artery</i> that supplies part of the brain, blocking the flow of blood. A type of <i>stroke</i> .
Cerebrovascular	Pertaining to the brain and its major blood vessels.
Cerebrovascular Accident (CVA)	The medical term for a <i>stroke</i> (apoplexy). Strokes can be either <i>ischemic</i> (loss of blood supply) or <i>hemorrhagic</i> (bleeding into the brain). (See Stroke)
Cerebrovascular Occlusion	The obstruction or closing of a blood vessel leading to or within the brain, resulting in a stroke.

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Cholesterol	A soft, waxy substance found among the <i>lipids</i> (fats) in the bloodstream and in all the body's cells. It's an important part of a healthy body because it's used to form cell membranes, some hormones and is needed for other functions. Cholesterol and other fats can't dissolve in the blood. They have to be transported to and from the cells by special carriers called <i>lipoproteins</i> . There are several kinds, but the most important are <i>low-density lipoprotein (LDL or "bad")</i> and <i>high-density lipoprotein (HDL or "good")</i> . (See LDL Cholesterol and HDL Cholesterol.)
Cholesterol Classifications	Total blood cholesterol is the most common measurement of blood cholesterol. Cholesterol is measured in milligrams per deciliter (mg/dL) of blood. Total cholesterol is composed of high-density lipoprotein (HDL or "good") cholesterol, low-density lipoprotein (LDL or "bad") cholesterol and very-low density lipoprotein (VLDL), which carries triglycerides. Triglycerides, a common type of blood fat, can also affect cardiac risk. Blood cholesterol and triglycerides are classified by levels that relate to the risk for heart disease. The numbers are interpreted based on all risk factors including age, family history, smoking status, blood pressure, physical activity level, weight, and diabetes status.
Cholesterol-Lowering Drugs	Cholesterol-lowering drugs reduce <i>LDL</i> ("bad") cholesterol, increase <i>HDL</i> ("good") cholesterol and reduce <i>triglycerides</i> (a blood fat) depending on the class of drugs. Several classes of drugs are used to treat cholesterol including <i>statins</i> . Patients may be prescribed a "combination" therapy of drugs depending on their specific situations. Cholesterol-lowering drugs have been proven to reduce risks for heart disease. Due to potential side effects, patients who are taking most cholesterol-lowering drugs may need to have periodic liver function tests.
Chordae Tendinae	Thin chords or tendons which provide support to the tricuspid and mitral valves of the heart helping them to open and shut properly.
Chronic	This important term in medicine comes from the Greek "chronos" (time) and means lasting a long time.
Circulation	The movement of blood through the vessels of the body induced by the pumping action of the heart and serves to distribute nutrients and oxygen to and remove waste products from all parts of the body. Heart failure is an example of a problem with the circulation.
Circulatory System	Pertaining to the heart, blood vessels and the blood's circulation. Although the adjective "circulatory" need not necessarily refer to the circulation of the blood, for all practical purposes today it does. A circulatory problem is taken usually to be a problem with the blood circulation, for example with heart failure.
Closed-Heart Surgery	An operation on the heart (or more typically the great vessels) without the need for cardiopulmonary bypass. Examples of closed-heart surgery include repairs of coarctation of the aorta and patent ductus arteriosus.
Coarctation of the Aorta ("Coarct")	A congenital heart defect (birth defect) in which the major <i>artery</i> from the heart (<i>aorta</i>) is narrowed (constricted) somewhere along its length. This obstructs blood flow to the lower part of the body and increases <i>blood pressure</i> above the constriction. This condition can be corrected with surgery and sometimes with balloon dilation.
Collateral Blood Vessels	Small capillary-like branches of an artery forming over time in response to narrowed coronary arteries. The collaterals "bypass" the area of narrowing and help to restore blood flow. However, during times of increased exertion, the collaterals may not be able to supply enough oxygen-rich blood to the heart muscle.
Collateral Circulation	Blood flow supplied through secondary channels after an obstruction occurs in the principal channel supplying the specific body part.

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Commis- surotomy	A surgical procedure to help to open blocked or defective heart valves. In some patients, specifically those with rheumatic heart disease, this area of the heart (also called the commissures) can become scarred and the valve leaflets fail to open and allow blood to flow through easily. In this surgery, the commissures can be released or reopened.
Complex Carbohydrates	Starchy foods that are good sources of energy and nutrients, such as whole grain breads, rice, and pasta.
Congenital Heart Disease (CHD)	A broad term for a number of different abnormalities or defects "present at birth" (congenital) affecting the heart. Though present at birth, the effects of these abnormalities may not be obvious immediately. In some cases, the defects may not be evident for years, may never cause any problems and are compatible with normal physical activity and a normal life span. Congenital heart disease is responsible for more deaths in the first year of life than any other birth defects. Many of these defects need to be followed carefully. Though some heal over time, others will require treatment. Congenital heart disease is often divided into two types: those with cyanosis (blue discoloration caused by a relative lack of oxygen) and those without cyanosis.
Congestive Heart Failure (CHF or heart failure)	Because not all patients with <i>heart failure</i> have problems with excess fluid, such as in the lungs or extremities, the term "heart failure" is preferred over "congestive heart failure." Heart failure is the inability of the heart to pump out all the blood that returns to it. This results in blood backing up in the <i>veins</i> leading to the heart and sometimes in fluid accumulating in various parts of the body. Congestive heart failure is a sub category of <i>heart failure</i> . Heart failure may be due to failure of the right or left or both <i>ventricles</i> . The signs and symptoms depend upon which side of the heart is failing. They can include shortness of breath (<i>dyspnea</i>), asthma due to the heart (cardiac asthma), pooling of blood (stasis) in the general body (systemic) circulation or in the liver's (portal) circulation, swelling (<i>edema</i>), blueness or duskiness (<i>cyanosis</i>), and enlargement (<i>hypertrophy</i>) of the heart.
Constrictive Pericarditis	The pericardium is the sac around the heart. In people with constrictive pericarditis, this sac becomes inflamed and scarred leading to shrinkage of the pericardium. This can prevent the heart from filling to its full extent.
Coronary Arteries	Network of <i>blood vessels</i> that branch off the <i>aorta</i> to supply the heart muscle with oxygen-rich blood. There are two main coronary arteries: the right and the left. The left splits into two arteries called the <i>circumflex</i> and the <i>left anterior descending</i> (LAD) arteries, thus, the heart is often considered to have three major coronary arteries.
Coronary Artery Bypass Graft (Bypass Surgery)	Surgery that reroutes (bypasses) blood around clogged coronary arteries and improves the supply of blood and oxygen to the heart muscle. It's sometimes called open-heart surgery or CABG (for coronary artery bypass graft) or "cabbage."
Coronary Artery Disease (atherosclerosis)	Conditions that cause narrowing of the <i>coronary arteries</i> with a build-up of fatty material, reducing blood flow to the heart muscle. A type of <i>atherosclerosis</i> . Severe cases can result in heart attacks.
Coronary Care Unit (CCU)	A specialized facility in a hospital or emergency mobile unit equipped with monitoring devices and staffed with specialized personnel. It's designed specifically to treat heart patients.
Coronary Heart Disease (CHD)	Disease of the heart caused by <i>atherosclerotic</i> narrowing of the coronary arteries likely to produce chest pain (<i>angina pectoris</i>) or heart attack.

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Coronary Occlusion (or Coronary Thrombosis)	An obstruction of a coronary artery which hinders blood flow to some part of the heart muscle. A cause of heart attack.
Coronary Spasm	Repeated contractions and dilations of the coronary arteries, causing a lack of blood supply to the heart muscle. It may occur at rest and can even occur in people without significant coronary artery disease. Usually causes <i>angina</i> , <i>ischemia</i> , or <i>myocardial infarction</i> .
C-Reactive Protein (CRP) Test	Blood test measuring the concentration of C-reactive protein (CRP), a plasma protein known as acute phase protein, which rises in the blood with inflammation from certain conditions. Since inflammation is believed to play a role in the development of coronary artery disease (atherosclerosis), a highly sensitive assay (hs-CRP) test may be added to the screening battery of cholesterol and other lipid tests to help detect people at risk for a heart attack.
Creatinine	Creatinine is a breakdown product of creatine phosphate generated from muscle metabolism. Creatinine is usually filtered out by the kidneys and leaves the body. If a patient's kidneys are not working well, creatinine will build up in the blood and can serve as a warning sign for lack of kidney function and <i>cardiovascular disease</i> (CVD). Normal creatinine levels are less than 1.2 mg/dL. Kidney problems can be a complication of <i>heart failure</i> . In heart failure, the kidneys are less able to dispose of sodium and water, causing fluid retention in the tissues.
Cyanosis	A bluish discoloration of the skin or mucous membranes caused by lack of oxygen in the blood. This is caused when much of the blood circulating through the body is "blue" (or oxygen-poor) rather than "red" (or oxygen-rich). In the very young patient, cyanosis may point to a congenital heart defect.
Defibrillation	The use of an electrical device (<i>defibrillator</i>) to give an electric shock to the heart to help restore a normal heartbeat. It is used for dangerous <i>arrhythmias</i> , such as <i>ventricular tachycardia</i> or <i>ventricular fibrillation</i> , and in <i>cardiac arrest</i> .
Defibrillator	A electronic device that delivers "pacing" or an electric shock to the heart when an abnormal rhythm (arrhythmia) is detected. A defibrillator may be external or internal. External defibrillators use pads that are placed on the chest to deliver the electric shock. Internal defibrillators (implantable cardioverter defibrillators or ICDs) look similar to a pacemaker, but they continuously monitor the heart rhythm to detect overly rapid arrhythmias such as ventricular tachycardia or ventricular fibrillation. The ICD corrects the heart rhythm by delivering precisely calibrated and timed electrical shocks to restore a normal heartbeat.
Diastole	The normal period in the heart cycle during which the muscle fibers lengthen, the heart dilates, and the cavities fill with blood. The period of cardiac muscle relaxation alternating with <i>systole</i> or contraction.
Diastolic Blood Pressure	The diastolic blood pressure number or the bottom number indicates the pressure in the arteries when the heart rests between beats. A normal diastolic blood pressure number is less than 80. A diastolic blood pressure between 80 and 89 indicates prehypertension. A diastolic blood pressure number of 90 or higher is considered to be hypertension or high blood pressure.
Diastolic Dysfunction	Abnormal function of the heart during its relaxation phase (<i>diastole</i>). While the heart's ability to contract and pump blood may be maintained, its ability to relax and fill is compromised. Filling of the heart's lower chambers (<i>ventricles</i>) is impaired because the chamber is stiff (non-compliant), due to thickening (<i>hypertrophy</i>) or <i>cardiomyopathy</i> . It may also be due to stiffening of the sac around the heart (<i>pericardium</i>). Though the ability to contract may be preserved, diastolic pressure is elevated and cardiac output reduced.

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Diastolic Heart Failure	A condition in which the pumping chambers (ventricles) of the heart become thickened, grow stiff and cannot relax enough to adequately fill the heart's lower chambers (ventricles) with blood. The fluid then backs up into organs and causes swelling (edema) (especially in feet and ankles) and congestion even though the heart's pumping function (ejection fraction) is normal. This type of heart failure is caused by conditions such as acute ischemia, systolic hypertension with enlargement of the left ventricular muscle, restrictive cardiomyopathy and hypertrophic cardiomyopathy.
Digital Cardiac Angiography (DCA), Digital Subtraction Angiography (DSA)	A modified form of computer imaging that records pictures of the major <i>blood vessels</i> to the heart or brain. It shows blockages, how severe they are and what can be done about them.
Dilatation	The increase in size of a blood vessel.
Dilated Cardiomyopathy	A serious condition which weakens your heart muscle and causes it to stretch, or dilate. When the heart muscle is weak, it can't pump out blood as well as it should, so more blood stays in the heart after each heartbeat. As more blood fills and stays in the heart, the heart muscle stretches even more and gets even weaker. Most of the time, this leads to heart failure. Heart failure does not mean that the heart stops pumping, but that the heart can't pump enough blood to meet your body's needs. The most common type of dilated cardiomyopathy develops after a heart attack has damaged the heart muscle, but can also be caused by many diseases or problems which may or may not be related to the heart. Sometimes the cause is not known.
Dipyridamole Stress Test	If you are unable to exercise on a treadmill or stationary bicycle for a stress test, a drug, called dipyridamole (Persantine) is used instead of exercise to test the heart's blood flow. The dipyridamole nuclear test is a means of testing the response of the heart to increase blood circulation caused by the intravenous introduction of a radioactive chemical into the bloodstream. An appropriate amount of the dipridamole is injected into the vein to stimulate the heart in just the same way as physical exercise does, thereby making it possible to assess the functioning of the blood vessels and valves of the heart under controlled conditions in a pathological laboratory.
Diuretic (or Water Pill)	Diuretics, commonly known as "water pills," cause the kidneys to get rid of unneeded water and salt. Getting rid of excess fluid from the heart, lungs, and other parts of the body (such as legs and ankles) makes it easier for your heart to pump. Diuretics are used to treat high blood pressure and reduce the swelling and water build-up caused by various medical problems, including heart failure. Diuretics also help to make breathing easier. Different diuretics remove fluid at varied rates and through different methods.
Dobutamine Stress Echocardiogram (Dobutamine echo)	A procedure which involves infusing a medication (dobutamine) through an intravenous (IV) line while you are closely monitored. This drug stimulates your heart allowing evaluation of heart and valve function at rest and with exertion, when you are unable to exercise on a treadmill or stationary cycle. An echocardiogram is then performed repeatedly during a stress test to evaluate the pumping chambers of the heart.
Doppler Ultrasound	A test using high-frequency sound waves to detect blockages in an <i>artery</i> and to evaluate blood flow.
Drug Interaction	A change in the effect of a drug when taken with a certain other drug, a supplement or food. Its effect may increase or decrease, or an adverse effect may occur.

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Dysarthria	Slowed, slurred or distorted speech due to muscular problems caused by damage to the brain or nervous system.
Dyspnea	Difficult or labored breathing, often caused by heart conditions. Two types of dyspnea are significant in cardiac illness. 1) Dyspnea on exertion (DOE) is the shortness of breath that occurs with increasing activity. 2) Paroxysmal nocturnal dyspnea (PND) is a shortness of breath that awakens a person at night from sleep. Both are significant symptoms in cardiac disease.
Dysrhythmia	Abnormal, disordered, or disturbed rhythm. (See <i>Arrhythmia</i>)
Ebstein's Anomaly (Ebstein's Malformation)	A malformed heart valve that does not properly close to keep the blood flow moving in the right direction. Blood may leak back from the lower to upper chambers on the right side of the heart. This syndrome also is commonly seen with an atrial septal defect, or ASD (or a hole in the wall dividing the two upper chambers of the heart).
Echocardiogram (echo or EKG)	An electrocardiogram (ECG or EKG) is a test to measure the electrical activity of the heartbeat. An ECG gives two major kinds of information. First, by measuring time intervals on the ECG, a doctor can determine how long the electrical wave takes to pass through the heart. Finding out how long a wave takes to travel from one part of the heart to the next shows if the electrical activity is normal or slow, fast or irregular. Second, by measuring the amount of electrical activity passing through the heart muscle, a cardiologist may be able to find out if parts of the heart are too large or are overworked. (The K in EKG is from "kardio" in German.)
ECMO (Extra corporeal Membrane Oxygenation)	In people who are unable to provide oxygen for their own blood or enough blood circulation, they can be put on life support known as extra corporeal membrane oxygenation. The blood is withdrawn from a large vein in the body and passes through a pumping mechanism, and then through a device that puts oxygen into the blood and removes carbon dioxide from the blood. The blood is then returned to the body and circulated in such a way as to sustain life.
Edema	Condition in which the body tissues contain an excessive amount of tissue fluid. Edema is common in the legs, ankles and lungs of people with heart failure. It leads to impaired gas exchange and may cause respiratory failure. It is due to either failure of the heart to remove fluid from the lung circulation. Treatment depends on the cause, but focuses on maximizing respiratory function and removing the cause.
Eisenmenger's Complex	A rare, progressive heart condition which develops in some individuals with structural malformations of the heart that are present from birth. The disorder is characterized by increased blood pressure in the main blood vessel (pulmonary artery) connecting the heart to the lungs (pulmonary hypertension) and improper blood flow within the heart. It may also include a malpositioned aorta that receives ejected blood from both the right and left ventricles (an overriding aorta). People with Eisenmenger's complex, before and after treatment, are at risk for getting an infection within the aorta or the heart valves (endocarditis). All people with uncorrected or partially corrected Eisenmenger's complex will need to take antibiotics before certain dental procedures.

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Term	Definition
Ejection Fraction (EF)	A measurement of the fraction of blood pumped out of the right and left ventricles with each heart beat. An ejection fraction of 60 percent means 60 percent of the total amount of blood in the <i>left ventricle</i> is pushed out with each heartbeat. A normal heart's ejection fraction may be between 55 and 70. You can have a normal ejection fraction reading and still have heart failure. If the heart muscle has become so thick and stiff that the ventricle holds a smaller-than-usual volume of blood, it might still seem to pump out a normal percentage of the blood that enters it. In reality, though, the total amount of blood pumped isn't enough to meet your body's needs. If the heart muscle has been damaged by heart attack, heart muscle disease or heart valve problems, the ejection fraction may be below normal.
Electrolyte	One of the substances in the blood which helps to regulate the proper balance of body fluids, such as sodium and potassium.
Electron-Beam Computed Tomography (EBCT)	The high-speed form of X-ray imaging technology which selects a level in the body and blurs out structures above and below that plane, leaving a clear image of the selected anatomy. It's used to evaluate various structures and functions in the heart and to measure calcium deposits in the coronary arteries.
Electrophysio-logic Testing (EP)	A procedure used to provoke known but infrequent arrhythmias and to unmask suspected arrhythmias. Using local anesthesia, temporary electrode catheters are positioned in the heart's atria and/or ventricles and at strategic locations along the conduction system. They record cardiac electrical signals and "map" the spread of electrical impulses during each heartbeat.
Embolus / Embolism	A blood clot or other particle which forms in one part of the body, then <u>moves</u> through the bloodstream until it lodges in a narrowed vessel and blocks the flow of blood (circulation). Unlike <i>thrombus</i> that is formed within a <i>blood vessel</i> or within the heart and <u>remains</u> attached to its place of origin.
Emotional Lability	An effect of stroke in which a survivor cries or laughs or has sudden mood swings for no apparent reason.
Endarterectomy	Surgical removal of plaque deposits or blood clots in an artery. It is performed on almost any major diseased or blocked artery, such as the <i>carotid</i> , femoral, or popliteal <i>artery</i> .
Endocarditis	An infection of the inner lining of the heart or its valves usually caused by bacteria and more likely to occur in people who have heart valve defects or have had heart surgery to treat valve disease. Endocarditis can also be caused by injection drug use. Fortunately, for most patients, preventing IE is simple--maintain good dental hygiene. Brushing, flossing, and visiting your dentist regularly helps keep your smile bright and prevents tooth and gum infections which could lead to endocarditis.
Endomyocardial Biopsy	(See Myocardial Biopsy)
Endothelium	The smooth inner lining of some body structures, including the heart (endocardium) and blood vessels.
Enhanced External Counterpulsation (EECP)	A treatment for those with symptomatic <i>coronary artery disease</i> who are not eligible for standard treatments of <i>revascularization</i> (such as bypass surgery.) During EECP, cuffs wrapped around the calves, thighs, and buttocks are inflated and deflated, gently but firmly compressing the blood vessels in the lower limbs, increasing blood flow to the heart. EECP may stimulate the openings or formation of <i>collateral vessels</i> to create a "natural bypass" around narrowed or blocked arteries.

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Term	Definition
Epinephrine	A substance produced by the inside of the adrenal gland. The name epinephrine was coined in 1898 by the American pharmacologist and physiologic chemist (biochemist) John Jacob Abel who isolated it from the adrenal gland which is located above (epi-) the kidney ("nephros" in Greek). (Abel also crystallized insulin.) It is produced by the adrenal gland and secreted when the sympathetic nervous system is stimulated. It causes quickening of the heart beat, strengthens the force of the heart's contraction, opens up the airways (bronchioles) in the lungs and has numerous other effects.
Event Monitor (Loop recorder)	A small recorder (monitor) is attached to electrodes on your chest. It is worn continuously for a period of time. If symptoms are felt, an event button can be depressed, and the heart's rhythm is recorded and saved in the recorder. The rhythm can be saved and transmitted over a phone line for evaluation.
Exercise Stress Test (Treadmill Test)	A diagnostic test in which a person walks on a treadmill or pedals a stationary bicycle while hooked up to equipment that monitors the heart. The test monitors heart rate, breathing, blood pressure, electrical activity (on an electrocardiogram) and the person's level of tiredness. It shows if the heart's blood supply is sufficient and if the heart rhythm is normal. (Also known as Exercise Test, Exercise Cardiac Stress Test or ECST.)
Fat	A high-energy fuel source.
Fiber	An indigestible carbohydrate found in foods such as fruits and vegetables; aids in digestion. Including fiber in the daily diet also lowers total and LDL cholesterol which reduces the risk of heart disease.
Fibrillation	Fast, uncoordinated contractions of individual heart muscle fibers. The <i>heart chamber</i> involved can't contract all at once and pumps blood ineffectively, if at all.
Flutter	One form of rapid heartbeat.
Free Radical	A destructive fragment of oxygen produced as a by-product. Increased free radicals are thought to trigger <i>atherosclerosis</i> .
Great Vessels	A term used to refer collectively to the primary blood vessels, which include: Vena cavae (Superior vena cava, Inferior vena cava), Pulmonary artery (Pulmonary trunk, Right pulmonary artery, Left pulmonary artery), Pulmonary veins (Right superior, Right inferior, Left superior, Left inferior), Aorta, Brachiocephalic Artery and Left and Right Brachiocephalic Veins, Left Common Carotid Artery, Left Subclavian Artery.
HDL Cholesterol (High-Density Lipoprotein Cholesterol)	Often called "good" cholesterol because a high level of it seems to protect against heart attack and other <i>cardiovascular</i> conditions. People with a low HDL cholesterol level (less than 40 mg/dL in men, less than 50 mg/dL in women) have a higher risk of heart disease. A low level of HDL cholesterol also may raise stroke risk.
Head Upright Tilt Test (HUT, tilt table test, head-up tilt test)	A test used to determine the cause of fainting spells. The test involves being tilted at different angles for a period of time. Heart rhythm, blood pressure, and other measurements are evaluated with changes in position.
Heart Attack (Myocardial Infarction)	Death of or damage to part of the heart muscle due to an insufficient blood supply to the heart for an extended time period. Heart attacks occur when one of the <i>coronary arteries</i> which supply blood to the heart muscle is blocked. Blockage is usually caused from a buildup of <i>plaque</i> (deposits of fat-like substances) due to <i>atherosclerosis</i> . If a plaque deposit tears or ruptures, a <i>blood clot</i> may form and block the artery, causing a heart attack. Heart attack is also called a <i>coronary thrombosis</i> or <i>coronary occlusion</i> .

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Term	Definition
Heart Block (or AV Block)	A disease in the electrical system of the heart. This is opposed to coronary artery disease, which is disease of the blood vessels of the heart. While coronary artery disease can cause angina (chest pain) or myocardial infarction (heart attack), heart block can cause lightheadedness, syncope (fainting), and palpitations.
Heart Chambers	The heart has four chambers. The upper two chambers are the <i>atria</i> , and the lower two are the <i>ventricles</i> . The chambers are separated by a wall of tissue called the <i>septum</i> . Blood is pumped through the chambers, aided by four heart valves. The valves open and close to let the blood flow in only one direction. The heart is powered by an electrical system putting out pulses in a regular rhythm. These pulses keep the heart pumping and keep blood flowing to the lungs and body.
Heart Disease, Ischemic	The most common form of heart disease, in which narrowed or blocked coronary arteries result in decreased blood supply (ischemia). Among the many types of heart disease, see, for example: Angina; Arrhythmia; Congenital heart disease; Coronary artery disease (CAD); Dilated cardiomyopathy; Heart attack (myocardial infarction); Heart failure; Hypertrophic obstructive cardiomyopathy; Mitral valve prolapse; and Pulmonary stenosis.
Heart Failure (Congestive Heart Failure)	Heart failure means the heart's pumping power is weaker than normal, not that the heart has stopped working. With heart failure, blood moves through the heart and body at a slower rate, and pressure in the heart increases. As a result, the heart cannot pump enough oxygen and nutrients to meet the body's needs. The chambers of the heart respond by stretching to hold more blood to pump through the body or by becoming more stiff and thickened. This helps to keep the blood moving for a short while, but in time, the heart muscle walls weaken and are unable to pump as strongly. As a result, the kidneys respond by causing the body to retain fluid (water) and sodium. If fluid builds up in the arms, legs, ankles, feet, lungs, or other organs, the body becomes congested, and congestive heart failure is the term used to describe the condition.
Heart Lung Bypass Machine	A machine that adds oxygen to the blood, removes carbon dioxide, and pumps blood around the body while a person's heart is opened for open-heart surgery.
Heart Murmur	An abnormal sound in the heart caused by defective heart valves or holes in the heart walls. The sound is made by blood circulating through the heart's chambers and valves, or through blood vessels near the heart. A person can be born with a heart murmur or it can be caused by pregnancy, fever, thyrotoxicosis (a condition resulting from an overactive thyroid gland) or anemia.
Heart Muscle	A type of muscle with unique features only found in the heart. The heart muscle, or cardiac muscle, is medically called the myocardium ("myo-" being the prefix denoting muscle).
Heart Rate	The heart contracts (beats) as the electrical impulse moves through it. This normally occurs 60 to 100 times a minute. The heart's upper chambers (<i>atria</i>) contract a split-second before the lower chambers (<i>ventricles</i>). This lets the atria empty their blood into the ventricles before the ventricles contract.
Heart Transplant	A surgery to remove a person's diseased heart and replace it with a healthy heart from a deceased donor. Ninety percent of heart transplants are done on patients who have "end-stage heart failure", which means means the condition has become so severe that all less drastic treatments have failed, but their health is otherwise good. The donor is a person who has died and whose family has agreed to donate their relatives's organs.

Heart Failure Glossary

Term	Definition
Heart Valve	There are four valves in the heart which control the direction of blood flow through the heart by opening and closing with each heartbeat. The valves permit the blood to flow in only one direction. The four valves are: <i>tricuspid valve</i> (between the right atrium and the right ventricle); <i>pulmonary valve</i> (between the right ventricle and the pulmonary artery); <i>mitral valve</i> (between the left atrium and the left ventricle) and <i>aortic valve</i> (between the left ventricle and the aorta). A defective valve may fail either to open properly, obstructing blood flow (stenosis or obstruction), or to close properly (regurgitation or insufficiency), allowing blood leakage.
Heart Valve Replacement Surgery (Artificial Heart Valve Surgery)	Open-heart surgery to replace a defective or diseased heart valve. Replacement heart valves are either natural (biologic) from a human or modified from an animal donor or artificial (mechanical) made of metal. Surgery repairs would be necessary if a valve does not close properly as blood may leak between the chambers or flow backwards, a condition known as valve regurgitation, insufficiency, or incompetence. If a valve is narrowed (also called stenosed), blood flow through the heart may be restricted. If the valve problem is minor, it may be treated with medication. But if the heart valve damage is severe, a procedure may be required to repair or replace the malfunctioning valve.
Hemochroma- tosis	Hemochromatosis happens when too much iron builds up in the body. Your body needs iron to make hemoglobin, the part of your blood that carries oxygen to all of your cells. When there is too much iron, it can damage the liver and heart. The most common type of hemochromatosis runs in families, but people sometimes get it from having a lot of blood transfusions, certain blood problems, liver disease, or alcoholism, or from taking too many iron pills. Men are much more likely than women to have too much iron built up. Women get rid of extra iron through blood from their menstrual cycles and during pregnancy.
Hemoglobin	Hemoglobin is an iron-rich protein which carries oxygen from your lungs to all parts of your body. Hemoglobin also carries carbon dioxide (a waste gas) from your body to your lungs, where it's exhaled. (Hemoglobin is the pigment that give the red color to oxygen-rich blood.)
Hemorrhage	Severe bleeding leading to excessive blood loss. Term usually is used to describe episodes of bleeding lasting more than a few minutes, that compromises organ or tissue perfusion, or threaten life. The most hazardous forms of blood loss result from arterial bleeding, internal bleeding, or bleeding into the cranium.
Hemorrhagic Stroke (Brain Hemorrhage)	Cerebral hemorrhage occurs when a <i>blood vessel</i> or an <i>aneurysm</i> bursts in the brain, causing bleeding inside the brain. <i>Subarachnoid hemorrhages</i> occur when a blood vessel on the brain's surface ruptures and bleeds into the space between the brain and the skull. The brain is very sensitive to bleeding, and damage can occur very rapidly. This may be due to the presence of the blood itself or due to the pressure on the brain caused by the fluid. Hemorrhagic stroke can also be caused by a head injury or a burst <i>aneurysm</i> . An aneurysm is a weak spot in an <i>artery</i> wall, which balloons out because of the pressure of the blood circulating inside the affected artery. Eventually, it can burst and cause serious harm. The larger the aneurysm is, the more likely it is to burst. It is unclear why people develop aneurysms, but genes may play a role, since aneurysms run in families.
Hibernating Myocardium	After a heart attack, some areas of the heart muscle do not pump as they should. Some areas will have permanent damage. Other areas are able to return to their normal function if blood flow is returned to that area by medications or a procedure. Hibernating myocardium is heart muscle which is "resting" and may possibly return to normal function.

Heart Failure Glossary

Term	Definition
High Blood Pressure (Hypertension)	A <i>chronic</i> increase in <i>blood pressure</i> above normal range. Blood pressure is the pressure of the blood against the walls of the <i>arteries</i> . Optimal blood pressure is less than 120/80 mm Hg. High blood pressure, or hypertension, is a condition in which blood pressure levels are consistently above the normal range. Blood pressures of 120–139/80–89 mm Hg are considered pre-hypertension. People with pre-hypertension are likely to develop high blood pressure unless steps are taken to control blood pressure. Blood pressure is considered high if it is 140/90 mm Hg or higher. High blood pressure increases the risk for <i>heart attack</i> , angina, <i>stroke</i> , kidney failure and <i>peripheral artery disease</i> (PAD). High blood pressure may also increase the risk of developing fatty deposits in arteries (<i>atherosclerosis</i>). The risk of heart failure also increases due to the increased workload that high blood pressure places on the heart.
High-Density Lipoprotein (HDL)	Lipoprotein particle in the blood. HDL is known as "good" cholesterol because it deposits cholesterol in the liver, where it is released by the body. High HDL is thought to protect against coronary artery disease. (See HDL Cholesterol)
Holter Monitor	A battery-operated, portable device that measures and tape-records the heart's electrical activity (ECG) continuously for 24 to 48 hours or longer depending on the monitor used. Electrodes (small conducting patches) are placed on the chest and attached to a small recording monitor which is carried in a pocket or in a small pouch worn around the neck. The recording is then analyzed, a report of the heart's activity is tabulated and irregular heart activity is correlated with a diary that is kept of the person's activity at the time. It is very important that symptoms and activities are accurately recorded so the doctor can correlate them with the Holter monitor findings. The Holter monitor is named for physicist Norman J. Holter who invented telemetric cardiac monitoring in 1949. Clinical use started in the early 1960s.
Homocysteine	An amino acid (one of the building blocks that make up proteins) naturally found in the blood that may serve as a marker for higher risk of coronary artery disease (CAD), stroke and peripheral vascular disease. Blood homocysteine levels may be lowered by eating foods rich in folic acid, such as green leafy vegetables and fruits, and by vitamin B6 or B12 supplements. Doctors aren't sure how homocysteine increases the risk of heart and blood vessel disease but there appears to be a link between high homocysteine levels and damage to the arteries, causing atherosclerosis (hardening of the arteries), and the formation of blood clots.
Homograft	Human <i>heart valves</i> and <i>arteries</i> (but could be any tissue) donated from a cadaver to be used during complex reconstructive surgery to replace a diseased aortic or pulmonic valve.
Hypercholesterolemia	High levels of blood cholesterol, a major risk factor for coronary heart disease, heart attack and stroke.
Hyperlipidemia	High levels of fat (lipids) in the blood, such as cholesterol and triglycerides.
Hypertension	Medical term for high blood pressure, defined as a repeatedly elevated blood pressure exceeding 140 over 90 mmHg -- a systolic pressure above 140 with a diastolic pressure above 90. Hypertension is one of the major risk factors for coronary artery disease, congestive heart failure, stroke, peripheral vascular disease, kidney failure and retinopathy.
Hyperthyroidism	Overactivity of the thyroid gland, leading to overproduction of thyroid hormones. It can make the body's metabolism overactive, leading to symptoms such as weight loss and rapid heart rate.

Heart Failure Glossary

Term	Definition
Hypertriglyceridemia	High levels of triglycerides in the blood. A high triglyceride level combined with low HDL cholesterol or high LDL cholesterol seems to speed up atherosclerosis (fatty buildups of plaque in the arteries). A normal triglyceride level is less than 150 mg/dL. Hypertriglyceridemia is a possible risk factor for cardiovascular disease.
Hypertrophic Obstructive Cardiomyopathy (HOCM)	See IHSS.
Hypertrophy	An abnormal enlargement of an organ or thickening of its tissue. Ventricular hypertrophy is the name given to a thickened ventricle.
Hypoplastic Left Heart Syndrome	A term used to describe a group of closely related rare heart defects present at birth (<i>congenital</i>). Hypoplastic left heart syndrome is characterized by the underdevelopment (hypoplasia) of the <i>heart chambers</i> on the left side (i.e., <i>left atrium</i> and <i>ventricle</i>). In addition, the <i>mitral valve</i> , which connects these chambers to each other, is usually abnormally narrow (<i>stenosis</i>) or closed (<i>atresia</i>) and the <i>aortic valve</i> , which connects the heart to the major vessels that lead from the lungs (ascending aorta), may also be narrow or closed. Infants with hypoplastic left heart syndrome also have an abnormally narrow ascending <i>aorta</i> .
Hypotension	The medical term for low blood pressure (less than 90/60) with no symptoms. Low blood pressure can be a sign of an underlying problem -- especially in the elderly -- where it may cause inadequate blood flow to the heart, brain, and other vital organs. Severely low blood pressure can deprive the brain and other vital organs of oxygen and nutrients, leading to a life threatening condition called shock.
Hypothermic Circulatory Arrest	During <i>open-heart surgery</i> , especially in newborns and young children, the body temperature can be lowered to 60–65°F and the <i>Heart Lung Bypass Machine</i> turned off ("circulatory arrest"). This allows the surgeon to most precisely operate on a still (non-beating) heart, in an operative field where <i>cardiac</i> structures can best be seen.
Idiopathic	When the cause of a disease or process is not known.
IHSS	Idiopathic Hypertrophic Subaortic Stenosis is another term used synonymously with <i>hypertrophic obstructive cardiomyopathy</i> (HOCM). It is an inherited disease of the heart which causes thickening of the heart muscle and other changes to the heart that significantly impair its function. Although the disease is rare, IHSS is the single most common cause of sudden cardiac arrest in seemingly healthy young people. The term that is most frequently used now is HOCM .
Immuno-suppressants	Drugs used to keep the body's immune system from rejecting a transplanted organ, such as the heart, or to slow down the destructive processes of autoimmune disease (where the body's immune system goes awry and kills normal cells and tissue.)
Implantable Cardioverter Defibrillator (ICD)	An internal <i>defibrillator</i> is used in patients at risk for recurrent, sustained <i>ventricular tachycardia</i> or <i>fibrillation</i> . ICDs look similar to a <i>pacemaker</i> and are about the size of a pocket watch. They continuously monitor the heart rhythm to detect overly rapid <i>arrhythmias</i> . The ICD corrects the heart rhythm by delivering precisely calibrated and timed electrical shocks to restore a normal heartbeat when one of these dangerous arrhythmias has occurred. ICDs run on batteries and can last many years.

Heart Failure Glossary

Term	Definition
Infarction	Tissue death due to lack of oxygen-rich blood.
Inferior Vena Cava	A major vein that carries blood from the lower body (legs and abdomen) to the heart.
Inotropic Medication	A drug used to strengthen the heart's contractions and improve blood circulation.
Intermittent Claudication	Pain, cramping or fatigue in the legs and buttocks occurring during activity and subsides when a person stands still. It's caused by poor blood circulation in leg <i>arteries</i> due to buildups of <i>plaque</i> . It is a common, early symptom of <i>peripheral artery disease</i> (PAD). This condition may occur in both legs, and the symptoms often get worse over time. Smokers have a much greater risk for this condition. A program of daily walking for short periods, with intermittent stops when pain or cramping occur, may help improve the symptoms, but it is necessary to treat the underlying conditions.
Intraaortic Balloon Pump	A machine used to help the pumping function of the heart. It is usually inserted through an artery in the groin area and threaded backwards into the descending thoracic aorta in the chest. In this location the balloon inflates and deflates in sync with the heart in order to aid the blood pumping function of the heart in people with cardiac disease.
Intracardiac Tumor	An intracardiac tumor can be any tumor of the heart, either malignant or benign. The most common tumor of the heart is a benign atrial myxoma.
Intravascular	Inside a blood vessel.
Intravascular Ultrasound	An <i>invasive procedure</i> , performed along with cardiac catheterization. A miniature sound probe (transducer) on the tip of a <i>catheter</i> is threaded through the <i>coronary arteries</i> and, using high-frequency sound waves, produces detailed images of the interior walls of the arteries.
Invasive Procedure	A medical procedure in which the body is "invaded" or entered by a needle, tube, device or scope. Invasive procedures can include anything from the simple needle prick for a blood test or shot, to inserting a tube, device or scope, to major surgeries.
Iron	An essential mineral. Iron is necessary for the transport of oxygen (via <i>hemoglobin</i> in red blood cells) and for oxidation by cells (via cytochrome). Deficiency of iron is a common cause of <i>anemia</i> . Food sources of iron include meat, poultry, eggs, vegetables and cereals (especially those fortified with iron). According to the National Academy of Sciences, the Recommended Dietary Allowances of iron are 15 milligrams per day for women and 10 milligrams per day for men. Iron overload can damage the heart, liver, gonads and other organs. <i>Iron overload</i> is a particular risk in people who may have certain genetic conditions (<i>hemochromatosis</i>) sometimes without knowing it and also in people receiving recurrent blood transfusions. Iron supplements meant for adults (such as pregnant women) are a major cause of poisoning in children.
Iron overload	Organ failure resulting from excessive accumulation of iron in the body, usually as a result of frequent transfusions or hemochromatosis. Iron overload can damage the heart, liver, gonads and other organs.
Ischemia	Condition in which there is not enough oxygen-rich blood supplied to the heart muscle to meet the heart's needs due to narrowing or blocked blood vessels.

Heart Failure Glossary

Term	Definition
Ischemic Heart Disease (Coronary Artery Disease, Coronary Heart Disease)	Blockages in the coronary arteries lead to ischemia, or decreased blood flow to the heart muscle. Decreased blood flow means decreased oxygen supply to the cells, and the body feels that as pain. When more oxygen is needed, as with exercise, the heart cannot meet the demands. When the heart suffers from a lack of oxygen, chest pain (angina) can occur.
Ischemic Stroke	The death of or injury to brain cells caused when a blood clot or other particle blocks an <i>artery</i> in the brain (<i>cerebral artery</i>) or leading to it, such as the <i>carotid</i> (neck) artery. <i>Cerebral thrombosis</i> and <i>cerebral embolism</i> are ischemic strokes.
Kawasaki Disease (Kawasaki Syndrome)	A rare, acute children’s illness involving inflammation of the blood vessels, particularly the coronary arteries, and the heart muscle (myocarditis) or the sac surrounding the heart (pericarditis). It is characterized by fever and swelling and can also cause red eyes, inflammation of the lips and mouth, swollen and red hands and feet, and swollen lymph nodes. The coronary arteries or other parts of the heart are affected in up to 20 percent of children with this disease. The cause has not been determined. (Also known as Mucocutaneous Lymph Node Syndrome.)
Laser Angioplasty	A technique used to open <i>coronary arteries</i> blocked by <i>plaque</i> . A <i>catheter</i> with a laser at its tip is inserted into an artery. Then it’s advanced through the artery to the blockage. When the laser is in position, it emits pulsating beams of light that vaporize the plaque.
LDL Cholesterol (Low-Density Lipoprotein)	Often called “bad” cholesterol, LDL cholesterol is the major cholesterol carrier in the blood. If too much LDL cholesterol circulates in the blood, it can slowly build up in the walls of the arteries that lead to the heart and brain. Together with other substances it can form plaque, a thick, hard deposit that can clog those arteries. This condition is known as atherosclerosis. A high level of LDL cholesterol (160 mg/dL and above) reflects an increased risk of heart disease. An optimal level is less than 100 mg/dL. Levels from 100–129 mg/dL are near or optimal. Levels from 130–159 mg/dL are borderline high, which also increases risk for heart disease or stroke. LDL cholesterol level maybe a better indicator of risk for a heart attack or stroke than total cholesterol, and drug therapy is initiated based on the level of LDL cholesterol. The lower the LDL cholesterol, the lower the risk for heart disease or stroke. For people with heart disease, the LDL cholesterol should be less than 100 mg/dL. For those with severe heart disease, the doctor may suggest that the LDL cholesterol level be less than 70 mg/dL.
Lead Extraction	A lead is a special wire that delivers energy from a <i>pacemaker</i> or implantable <i>cardioverter defibrillator (ICD)</i> to the heart muscle. A lead extraction is the removal of one or more leads from inside the heart. This procedure is needed when the leads are not working properly - such as damage to the lead or scar tissue at the tip of the lead.
Leaflets	Thin pieces of tissue or flaps that make up a valve.
Left atrium	The upper right chamber of the heart (see <i>heart chambers</i>). The <i>left atrium</i> receives oxygenated blood from the lungs and pumps it down into the <i>left ventricle</i> which delivers it to the body.
Left heart	The heart is composed functionally of two hearts - the right heart and the left heart. The left heart consists of the left atrium which receives oxygenated blood from the lung and the left ventricle which pumps it out to the body under high pressure.
Left ventricle	The left lower <i>heart chamber</i> that receives blood from the <i>left atrium</i> and pumps it out under high pressure through the <i>aorta</i> to the body.

Heart Failure Glossary

Term	Definition
Left-sided Heart Failure (Left-ventricular Heart Failure)	Heart failure in which the left side of the heart must work harder to pump the same amount of blood. This type of heart failure usually causes breathing difficulties.
Left-ventricular Assist Device (LVAD)	A battery-operated, mechanical pump-type device that's surgically implanted to help maintain the pumping ability of a weak heart. These devices are available in most <i>heart transplant</i> centers and are sometimes called a "bridge to transplant," but are now used in long-term therapy. People awaiting a heart transplant often must wait a long time before a suitable heart becomes available. During this wait, the patient's already-weakened heart may deteriorate and become unable to pump enough blood to sustain life. An LVAD can help a weak heart and "buy time" for the patient or eliminate the need for a heart transplant. Most recently, LVADs are being used longer-term as 'destination therapy' in end-stage heart failure patients when heart transplantation is not an option.
Lipid	A fatty substance insoluble in blood (word comes from the Greek word lipos, meaning fat). Cholesterol, cholesterol compounds, and triglycerides are all lipids. They are transported in the blood as part of large molecules called lipoproteins. Abnormalities in lipids can contribute to heart disease. It is recommended that all adults age 20 or older have a fasting lipoprotein profile (total cholesterol, LDL cholesterol, HDL cholesterol and triglyceride) done every 5 years. People at higher risk for cardiovascular disease (CVD) or who are on cholesterol-lowering medication will need to have their cholesterol checked more often.
Lipid Testing	A "lipid panel" is taken when <i>cholesterol</i> levels in the blood are tested. <i>Lipids</i> are <i>fats</i> in the blood and include low-density <i>lipoprotein</i> cholesterol (<i>LDL</i> or "bad" cholesterol), high-density lipoprotein cholesterol (<i>HDL</i> or "good" cholesterol) and <i>triglycerides</i> . For the best results, blood should be drawn from a vein in the morning after fasting (nothing to eat or drink) for at least 12 hours. Another blood fat that may be tested is lipoprotein(a), or Lp(a). This is a genetic variation of plasma LDL. Lp(a) may interfere with the body's ability to dissolve blood clots and may play a role in the development of atherosclerosis (fatty buildups in artery walls). High levels of Lp(a) increase the risk for <i>heart disease</i> , <i>heart attack</i> and <i>stroke</i> . Lp(a) is usually checked in those with early-onset heart disease, with family members with early-onset heart disease or in those who have heart disease but don't have the typical risk factors, such as <i>high blood pressure</i> , high cholesterol, etc.
Lipoprotein	The combination of a lipid (fat) surrounded by a protein; the protein allows the fat to travel in the blood. Lipoproteins are characterized by their density: high-density lipoprotein (HDL), low-density lipoprotein (LDL) and very low-density lipoprotein (VLDL). Cholesterol, a building block of the outer layer of cells (cell membranes) is transported through the blood by lipoproteins.

Heart Failure Glossary

Term	Definition
Long QT Syndrome	A condition that affects the heart's electrical system and may cause fast, chaotic heartbeats. It can cause fainting, and in some cases cardiac arrest. The heart's electrical system normally functions by causing the <i>atria</i> (upper chambers) and then the <i>ventricles</i> (lower chambers) to contract. This pattern of normal electrical signals produces a normal <i>Electrocardiogram (EKG)</i> with Q, R, S, and T waves. In long QT syndrome, the electrical signals are delayed because the electrical system cannot recharge fast enough to carry a signal. This condition increases the risk of a life-threatening <i>arrhythmia</i> known as <i>ventricular tachycardia</i> . People with long QT syndrome may have to limit physical activity, avoid certain medications or have an <i>implantable cardioverter defibrillator (ICD)</i> to prevent sudden death.
Loop Recorder (Event monitor)	See Event monitor (above)
Low blood pressure	Any <i>blood pressure</i> that is below the normal expected for an individual in a given environment (usually less than 90/60). Low blood pressure is also referred to as <i>hypotension</i> .
Low-Density Lipoprotein (LDL)	A type of protein that transports "bad" cholesterol in the blood. It's the major cholesterol carrier in the blood. (See LDL Cholesterol.)
Lp(a) Cholesterol	A genetic variation of <i>LDL cholesterol</i> . Lp(a) is a lipoprotein resembling LDL in composition with an abnormal <i>protein</i> , termed (a), attached. It can interfere with the body's ability to dissolve <i>blood clots</i> . A high level of Lp(a) is an important risk factor for developing <i>atherosclerosis</i> prematurely. High levels of Lp(a) increase the risk for <i>heart disease</i> , <i>heart attack</i> and <i>stroke</i> . Lp(a) is usually checked in those with early-onset heart disease, with family members with early-onset heart disease or in those who have heart disease but who do not have the typical risk factors, such as <i>high blood pressure</i> , <i>high cholesterol</i> , etc.
Lumen	The open space within a tube, such as an artery, vein, or intestine.
Magnetic Resonance Imaging (MRI), Nuclear Magnetic Resonance (NMR) Imaging	A test which produces high-quality still and moving pictures of the heart and large <i>blood vessels</i> . MRI uses large magnets and radio-frequency waves to produce pictures of the body's internal structures. No X-ray exposure is involved. MRI acquires information about the heart as it is beating, creating moving images of the heart throughout its pumping cycle.
Mammary Artery (also called internal thoracic artery)	Artery located in the chest wall and used for coronary artery bypass surgery. Most commonly kept intact at its origin and sewn to the coronary artery beyond the site of blockage. If the surgeon removes the mammary artery from its origin to use as a bypass graft, it is then called a "free" mammary artery bypass graft.
Maze Procedure	A surgical treatment for <i>chronic atrial fibrillation</i> . The surgeon makes multiple incisions in the <i>atrium</i> to lock the path of abnormal <i>atrial rhythms</i> , thus allowing the normal rhythm to reach the <i>atrioventricular node</i> . After this is done, the atrium is sewn back together and a normal rhythm is more easily maintained. "Maze" refers to the series of incisions arranged in a maze-like pattern in the atria. James Cox, MD, and associates developed the "maze" or "Cox maze" procedure, an "open-heart" cardiac surgery procedure intended to eliminate atrial fibrillation (AF), and performed the first one in 1987.

Heart Failure Glossary

Term	Definition
Mechanical Valve	In people who require heart valve replacement surgery, it is sometimes desirable to implant a mechanical valve. A mechanical valve is made of artificial parts and functions similarly to a normal heart valve. People who have a mechanical valve implanted must take blood thinners lifelong to prevent blood clots from forming on the mechanical valve.
Metabolic Exercise Stress Test (also called metabolic stress test)	A test to measure the performance of the heart and lungs while they are under physical stress. The test involves walking on a treadmill or pedaling a stationary bike at increasing levels of difficulty, while being closely monitored.
Metabolic Syndrome	A combination of medical disorders that, in concert, increase the risk of developing cardiovascular disease and diabetes. The main features of metabolic syndrome include insulin resistance, hypertension (high blood pressure), low HDL (good) or high LDL (bad) cholesterol, and an increased risk for clotting. Patients are most often overweight or obese.
Minimally Invasive Heart Surgery (MIHS), (Limited Access Coronary Artery Surgery)	Small incisions (ports) are made in the chest rather than cutting open the chest and dividing the breastbone (<i>open-heart surgery</i>). Chest arteries or <i>veins</i> from the leg are attached to the heart to "bypass" the clogged <i>coronary artery</i> or arteries. The instruments are passed through the ports to perform the bypasses. In some cases, the surgeon views these operations on video monitors rather than directly. This technique was developed to reduce the trauma associated with open-heart surgery. The smaller incision used may allow the patient to heal more rapidly and decrease the time to recovery and full activity. It also helps to reduce the pain and discomfort associated with heart surgery. Minimally invasive heart surgery procedures are a safe and broadly applicable technique for performing a wide range of complex heart procedures, including single or multiple heart valve procedures, bypass surgery, congenital heart repairs, and reoperations.
Mitral Insufficiency	A condition where blood in the left ventricle leaks back through the mitral valve into the left atrium and can back up into the lungs. The mitral valve normally opens to allow blood to flow into the left ventricle and then closes, preventing blood from backing up into the atrium during the ventricle's contraction.
Mitral Valve	The valve located between the heart's left upper chamber (<i>atrium</i>) and left lower chamber (<i>ventricle</i>). It has two flaps (<i>cusps</i>) that open and close, similar to a double door. It normally has two leaflets, or cusps. It stops blood from flowing back into the left atrium after it has been pumped into the left ventricle.
Mitral Valve Prolapse (MVP)	In MVP, one or both valve flaps are enlarged, and some of their supporting "strings" may be too long. When the heart pumps (contracts), the mitral valve flaps don't close smoothly or evenly. Instead, part of one or both flaps collapses backward into the left atrium. This sometimes lets a small amount of blood leak backward through the valve. This may cause a heart murmur. (Also known as Click-Murmur Syndrome, Barlow's Syndrome, Balloon Mitral Valve and Floppy Valve Syndrome.)

Heart Failure Glossary

Term	Definition
Mitral Valve Stenosis	A condition where the mitral valve becomes narrowed preventing the easy flow of blood from the left atrium into the left ventricle. This can cause a backup of blood and fluid in the lungs. Mitral valve stenosis most commonly develops many years after a person has had rheumatic fever, although many people diagnosed with the condition don't recall ever having the illness. It is a lifelong disease, but usually shows no symptoms when it first develops (usually over 10 to 20 years or more). Mitral valve stenosis can lead to heart failure, a stroke, an infection in the heart (endocarditis), or a fast, slow, or uneven heartbeat (arrhythmia).
Mono-unsaturated Fats	A type of fat found in many oils (mostly canola, olive and peanut), nuts and avocados. Eating foods that are high in monounsaturated fats may help lower your "bad" LDL cholesterol. Monounsaturated fats may also keep "good" HDL cholesterol levels high. This may lower your risk of heart disease. But eating more unsaturated fat without cutting back on saturated fat may not lower your cholesterol.
Morbidity Rate	The percentage of people who have complications from a medical condition or after a procedure or treatment in relation to the population in which they occur.
Mortality Rate	The percentage of deaths associated with a disease or medical treatment.
Mucocutaneous Lymph Node Syndrome	(See Kawasaki Disease)
Multigated Acquisition Scan (MUGA scan)	A nuclear scan to evaluate the pumping function of the ventricles.
Murmur	Turbulent blood flow across a <i>heart valve</i> creating a "swishing" sound heard by a stethoscope.
Myocardial Biopsy (Endomyocardial Biopsy)	In this test, a small amount of tissue is removed from the internal lining of the heart for testing. It is used to help diagnose and treat heart muscle disorders and is also used to detect rejection of the new heart after a heart transplant. A long, flexible tube, called a catheter, is inserted into a vein and threaded up into the heart. The doctor can guide the catheter by watching its movement on a monitor showing an X-ray image of the area. The tip of the catheter is fitted with tiny jaws that the doctor can open and close. Once the catheter is in place, the doctor will take several small snips of muscle for microscopic examination.
Myocardial Infarction	Medical term for <i>heart attack</i> . It is the damaging or death of an area of the heart muscle (<i>myocardium</i>) resulting from a blocked blood supply to that area. ("Myo" means muscle, "cardial" refers to the heart, and "infarction" means death of tissue due to lack of blood supply.) Classical symptoms include sudden chest pain (typically radiating to the left arm or left side of the neck), shortness of breath, nausea, vomiting, palpitations, sweating, and anxiety (often described as a sense of impending doom). Women may experience fewer typical symptoms than men, most commonly shortness of breath, weakness, a feeling of indigestion, and fatigue. Approximately one quarter of all myocardial infarctions are "silent", without chest pain or other symptoms.
Myocardial Ischemia	A condition in which there is not enough blood flow (and thus oxygen and nutrient supply) to the heart muscle.
Myocardial Perfusion Imaging (MPI)	(See Thallium Stress Test)

Heart Failure Glossary

Term	Definition
Myocarditis	Inflammation of the heart muscle (myocardium), usually because of a viral infection. It resembles a heart attack but coronary arteries are not blocked.
Myocardium	The muscular center layer of the heart between the outer layer (<i>epicardium</i>) and the inner layer (<i>endocardium</i>). The myocardium is responsible for the heart's pumping action and contracts to pump blood out of the heart and then relaxes as the heart refills with returning blood. The myocardium is the layer with the largest oxygen needs and is most affected by decreased blood flow (<i>ischemia</i>).
Myomectomy	A surgical procedure to remove abnormally thickened heart muscle. Used to treat people with idiopathic hypertrophic subaortic stenosis (IHSS) or HOCM thereby relieving the obstruction to blood flow in the left ventricle during contraction.
Nitroglycerin	A drug (a <i>vasodilator</i>) used to relax (dilate) blood vessels and increases the supply of blood and oxygen to the heart while reducing its workload. "Nitro" is used to treat acute chest pain (<i>angina</i>), in which case it is prescribed as <u>quick-dissolving</u> pills to be placed under the tongue when needed. It can also be prescribed as a routine medication, in which case it is available as <u>slower-release</u> pills, creams or patches. When the blood vessels dilate, blood flow to the tissues increases, which can relieve chest pain.
Non-Q-Wave MI	A heart attack (Myocardial Infarction) which does not cause changes known as "Q-waves" on the electrocardiogram (ECG); however, other changes on the ECG are often seen. In addition, chemical markers in the blood indicate that damage has occurred to the heart muscle. In non-Q-wave MI, a blood clot may block the coronary artery for a period of time, and then break up by itself or collateral circulation may help to restore blood flow to the area of ischemia (lack of blood supply). The size of damage is fairly small; therefore, overall function of the heart is usually maintained.
Norwood Procedure	A complex surgical procedure used for <i>hypoplastic left-heart syndrome</i> (and similar conditions) where reconstruction of the absent or small <i>aorta</i> is accomplished by using the patient's own <i>pulmonary artery</i> . This allows unobstructed blood flow to be delivered to the body. As part of the Norwood procedure, the wall between the heart's upper chambers (<i>atria</i>) is removed (<i>atrial septectomy</i>), and a small Gore-tex® tube (shunt) is inserted from the aorta to the pulmonary arteries.
Nuclear Scan	Nuclear imaging is a method of producing images by detecting radiation from different parts of the body after the administration of a radioactive tracer material.
Obesity	Obesity is an excess proportion of total body fat. A person is considered obese when his or her weight is 20% or more above normal weight. The most common measure of obesity is the body mass index or BMI. A person is considered overweight if his or her BMI is between 25 and 29.9; a person is considered obese if his or her BMI is over 30. "Morbid obesity" means that a person is either 50%-100% over normal weight, more than 100 pounds over normal weight, has a BMI of 40 or higher, or is sufficiently overweight to severely interfere with health or normal function. Obesity increases the likelihood of various diseases, particularly <i>heart disease</i> , type 2 diabetes, breathing difficulties during sleep, certain types of cancer, and osteoarthritis.
Occluded Artery	An artery in which blood flow has been impaired or obstructed (occluded) by a blockage. In some patients, an occluded artery causes only mild pain, tightness or vague discomfort which may be ignored: the myocardium is however damaged.

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Occlusion	Blockage.
Off Pump Heart Surgery	Heart surgery done without the use of the cardiopulmonary bypass machine.
Open-Heart Surgery	(See Coronary Bypass Surgery)
Overweight	A body mass index (BMI) of 25.0–29.9 kg/m ² . A BMI of 25 kg/m ² corresponds to about 10 percent over ideal body weight. Obesity is defined as a BMI of 30.0 or greater (consistent with criteria of the World Health Organization), or about 30 pounds or more overweight. Extreme obesity is defined as a BMI of 40 or greater. Obesity is now recognized as a major risk factor for coronary heart disease, which can lead to heart attack.
Pacemaker	The "natural" pacemaker of the heart is called the <i>sinus node</i> . It's a small group of specialized cells in the top of the heart's right chamber (<i>atrium</i>). It produces the electrical impulses that travel down to the heart's lower chambers (<i>ventricles</i>), causing the heart to contract. An "artificial pacemaker" is an electrical device which can substitute for a defective natural pacemaker or conduction pathway. An artificial pacemaker regulates the speed and rhythm of the heartbeat after it is implanted just under the skin of the chest during a minor surgical procedure. Usually these devices are used for hearts that beat too slowly. Pacemakers run on batteries and usually last many years.
Palpitation	A fluttering sensation in the chest often related to a missed or irregular heart beat or rapid heartbeat.
Patency Rate	In the months to years after <i>coronary artery bypass surgery</i> is performed, grafts (<i>free mammary artery graft</i>) can become diseased and may become blocked . Patency is a term used to describe the likelihood that a graft remains open. A graft is considered patent (open and unobstructed) if there is flow through the graft without any significant (>70% diameter) narrowing in the graft.
Patent Ductus Arteriosus (PDA)	A congenital heart defect which allows blood to mix between the pulmonary artery and the aorta. Before birth an open passageway (the ductus arteriosus) exists between these two blood vessels. Normally this closes within a few hours of birth, but when that doesn't happen, some blood that should flow through the aorta and on to nourish the body returns to the lungs. A ductus that doesn't close is quite common in premature infants but rather rare in full-term babies. If the ductus arteriosus is large, a child may tire quickly, grow slowly, catch pneumonia easily and breathe rapidly. In some children, symptoms may not occur until after the first weeks or months of life. If the ductus arteriosus is small, the child seems well. If surgery is needed, the surgeon can close the ductus arteriosus by tying it, without opening the heart. If there's no other defect, this restores the circulation to normal.
Percutaneous Coronary Intervention (PCI)	(See Angioplasty)
Perfusion	The circulation of blood through the arteries of the heart. Tests of adequate perfusion are a part of the patient assessment process performed by medical or emergency personnel. The most common methods include evaluating skin color, temperature, condition and capillary refill. The word is derived from the French verb "perfuser" meaning to "pour over or through."
Pericardio- centesis (pericardial tap)	An invasive procedure involving the use of a needle and catheter to remove fluid from the sac around the heart. The fluid may then be sent to a lab for tests to look for signs of infection or cancer.

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Pericarditis	A disorder caused by inflammation of the pericardium, which is the sac-like covering of the heart. It's usually a complication of a viral, bacterial or fungal infection and is marked by chest pain, fever, and an audible friction rub (an extra heart sound). It can also result from a heart attack, cancer, injury or surgery.
Pericardium	A double-walled sac (pouch) containing the heart and the roots of the <i>great vessels</i> . Normally there is a small amount of fluid between the pericardium and the heart which helps cushion the heart and reduces friction between the heart and the pericardium when the heart beats.
Peripheral Artery Disease (PAD)	A type of peripheral vascular disease affecting blood circulation, mainly in arteries leading to the legs and feet limiting blood flow to the muscles. It's caused by fatty buildups (atherosclerosis) in the inner walls of arteries, which interrupt normal blood flow. Symptoms include pain in the legs or buttocks when exercising that goes away when the activity is stopped, though not everyone has symptoms. Smokers are at a much higher risk for PAD. It can be diagnosed with a quick, painless test called an ankle-brachial index (ABI) test. Since it often goes undiagnosed, it's important to ask a healthcare professional to administer the test if you have symptoms or smoke.
Peripheral Vascular Disease	Diseases of <i>blood vessels</i> outside the heart and brain. Often it's a narrowing of vessels carrying blood to legs, arms, stomach or kidneys. <i>Peripheral artery disease (PAD)</i> is a common form of peripheral vascular disease.
Phlebotomy	Removing blood from the vein. This term applies to routine laboratory blood tests, but in patients with too many red blood cells (see Polycythemia), a larger amount of blood is removed and replaced with intravenous fluid to lower the blood count. Regular phlebotomy also treats people who have too much iron in their blood, such as with hemochromatosis. Removing blood regularly decreases iron levels in the body by reducing the number of iron-rich red blood cells.
Plaque	A <i>cholesterol</i> buildup in the interior wall of <i>blood vessels</i> . After years, it may become calcified and hard and may also rupture. If this happens, a <i>blood clot</i> may form on the plaque and block blood flow, potentially causing a <i>heart attack</i> or <i>stroke</i> . The building up of plaque and hardening of the <i>arteries</i> is known as <i>atherosclerosis</i> .
Platelets	An element in blood that aids in blood clotting.
Polycythemia	An high number of red blood cells in the blood, also referred to as a "high hematocrit" or "thick blood." Polycythemia is often seen in patients with lower-than-normal levels of oxygen in the blood.
Polyunsaturated Fats	A type of fat found mainly in vegetable oils such as corn, safflower, sunflower and soybean oils. They're usually liquid at room temperature. It is also found in seeds and fish. Eating polyunsaturated fat in place of saturated fat may lower LDL cholesterol when used in place of saturated fats. Experts recommend that 20% to 35% of your total calories each day come from fat. This includes no trans fat, up to 10% polyunsaturated fat, up to 10% saturated fat, and 10% to 15% monounsaturated fat.
Positron Emission Tomography (PET or cardiac viability study)	An imaging procedure that uses a special type of camera and a tracer (radioactive chemical) to look at and create 3-dimensional pictures of the organs and tissues in the body. The tracer usually is a substance (such as glucose) which can be used (metabolized) by cells in the body. During the test, the tracer liquid is put into a <i>vein</i> (intravenous or IV) in your arm. The tracer moves through your body, where much of it collects in the specific organ or tissue. The tracer gives off tiny positively charged particles (positrons) which is recorded by the camera and turns the recording into pictures on a computer.

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Potassium (K+)	One of the electrolyte substances found naturally in the body which, together with sodium and calcium, regulates the body's water balance, maintains normal heart rhythm and is responsible for nerve impulse conduction and muscle contraction. A proper balance of potassium, sodium, calcium and magnesium is essential for normal activity of muscle tissue, especially cardiac muscle, and plays a role in nerve conduction. Potassium levels are mainly controlled by the steroid hormone aldosterone, which causes the body to rid itself of excess potassium. Small changes in the potassium concentration outside cells can have substantial effects on the activity of nerves and muscles. This is particularly true of heart muscle. Low levels of potassium cause increased activity, which can lead to an irregular heartbeat (arrhythmia). High levels cause decreased activity. Either situation can lead to cardiac arrest in some circumstances.
Premature Atrial Contraction (PAC)	An early beat of the heart's upper chamber (<i>atrium</i>) that may feel like the heart "skipped" a beat. (See <i>Palpitations</i> .) In reality, the heart doesn't skip a beat. Instead an extra beat comes sooner than normal. Then there's usually a pause that causes the next beat to be more forceful. This can feel like a more forceful beat.
Premature Ventricular Contraction (PVC)	An early beat of the heart's lower chamber (ventricle) that may feel like the heart "skipped" a beat. (See <i>Palpitations</i> .) These are among the most common arrhythmias and occur in people with and without heart disease. It can be related to stress, too much caffeine or nicotine, or too much exercise. But sometimes, PVCs can be caused by heart disease or electrolyte imbalance. People who have a lot of PVCs, and/or symptoms associated with them, should be evaluated by a heart doctor. However, in most people, PVCs are usually harmless and rarely need treatment.
Prophylaxis	Any medical procedure whose purpose is to prevent, rather than treat or cure a disease. In general terms, prophylactic measures are divided between <u>primary</u> prophylaxis (to prevent the development of a disease) and <u>secondary</u> prophylaxis (whereby the disease has already developed and the patient is protected against worsening of this
Prostaglandins	One of a number of hormone-like substances that participate in a wide range of body functions such as the contraction and relaxation of smooth muscle, the dilation and constriction of blood vessels, control of blood pressure and modulation of inflammation. Prostaglandins are derived from a chemical called arachidonic acid.
Pulmonary	Concerning or involving the lungs. (The word comes from the Latin <i>pulmo</i> for lung).
Pulmonary Artery Catheterization (Right Heart Catheterization)	Used to evaluate primary pulmonary hypertension. In this procedure the doctor places a thin, flexible tube (called a Swan-Ganz catheter) usually inserted in one of the veins in the neck and thread it into the right ventricle and pulmonary artery. This is a common way to measure the pressure in the pulmonary artery and find out what treatment is appropriate for a given patient. It is also used in critically ill patients to provide continuous monitoring of heart function. (Sometimes called Swan-Ganz Catheterization)
Pulmonary Atresia	A congenital heart defect in which no <i>pulmonary valve</i> exists. Blood can't flow from the <i>right ventricle</i> into the <i>pulmonary artery</i> and on to the lungs. With no oxygenated blood flowing, the result is a blue discoloration of the skin (<i>cyanosis</i>).
Pulmonary Edema	Fluid buildup (edema) in the lungs usually due to mitral stenosis or left ventricular failure. Symptoms of pulmonary edema include difficulty breathing, coughing up blood, excessive sweating, anxiety and pale skin.

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Term	Definition
Pulmonary Hypertension	Pulmonary hypertension is <i>high blood pressure</i> in the <i>pulmonary arteries</i> leading from the heart to the lungs. Pulmonary hypertension is a different condition than ordinary high blood pressure (<i>hypertension</i>). Many different conditions can cause pulmonary hypertension, including congestive heart failure, blood clots in the lungs, HIV infection, and more. In most patients, pulmonary hypertension has an identifiable cause. Although there's no cure, treatments can reduce the symptoms of primary pulmonary hypertension, including shortness of breath. Symptoms can include shortness of breath, dizziness, fainting, and other symptoms, all of which are aggravated by exercise or activity.
Pulmonary Stenosis (PS)	A congenital heart defect in which the pulmonary or pulmonic valve is defective and doesn't open properly. The pulmonary valve is between the right ventricle and the pulmonary artery. It opens to allow blood to flow from the right ventricle to the lungs. This forces the right ventricle to pump harder than normal to overcome the obstruction. When the stenosis is mild, it can go unnoticed for many years. If stenosis is severe, you may see sudden fainting or dizziness if exercised too much, you may also experience an enlarged liver and swelling in the legs (edema). Treatment is needed when the pressure in the right ventricle is higher than normal. In most children, the obstruction can be relieved by a procedure called balloon valvuloplasty, but others may need open-heart surgery. People with pulmonary stenosis, before and after treatment, are at risk for getting an infection of the valve (endocarditis).
Pulmonary Veins	Having to do with the lungs. (The word comes from the Latin pulmo for lung).
Pulmonic Valve	The last valve through which blood passes before it enters pulmonary artery from the right ventricle.
Pulse Rate	The rate of the pulse usually observed at the wrist and stated in beats per minute (bpm). The resting pulse rate for an average adult is between 60 and 80 beats per minute. The rhythm and strength of the heartbeat can also be noted, as well as whether the blood vessel feels hard or soft. Changes in your heart rate or rhythm, a weak pulse, or a hard blood vessel may be caused by heart disease or another problem.
Q-wave MI	A heart attack caused by a prolonged period of blocked blood supply. An area of the heart muscle is affected, causing changes known as "Q-waves" on the electrocardiogram (ECG) as well as chemical markers in the blood. The ECG translates the heart's electrical activity into line tracings on paper. The spikes and dips in the line tracings are called waves.
Radial Artery	The radial artery is a <i>blood vessel</i> that carries oxygen-rich blood in the forearm. The pulse of the radial artery can be felt by feeling the inside of the wrist underneath the base of the thumb.
Radionuclide Study (MUGA)	See MUGA.
Reentry	Re-entry <i>arrhythmias</i> occur when an electrical impulse recurrently travels in a tight circle within the heart, rather than moving from one end of the heart to the other and then stopping. This is a common cause of <i>tachycardias</i> .
Regurgitation	The leakage or backflow that results when a heart valve that doesn't close properly and lets blood leak back into the chamber from which it was pumped.
Reperfusion Therapy	One or more techniques to restore blood flow to part of the heart muscle damaged during a <i>heart attack</i> or part of the brain injured during a <i>stroke</i> . It may include clot-dissolving drugs (<i>thrombolysis</i>), <i>balloon angioplasty</i> or surgery. (Also known as clot-buster therapy.)

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Term	Definition
Restenosis	The closing or narrowing of an artery (stenosis) that was previously opened by a cardiac procedure such as angioplasty.
Retinopathy	Damage to the <i>blood vessels</i> in the retina due to an abrupt reduction of blood flow to the heart muscle that may cause dying off of tissue (<i>myocardial infarction</i>) and hardening of the walls of the little arteries (<i>arterioles</i>) in the eye. Symptoms include bleeding in the retina, thick fluid oozing from the retina, and impaired oxygenation of the retina. These degenerative changes can cause vision impairment.
Rheumatic Heart Disease	Heart damage caused by rheumatic fever which is a complication of strep throat. Rheumatic fever can attack more than once and is particularly damaging to the heart valves. This often requires surgery to repair or replace the affected valve(s).
Right atrium	One of four <i>heart chambers</i> (two <i>atria</i> and two <i>ventricles</i>). The right atrium is the right upper chamber of the heart. It receives deoxygenated blood from the body through the <i>vena cava</i> and pumps it into the <i>right ventricle</i> which then sends it to the lungs to be oxygenated.
Right heart	The heart is composed functionally of two hearts - the right heart and the left heart. The right heart consists of the right atrium which receives deoxygenated blood from the body and the right ventricle which pumps it to the lungs. The right heart is a low pressure system.
Right Heart Ventriculography	A study of the right <i>chambers</i> (<i>atrium</i> and <i>ventricle</i>) of the heart. This test is used to obtain measurements of pressure, oxygen and <i>cardiac output</i> through a thin flexible tube called a catheter. Occasionally, visualizing the right chambers is also necessary. This is done by injecting contrast media (dye) through the catheter into the heart's right side with a rapid succession of X-rays taken to capture images of blood flow. Right-heart <i>angiography</i> is performed to detect abnormalities in blood flow through the heart's right side.
Right ventricle	One of four chambers (two <i>atria</i> and two <i>ventricles</i>) in the heart. It receives deoxygenated blood from the right atrium via the tricuspid valve, and pumps it into the pulmonary artery via the pulmonary valve and pulmonary trunk (pulmonary artery or main pulmonary artery).
Right Ventricular Biopsy	The removal of a small piece of heart tissue from your <i>right ventricle</i> . This tissue sample is studied under a microscope to help your doctor evaluate your heart muscle.
Right-Sided Heart Failure (Right Ventricular Heart Failure)	Heart failure caused by damage to the heart's right-sided chambers. This usually occurs as a result of left-sided heart failure. When the left ventricle fails, increased fluid pressure is, in effect, transferred back through the lungs, ultimately damaging the heart's right side. When the right side loses pumping power, blood backs up in the body's veins. This usually causes swelling in the legs and ankles.
Risk Factor	An element or condition involving certain hazard or danger. When referring to the heart and blood vessels, a <u>positive</u> risk factor is associated with an increased chance of developing cardiovascular disease including stroke. A <u>negative</u> risk factor is associated with a reduced chance of developing heart and blood vessel disease.

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Term	Definition
Rotoblation (Percutaneous Transluminal Rotational Atherectomy or PCRA)	A special catheter, with an acorn-shaped, diamond-coated tip, is guided to the point of narrowing in the coronary artery. The tip spins around at a high speed and grinds away the plaque on the artery walls. The microscopic particles are washed safely away in the blood stream and filtered out by the liver and spleen. This process is repeated as needed to allow for better blood flow. This procedure is rarely used today because balloon angioplasty and stenting have much better results and are technically easier for the cardiologist to perform.
Saphenous Vein	There are several types of bypass grafts used for heart <i>bypass surgery</i> . The surgeon decides which graft(s) to use, based on the location of the blockage, the amount of blockage, and the size of the patient's <i>coronary arteries</i> . The Saphenous veins can be removed from the leg, and then sewn from the <i>aorta</i> to the coronary artery below the site of blockage. Minimally invasive saphenous vein removal may be performed and results in less scarring and a faster <i>recovery</i> .
Saturated Fats	Fats are nutrients which give energy and are either saturated or unsaturated. Most foods with fat have both types, but usually there is more of one kind of fat than the other. Saturated fat is solid at room temperature. It is mostly in animal foods, such as milk, cheese, and meat. Poultry and fish have less saturated fat than red meat. Saturated fat is also in tropical oils, such as coconut oil, palm oil, and cocoa butter. Tropical oils are in many snacks and in nondairy foods, such as coffee creamers and whipped toppings. Saturated fat can raise cholesterol. The recommendation for people with coronary heart disease or an LDL cholesterol level of 100 mg/dL or greater is 25–35 percent of calories from fat per day, with less than 7 percent coming from saturated fat.
Septum	The muscular wall dividing the <i>heart chambers'</i> left side from the chambers on the right.
Sestamibi Exercise Stress Test (Sestamibi stress test, stress perfusion scan, stress Sestamibi)	A diagnostic study, which uses a small amount of radioactive tracer (Sestamibi), injected into the body, and a special camera which detects the radiation released by the substance to produce a computer image of the heart. Combined with exercise, the study can help determine if there is adequate blood flow to the heart at rest, as compared with activity.
Shortness of breath	Difficulty in breathing. Medically referred to as <i>dyspnea</i> . Shortness of breath can be caused by respiratory (breathing passages and lungs) or circulatory (heart and <i>blood vessels</i>) conditions.
Shunt	(1) An abnormal flow pattern of blood through the chambers of the heart or through the large arteries leaving the heart. A "left-to-right" shunt results in extra blood flow entering the lungs, while a "right-to-left" shunt results in decreased blood flow to the lungs, low oxygen levels and cyanosis. (2) A surgically created connection designed to increase the delivery of blood to the lungs. Shunts are also used in bypass surgery and to drain fluids from the body.

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Term	Definition
Sickle Cell Anemia	A genetic blood disorder which causes red blood cells to form into a crescent shape, like a sickle. The sickle-shaped red blood cells break apart easily, causing chronic <i>anemia</i> . Sickle red blood cells live only 10-20 days instead of the normal 120 days. The damaged sickle red blood cells also clump together and stick to the walls of blood vessels, blocking blood flow. This can cause severe pain and permanent damage to the brain, heart, lungs, kidneys, liver, bones, and spleen. Severe pain is an emergency called acute sickle cell crisis. A person may not know what brought on the pain, but infection, dehydration are common triggers. This disorder mostly affects African Americans. Life expectancy is shortened, with studies reporting an average life expectancy of 42 in males and 48 in females.
Side Effect	A reaction resulting from a medication or therapy. For example, heart failure medications can cause side effects such as headaches, nausea, dizziness, kidney complications and low blood pressure.
Silent Ischemia	Sporadic interruptions of blood flow to the heart that, for unknown reasons, are symptom and pain-free, although they may damage the heart tissue. The condition can be detected by <i>ECG (electrocardiogram)</i> testing. People with diabetes often have silent <i>ischemia</i> .
Single Photon Emission Computed Tomography (SPECT)	A nuclear imaging technique, similar to positron-emission tomography, which injects a radioactive liquid into the blood, then takes a series of pictures around the chest. SPECT is used to examine blood flow in the heart and to determine how well the heart is pumping by reading its 3D information. It is also used to diagnose coronary artery disease (CAD).
Sinoatrial (SA) or Sinus Node	Called the “natural <i>pacemaker</i> ” of the heart, the SA is the impulse-generating tissue located in the <i>right atrium</i> (upper chamber) of the heart. It initiates the heart’s electrical activity, stimulating muscle contraction, which pumps blood to the body. (See Pacemaker.)
Sinus Rhythm	A term used to describe the normal heart rate and rhythm of the heart, as measured by an electrocardiogram (ECG). It has certain features that serve as markings for comparison with normal ECGs. The heart rate during normal sinus rhythm is 60 to 100 beats per minute (BPM). Depending upon the needs of the body, it may beat faster (sinus tachycardia) due to stress or slower (sinus bradycardia) such as during sleep.
Sodium (Na)	A mineral that, together with potassium and calcium, regulates the body's water balance, maintains normal heart rhythm and is responsible for nerve impulse conduction and muscle contraction. In general, the more sodium consumed, the more water is retained in the body. Too much intake of sodium from food contributes to <i>high blood pressure</i> in some people. In people who already have high blood pressure, too much sodium may increase the risk of stroke, heart disease and kidney damage. Table salt (sodium chloride) is 40% sodium. Aim to eat less than 1,500 mg of sodium per day.
Spasm	The sudden, temporary or prolonged contraction of a muscle or artery. A coronary spasm is a muscular closure of the coronary arteries, causing angina, ischemia, or myocardial infarction. Coronary artery spasm can be triggered by emotional stress, medicines, street drugs (such as cocaine) or exposure to cold.
Sphygmoma- nometer (Blood Pressure Monitor)	An instrument used for measuring arterial blood pressure.

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Term	Definition
Stable Angina	Predictable chest discomfort that usually occurs during exertion or under mental or emotional stress. Normally the chest discomfort is relieved with rest, nitroglycerin or both. Also known as effort angina.
Stages of Heart Failure	Developed by the American Heart Association and American College of Cardiology in 2001, this staging system is designed to evaluate the development and progression of <i>heart failure</i> . Stages A and B represent people who have not yet developed heart failure, but are at high risk to do so because of <i>coronary artery disease (CAD)</i> , <i>high blood pressure</i> , diabetes or other predisposing risk factor. Stage C includes patients with past or current symptoms of heart failure who have structural heart disease. Stage D includes patients who have advanced heart failure that is difficult to manage with standard treatment.
Statins	A group of drugs (ending with "-statin" such as pravastatin and lovastatin) used to reduce elevated low-density lipoprotein (LDL) or "bad" cholesterol, which is associated with increased risk of cardiovascular disease. They work in the liver to prevent cholesterol from forming. They are also known as HMG CoA reductase inhibitors. Too much cholesterol can increase a person's chance of getting heart disease.
Stenosis	An abnormal narrowing of a <i>blood vessel</i> or <i>aortic valve</i> , which can be caused by a number of diseases and conditions. When the degree of narrowing becomes significant enough to interfere with the flow of blood from the <i>left ventricle</i> to the <i>arteries</i> , heart problems develop.
Stent	Stents are small stainless steel mesh tubes used to treat narrowed or weakened arteries in the body. In patients with coronary heart disease, caused by the buildup of plaque, stents are used to open narrowed arteries and help reduce symptoms such as chest pain (angina), or to help treat a heart attack. Usually made of metal mesh, heart stents are implanted in narrowed coronary arteries during a procedure called a percutaneous coronary intervention (PCI) or angioplasty.
Sternum (breastbone)	Bone in chest separated during <i>open-heart surgery</i> .
Stress Test	(See Exercise Stress Test)
Stroke (Apoplexy, Cerebrovascular Accident)	An interruption of blood flow to the brain causing paralysis, slurred speech and/or altered brain function. It may be caused by a <i>blood clot</i> blocking circulation or by bleeding into brain tissue causing tissue damage. A stroke can happen when a <i>blood vessel</i> carrying blood to the brain is blocked by a blood clot. This is called an <i>ischemic stroke</i> . <i>Ahemorrhagic stroke</i> occurs when a blood vessel breaks open due to trauma or an <i>aneurysm</i> ruptures causing blood to leak into the brain. The signs of a stroke may include weakness, numbness, blurred vision, confusion, and slurred speech. A stroke is a medical emergency and can cause permanent neurological damage, complications, and death. Risk factors for stroke include old age, <i>hypertension (high blood pressure)</i> , previous stroke or <i>transient ischemic attack (TIA)</i> , diabetes, high <i>cholesterol</i> , cigarette smoking and <i>atrial fibrillation</i> . High blood pressure is the most important changeable risk factor of stroke.
Stunned Myocardium	If blood flow is returned to an area of heart muscle after a period of ischemia (lack of blood supply), the heart muscle is not able to contract normally at first but is later able to function normally. This is called "stunned" heart muscle or myocardium.

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Term	Definition
Subaortic Stenosis	A congenital heart defect in which the <i>left ventricle</i> is narrowed (<i>stenosis</i>) just below the <i>aortic valve</i> , which blood passes through to go into the <i>aorta</i> . This limits the flow of blood out of the left ventricle. The defect can also be due to a form of <i>cardiomyopathy</i> . Treatment depends on the cause and severity of the narrowing and includes drugs and surgery. People with subaortic stenosis, before and after treatment, are at risk for infection within the aorta or the heart valves (<i>endocarditis</i>). To help prevent this, they should take antibiotics before certain dental and surgical procedures.
Subarachnoid Hemorrhage	The bleeding from a burst blood vessel on the surface of the brain into the space between the brain and the skull. Causes sudden, severe head pain and requires immediate medical care to prevent brain injury and death. A type of
Subvalvular Aortic Stenosis	A narrowing of the flow of blood below the <i>aortic valve</i> in the <i>left ventricle</i> . It is usually caused by a membrane or thickening in the muscle in this area.
Sudden Cardiac Death (SCD, Sudden Death)	Death resulting from the abrupt loss of heart function (cardiac arrest). Death occurs within minutes after the heart stops. SCD due to cardiac arrest may be prevented if CPR (cardiopulmonary resuscitation) is performed and a defibrillator is used to shock the heart and restore a normal heart rhythm within a few minutes. Most of the cardiac arrests leading to sudden death occur when the electrical impulses in the diseased heart become rapid (ventricular tachycardia) or chaotic (ventricular fibrillation) or both. A heart attack may cause cardiac arrest and sudden cardiac death, but the terms aren't synonymous.
Superior Vena Cava	A major vein that carries deoxygenated blood from the upper body (head, neck, chest and arms) to the heart. This vein is the second largest vein in the human body.
Supraventricular Tachycardia	A condition in which heart tissue in either the upper chambers (atria) or the middle region (above the ventricles) develops pacemaker activity, resulting in an abnormally fast heart beat (tachycardia). Called supraventricular because the tachycardia originates above the ventricles of the heart.
Swan-Ganz Catheter	A thin, flexible tube with an expandable balloon tip used for determining <i>blood pressure and oxygen saturation</i> in the <i>pulmonary artery</i> , named for its inventors, Jeremy Swan and William Ganz. (See <i>Pulmonary Artery Catheterization</i>)
Sympathetic Nervous System	One of the three parts of the autonomic nervous system (along with the enteric and parasympathetic systems). Its general purpose is to mobilize the body's resources under stress.
Sympathetic Nerve Inhibitors	A class of anti-hypertensive drugs which reduce <i>blood pressure</i> by inhibiting the sympathetic nerves from constricting blood vessels.
Syncope	A sudden, brief loss of consciousness and posture (fainting) caused by decreased blood flow to the brain. Many different conditions can cause fainting which include heart problems such as irregular heart beat, seizures, panic or anxiety attacks, low blood sugar (hypoglycemia), anemia (a deficiency in healthy oxygen carrying cells), and problems with how the nervous system (the body's system of nerves) regulates blood pressure.
Systole	The phase of the cardiac cycle in which the heart muscle contracts, forcing the blood into the <i>aorta</i> and <i>pulmonary artery</i> . The period specifically during which the <i>left ventricle</i> contracts.

Heart Failure Glossary

Term	Definition
Systolic Blood Pressure	The highest blood pressure measured in the arteries. The pressure of blood inside arteries occurring during the pumping phase of the heartbeat. It is measured in millimeters of mercury (mmHg) and is the upper number in the standard blood pressure reading (for example, 120/80, where 120 is the systolic pressure). A normal systolic blood pressure is below 120. A systolic blood pressure of 120 to 139 means you have pre-hypertension, or borderline high blood pressure. Even people with pre-hypertension are at a higher risk of developing heart disease. A systolic blood pressure number of 140 or higher is considered to be hypertension, or high blood pressure.
Systolic Heart Failure	A condition in which the heart pumps with less strength than normal (decreased <i>ejection fraction</i>). As time goes on, the pumping chambers (<i>ventricles</i>) become thin, large and floppy. Because blood cannot be pumped out as well, it backs up into organs. This causes swelling (<i>edema</i>) (particularly noticed in the feet and ankles) and congestion in the lungs. As the disease progresses, the heart is unable to pump enough blood (and oxygen) around the body to meet its needs. This type of heart failure is more common and caused by conditions such as <i>coronary artery disease (CAD)</i> , <i>high blood pressure</i> , <i>valvular heart disease</i> and <i>idiopathic cardiomyopathy</i> .
Tachycardia	An abnormally fast heartbeat (more than 100 beats per minute in adults).
Tetralogy of Fallot	A complex, congenital heart defect with four components: <i>ventricular septal defect</i> , <i>pulmonary valve stenosis</i> , muscular <i>right ventricle</i> and the <i>aorta</i> directly over the ventricular septal defect. Blood pumped to the body contains less-than-normal amounts of oxygen. This results in <i>cyanosis</i> , a blue discoloration of the skin. Some infants with severe Tetralogy of Fallot may need an operation to give temporary relief by increasing blood flow to the lungs with a shunt. Most children with this condition have open-heart surgery before school age. After surgery, the long-term outlook varies, depending largely on how severe the defects were before surgery. Lifelong medical follow-up is needed. People with Tetralogy of Fallot, before and after treatment, are at risk for getting an infection within the aorta or the heart valves (<i>endocarditis</i>). It's recommended that all people with uncorrected or partly corrected Tetralogy of Fallot take antibiotics before certain dental procedures.
Thallium Exercise Stress Test (Stress thallium test, Perfusion scan)	A type of nuclear scanning test similar to a routine exercise stress test but with images. This test shows how well the heart muscle is supplied (perfused) with blood. A radioactive substance called thallium (more recently replaced by Sestamibi) is injected into the bloodstream when the patient is at maximum level of exercise. Then pictures are taken of the heart's muscle cells using a special (gamma) camera. Patients who cannot physically exercise will receive a medication to increase blood flow in the heart as if they were exercising. The radionuclide tracers cardiolite and myoview can also be used instead of thallium for this test. (Also known as Myocardial Perfusion Imaging (MPI), Radionuclide Stress Test and Nuclear Stress Test.)
Thoracoscopic Surgery	Similar to arthroscopic surgery for joint surgery or laparoscopic surgery in the abdomen, thoracoscopic surgery is performed by using small incisions and video cameras to do procedures typically done through larger open incisions. The thoracoscope is an instrument for inspection of the chest cavity. It has fiberoptic lights and fiberoptic or mini TV camera visualization and is inserted through an space between the ribs. Thoracic surgery is performed for diagnosis or treatment of chest conditions.

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Term	Definition
Three-dimensional ("3-D") Echo-cardiography	A high-tech echocardiogram using an ultrasound probe with an array of transducers and an appropriate processing system to produce 3-dimensional images. This enables detailed views of cardiovascular system, particularly defects in the heart valves, and cardiomyopathies. The ability to slice the virtual heart in infinite planes in an anatomically appropriate manner and to reconstruct 3-dimensional images of the heart in 3D can be critical for the understanding of the congenitally malformed heart. Real Time 3-Dimensional echocardiography can be used to guide the location of catheter during right ventricular endomyocardial biopsies.
Thrombolysis	Also known as thrombolytic therapy, thrombolysis is a treatment to dissolve dangerous <i>blood clots</i> in <i>blood vessels</i> , improve blood flow, and prevent damage to tissues and organs. Thrombolysis may involve the injection of clot-busting drugs through an intravenous (IV) line or through a long catheter that delivers drugs directly to the site of the blockage. It also may involve the use of a long catheter with a mechanical device attached to the tip that either removes the clot or physically breaks it up. Thrombolysis is often used as an emergency treatment to dissolve blood clots that form in <i>arteries</i> feeding the heart and brain, the main cause of <i>heart attacks</i> and <i>ischemic strokes</i> , and in the arteries of the lungs (<i>acute pulmonary embolism</i>).
Thrombolytic Medication (clot-buster drug)	Medication used to dissolve or break up the blood clots blocking blood flow through a coronary artery or vein. Clots cause most heart attacks.
Thrombosis	The formation or presence of a blood clot (<i>thrombus</i>) inside a <i>blood vessel</i> or <i>chamber</i> of the heart.
Thrombus	A clot of blood formed within a blood vessel or within the heart and remaining attached to its place of origin—unlike embolus that forms in one part of the body, then moves through the bloodstream until it lodges in a narrowed vessel and blocks the flow of blood.
Tissue Plasminogen Activator (tPA)	One of several clot-dissolving (<i>thrombolytic</i>) drugs used during a <i>heart attack</i> or <i>stroke</i> caused by a <i>blood clot (ischemic stroke)</i> . It is given in a <i>vein</i> (intravenously, or IV) and in some cases may be given directly into an <i>artery</i> . To be effective, it must be given within a few hours after symptoms begin. For a person having an acute heart attack, tPA works by dissolving a major clot quickly. By dissolving the clot, the blood is able to start flowing again to that area of the heart. If the blood flow to the heart is started again rapidly, it may prevent long-term damage to the heart muscle and may even stop an event that could have been fatal.
Total Anomalous Pulmonary Venous Connection (Total Anomalous Pulmonary Venous Return TAPVR)	A congenital heart defect in which the pulmonary veins bring oxygenated (red) blood from the lungs back to the right side of the heart rather than the left side of the heart where it should be. The blood passing through the aorta to the body doesn't have enough oxygen, which causes the child to look blue (cyanotic). This condition requires surgical correction, the timing of which depends on how sick the patient is. The surgery may be done in the newborn period if the infant has severe symptoms or at some time during the first six months of life. It is an open-heart procedure.
Total Cholesterol	The total amount of cholesterol in the blood.

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Term	Definition
Trans Fats (Trans Fatty Acids)	A fat formed when liquid vegetable oils go through a chemical process called hydrogenation in which hydrogen is added to make the oils more solid. Hydrogenated vegetable fats are used by food processors because they allow longer shelf life and give food desirable taste, shape and texture. The majority of trans fat can be found in shortenings, stick (or hard) margarine, cookies, crackers, snack foods, fried foods (including fried fast food), doughnuts, pastries, baked goods and other processed foods made with or fried in partially hydrogenated oils. Some trans fat is found naturally in small amounts in various meat and dairy products. Evidence suggests that consuming trans fat can raise LDL (“bad) cholesterol levels and lower HDL (“good”) cholesterol levels.
Transesophageal Echo-cardiography (TEE)	An invasive imaging procedure that creates a picture of the heart’s movement, valves, and chambers using high frequency sound waves that come from a small transducer passed down the patient’s esophagus (the swallowing tube connecting the mouth to the stomach). Because the esophagus is located close to the heart, clear images of the heart structures can be obtained without the interference of the lungs and chest. Echo is often combined with Doppler ultrasound and color Doppler to evaluate blood flow across the heart’s valves. This technique requires sedation in almost all cases. TEE is useful in detecting cardiac sources of <i>emboli</i> , prosthetic <i>heart valve</i> malfunction, <i>endocarditis</i> , <i>aortic dissection</i> , cardiac tumors, and <i>heart valve</i> disease and <i>congenital heart disease</i> .
Transient Ischemic Attack (TIA)	Known as a “mini stroke”, TIA is caused by a temporary disturbance of blood supply to an area of the brain. It lasts for only for a short time and the effects wear off completely after resumption of blood-flow. The age of onset varies, but incidence rises dramatically after age 50. TIA is more common among men and African Americans. Also called a “little stroke”. Patients who have suffered a TIA have an increased risk of peripheral and coronary artery atherosclerosis, and an increased risk of subsequent heart attack and stroke. Symptoms include temporary blurring of vision, slurring of speech, numbness, paralysis lasting a few minutes or 24 hours.
Transmyocardial Revasculari- zation (TMR)	A procedure used to relieve severe and persistent angina or chest pain in very ill patients who aren't candidates for <i>bypass surgery</i> or <i>angioplasty</i> . It involves the use of a laser to bore tiny channels directly through the wall of the heart in an attempt to improve blood flow to areas of the heart that were not treated by angioplasty or surgery.
Transposition of the Great Arteries	A congenital heart defect in which the positions of the pulmonary artery and the aorta are reversed. The aorta receives the oxygen-poor blood from the right ventricle, but it's carried back to the body without receiving more oxygen. Likewise, the pulmonary artery receives the oxygen-rich blood from the left ventricle but carries it back to the lungs. Most babies with transposition of the great arteries are extremely blue (cyanotic) soon after birth. Two general types of surgery may be used to help fix the transposition, but the long-term outlook depends largely on how severe the defects were before surgery. Lifelong follow-up is needed. People with transposition of the great arteries, before and after treatment, are at risk for getting an infection on the heart's walls or valves (endocarditis). It's recommended for all people with uncorrected or partly corrected transposition of the great arteries take antibiotics before certain dental procedures.
Transtelephonic Monitor	A small monitor is attached to electrode leads (usually on the finger or wrist). The heart's rhythm is transmitted over the phone line with the aid of this device to the attending doctor's office.

Heart Failure Glossary

Term	Definition
Tricuspid Atresia	A congenital heart defect in which there's no tricuspid valve. That means no blood can flow from the right atrium to the right ventricle. As a result, the right ventricle is small and not fully developed. Often a surgical shunting procedure is needed to increase blood flow to the lungs. Some children with tricuspid atresia have too much blood flowing to the lungs. They may need a procedure (pulmonary artery banding) to reduce blood flow to the lungs. Other children with tricuspid atresia may have a more functional repair (Fontan procedure) in which a connection is created between the right atrium and pulmonary artery, and the atrial defect is closed. Children with tricuspid atresia require lifelong follow-up by a cardiologist. People with tricuspid atresia, before and after treatment, are at risk for getting an infection of the valves (endocarditis). It's recommended that all people with uncorrected or partially corrected tricuspid atresia take antibiotics before certain dental procedures.
Tricuspid Valve	Aortic valves with only one flap (cusp) separating the right atrium from the right ventricle is called a unicuspid valve. Two flap valves are called bicuspid valves. The <u>normal valve</u> has three flaps (tricuspid valve). (The structure of the abnormal valves often prevents them from closing completely when the heart is at rest, allowing blood to leak back into the left ventricle. These types of valves are also more susceptible to deposits forming on the surface, which can further impair the valve's ability to close properly.)
Triglyceride	Triglycerides are the chemical form in which most fat exists in food as well as in the body. They're also present in blood plasma and, in association with cholesterol, form the plasma lipids. They can be made in the body from energy sources such as carbohydrates or come from fats eaten in foods. Calories ingested in a meal and not used immediately by tissues are converted to triglycerides and transported to fat cells to be stored. Hormones regulate the release of triglycerides from fat tissue so they meet the body's needs for energy between meals. The normal level of triglycerides is less than 150 mg/dL. Excess triglycerides has been linked to the occurrence of coronary artery disease (CAD). High triglycerides are usually caused by other conditions, such as obesity, poorly controlled diabetes, an underactive thyroid, kidney disease, regularly eating more calories than burned or drinking a lot of alcohol.
Troponins	Proteins found inside of heart cells that are released when they are damaged by <i>ischemia</i> . Blood tests for troponins can detect heart muscle injury and very small <i>heart attacks</i> .
Truncus Arteriosus	A complex congenital heart defect where only one artery arises from the heart and forms the aorta and pulmonary artery. Surgery for this condition usually is required early in life. Children with truncus arteriosus need lifelong follow-up to see how well the heart is working. People with truncus arteriosus, before and after treatment, are at risk for getting an infection on the heart's walls or valves (endocarditis). It is recommended that all people with uncorrected or partially corrected truncus arteriosus take antibiotics before certain dental procedures. If you (or your child) has had corrective surgery, ask your cardiologist whether there is still a need for these routine antibiotics.
Unstable Angina	Chest pain or discomfort that's unexpected and usually occurs while at rest. The discomfort may be more severe and prolonged than typical <i>angina</i> or be the first time a person has angina. It may be a new symptom or a change from stable angina. It may come more often, occur at rest, or feel more severe. Although this angina can be relieved with oral medications, it is unstable and may progress to a heart attack and should always be treated as an emergency. Usually medical treatment or a procedure is required in the near future.

Heart Failure Glossary

Term	Definition
Valve	See heart valve.
Valvuloplasty	A specially designed catheter is inserted into a <i>blood vessel</i> in the groin and guided to the heart. The tip is directed inside the narrowed <i>valve</i> . Once there, a tiny balloon is inflated and deflated several times to widen the valve opening. Once the cardiologist is satisfied the valve has been widened enough, the balloon is removed. During the procedure, the cardiologist may perform an <i>echocardiogram</i> (ultrasound of the heart) to get a better picture of the valve. New research-based, non-surgical <i>angioplasty</i> procedures to treat regurgitation (leaky valves) are being tested and may provide additional catheter-based treatment options for valve disease in the future.
Variant Angina	A syndrome typically consisting of angina (cardiac chest pain) at rest that occurs in cycles. It is caused by a vasospasm, a narrowing of the coronary arteries caused by contraction or spasming of the smooth muscle tissue in the vessel walls rather than directly by the buildup of fatty plaque and hardening of the arteries. It occurs more in younger women. This is also called Prinzmetal angina.
Vascular	Pertaining to blood vessels.
Vasoconstriction	A narrowing of a blood vessel, causing decreased blood flow to a part of the body. The opposite of vasodilation (the widening of blood vessels).
Vasodilators	A group of drugs that cause the muscle in the walls of the <i>blood vessels</i> (especially the <i>arterioles</i>) to relax, allowing the vessels to dilate. <i>Nitroglycerin</i> tablets are a form of vasodilator.
Vein	One of a series of blood vessels that carries blood from various parts of the body back to the heart. Veins differ from arteries in structure and function; for example, arteries are more muscular than veins, veins are often closer to the skin and contain valves to help keep blood flowing toward the heart, while arteries carry blood away from the heart.
Venae Cava (plural: Venae Cavae)	The superior and inferior vena cava are collectively called the venae . They are the <i>veins</i> that return deoxygenated blood from the body into the heart. They both empty into the <i>right atrium</i> . The <u>inferior</u> vena cava travels up <u>alongside the abdominal aorta</u> with blood from the lower part of the body. It is the largest vein in the body. The <u>superior</u> vena cava is <u>above the heart</u> , and forms at the merging of the left and right brachiocephalic veins that contain blood from the head and the arms.
Ventricle	One of the two lower, pumping heart chambers which receive blood from the atria (upper chambers). The right ventricle pumps blood to the lungs via the pulmonary artery and the left ventricle receives blood from the left atrium and pumps blood into the rest of the body's circulation via the aorta.
Ventricular Fibrillation (VF)	A very rapid, uncoordinated fluttering contractions of the <i>ventricles</i> (<i>arrhythmia</i>) that, unless treated immediately, causes death. During VF, the ventricles quiver and are unable to contract or pump blood to the body. The most common cause of VF is a <i>heart attack</i> , but VF can occur whenever the heart muscle is affected by a poor supply of oxygen (<i>ischemia</i>) or by specific heart disorders. Other conditions that can lead to VF include <i>congenital heart disease</i> , heart surgery, heart muscle disease, electrocution or accidents involving direct trauma to the heart. VF is the main cause of <i>sudden cardiac death (SCD)</i> . While many VF patients have no previous history of heart disease, they do have risk factors for <i>cardiovascular disease</i> , such as smoking, <i>hypertension</i> and diabetes.
Ventricular Rupture	In people who suffer a significant heart attack, it is sometimes the case that the area of the muscle wall of the heart affected can become so weakened that it ruptures and leaks blood from the inner chamber of the heart.

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Term	Definition
Ventricular Septal Defect (VSD)	The most common of the congenital heart defects in which one or more holes exist in the muscular wall (<i>septum</i>) which separates the heart's <i>right and left ventricles</i> (<i>lower chambers</i>). As with most types of <i>congenital heart disease</i> , no one knows what causes VSDs. This defect often occurs along with other congenital heart malformations. In adults, VSD is a rare but serious complication of heart attacks. These holes are related to the heart attack and do not result from a birth defect.
Ventricular Tachycardia	A fast heart rhythm (arrhythmia) that starts in the lower part of the heart (ventricles). If left untreated, some forms of ventricular tachycardia may get worse and lead to ventricular fibrillation, which can be life-threatening. Ventricular tachycardia is a fast but regular rhythm. It can lead to ventricular fibrillation which is fast and irregular. Sometimes it is not known what causes ventricular tachycardia, especially when it occurs in young people. But in most cases ventricular tachycardia is caused by heart disease, such as a previous heart attack, a congenital heart defect, hypertrophic or dilated cardiomyopathy, or myocarditis. Sometimes ventricular tachycardia occurs after heart surgery.
Ventricular	Pertaining to the <i>ventricles</i> , the lower <i>heart chambers</i> , as in <i>ventricular fibrillation</i> and <i>ventricular septal defect</i> .
Venules	Small veins, the blood vessels that carry blood back to the heart and lungs.
Vertebral Artery	One type of major <i>blood vessel</i> in the neck carrying blood from the heart to the brain. The other type is <i>carotid artery</i> .
Wolff Parkinson White Syndrome (WPW)	A condition in which the heart beats too fast due to abnormal, extra electrical pathways between the heart's upper and lower chambers. In a normal heart, the electrical signal moves from the heart's upper chambers (the atria) to the lower chambers (the ventricles), causing the heart to beat. If there's an extra conduction pathway, the electrical signal may cause a rapid heart rate (tachycardia). WPW can be present at birth (congenital), but symptoms can appear at any time. More women than men are diagnosed with WPW. Treatments include medications and some surgical procedures.

Note: italicized words are found elsewhere in this glossary.