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Glossary of Heart Failure Terms

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ACE (angiotensin-converting-enzyme) inhibitor: A pharmacologic agent used to control blood pressure, improve left ventricular performance and increase survival in heart failure patients. ACE inhibitors inhibit the conversion of angiotensin I to angiotensin II in the rennin-angiotensin-aldosterone system (RAAS).

Arrhythmia: An abnormal heart rhythm (too fast, too slow or irregular)

Ascites: Fluid accumulation in the abdominal cavity, usually resulting from elevated venous pressure in the liver. Ascites is associated with advanced heart disease.

Atria: The upper chambers of the heart that pump blood to the lower chambers (ventricles).

Atrial Fibrillation (AF): A very fast, disorganized heart rhythm that starts in the atria (upper chambers of the heart).

Atrial Tachycardia (AT): A rapid heart rate that starts in the atria. (Includes AF, and Atrial flutter)

Atrioventricular (AV) Node: A junction that conducts electrical impulses from the atria to the ventricles of the heart.

Atrioventricular (AV) Synchrony: The normal activation sequence of the heart in which the atria contract and then, after a brief delay, the ventricles contract. The loss of AV synchrony can have significant circulatory effects in the cardiovascular system. Dual chamber pacemakers are designed to maintain AV synchrony.

Beta-blocker: A pharmacologic agent that limits norepinephrine release from the sympathetic nervous system (SNS), thereby decreasing heart rate and blood pressure. Beta-blockers have been shown to improve exercise tolerance and survival in heart failure patients.

Bradycardia (Bradyarrhythmia): An abnormally slow heart rhythm, normally less than 60 beats per minute.

Cardiac Arrest: The stopping of the heartbeat, usually because of interference with an electrical signal. If left untreated, it is life threatening.

Cardiac Index: The cardiac output based on body surface area. A low cardiac index is a clinical indicator of decompensated heart failure.

Cardiac Output: The volume of blood, measured in liters, ejected by the heart in one minute. Cardiac output is the product of heart rate and stroke volume, normally about four to six liters per minute, depending on the size of the individual.

Cardiac Resynchronization: Device therapy used to re-establish ventricular synchrony in patients with heart failure-induced ventricular conduction problems and cardiac dilatation. Cardiac resynchronization decreases ventricular dyssynchrony, thereby improving the mechanical activity of the right and left ventricles.

Cardiomyopathy: A diagnostic term indicating structural damage to the myocardium. Classified as dilated (enlarged), hypertrophic (excessively thick myocardium) or restrictive (stiff myocardium).

Cardioversion: Termination of an atrial or ventricular tachyarrhythmia (other than ventricular fibrillation) by the delivery of a direct low-energy electrical current that is synchronized to a specific instant during the heartbeat (during the ventricular depolarization). Synchronization of the shock prevents shocking during periods that could cause ventricular fibrillation.

Compensated heart failure: An abnormal condition in which the damaged heart maintains sufficient cardiac output by using normal compensatory mechanisms.

Coronary Artery Disease (CAD): Blockage of one or more coronary arteries that may result in poor blood flow to the myocardium. CAD is a leading cause of heart failure.

Decompensated heart failure: An abnormal condition in which the damaged heart can no longer maintain sufficient cardiac output with normal compensatory mechanisms. This condition is typified by a relatively sudden and drastic worsening of heart failure.

Diastole: The period of the cardiac cycle during which the chambers relax to fill with blood.

Dilatation: Enlargement of the heart chambers due to myocardial stretching.

Dyspnea: Shortness of breath, a classic symptom of heart failure.

Edema: Abnormal fluid accumulation (swelling). In heart failure, edema occurs because pressure builds up in veins, causing fluid to leak into surrounding tissue. Commonly seen in the lungs or extremities.

Ejection fraction (EF): The percentage of blood pumped from the ventricles per heartbeat, used to evaluate the efficiency of left ventricular emptying. Normal EF is 55-65%.

Electrocardiogram (ECG): A graphical representation of the electrical activity of the heart.

Electrophysiologist: A cardiologist who specializes in the diagnosis and treatment of heart rhythm disorders.

Hemodynamic: The forces involved in circulating blood through the cardiovascular system. The heart adapts its hemodynamic performance to the needs of the body, increasing its output of blood when muscles are working and decreasing output when the body is at rest.

Heart Block: A condition in which electrical impulses are not conducted in the normal fashion from the atria to the ventricles.

Heart Failure: The inability of the heart to efficiently pump blood to the body, characterized by difficulty breathing, chronic fatigue and fluid retention.

Holter Monitoring: A technique for the continuous recording of electrocardiographic (ECG) signals, usually over 24 hours, to detect and diagnose heart rhythm problems (also called ambulatory monitoring).

InSync® Therapy: The name of a heart failure therapy developed by Medtronic. The therapy uses an implantable medical device and leads designed specifically to provide resynchronization therapy for people who have heart failure and problems with electrical conduction.

Interventricular conduction delay (IVCD): A delay in the transmission of an electrical impulse, manifested by a prolonged QRS duration of greater than 120 milliseconds. IVCDs can cause abnormal left ventricular activation (ventricular dyssynchrony).

Ischemia: A decrease in the supply of oxygenated blood to vital organs or body tissue due to obstruction of blood vessels. Cardiac ischemia is marked by chest pain and may lead to tissue damage (myocardial infarction).

Left Ventricular Assist Device (LVAD): An external or implantable pump used to provide circulatory support for patients waiting for heart transplants.

Left Ventricular Dysfunction: A heart condition in which the heart is unable to maintain normal cardiac output due to a deficiency in the left ventricle.

Myocardial Infarction: Death of the heart muscle caused by an interruption of blood flow to the area. Sometimes called a heart attack.

NYHA class: A scale used to classify the severity of symptoms in heart failure, based on degree of physical exertion needed to produce symptoms. Class I (mild), no symptoms with normal activity; Class II (mild), symptoms with moderate activity; Class III (moderate), symptoms with minimal or mild activity; Class IV (severe), symptoms while at rest.

Pacemaker: An implantable device that treats bradycardia and restores the natural rhythm of the heart.

Resynchronization Therapy (Biventricular Pacing): A term used to describe the effort to resynchronize the contractions of the ventricles by sending tiny electrical impulses to the heart muscle. Resynchronizing the contractions of the ventricles helps the heart pump blood more efficiently and should decrease the symptoms of heart failure.

Sinoatrial (SA) Node: The heart's natural pacemaker located in the right atrium. Electrical impulses originate here and travel through the heart, causing it to beat.

Swan-Ganz catheterization: A diagnostic method used to assess cardiac output and pressures in the right heart chambers and pulmonary artery.

Systole: The period of the cardiac cycle during which a heart chamber contracts to eject blood.

Tachycardia (Tachyarrhythmia): A category of heart rhythm disorders characterized by an abnormal rapid beating of either or both chambers of the heart, usually defined as a rate over 100 beats per minute.

Ventricle: One of the two lower chambers of the heart.

Ventricular dyssynchrony: An abnormal ventricular activation pattern, sometimes caused by inter-or intra-ventricular conduction delays (IVCDs). This occurs in approximately 30 percent of severe heart failure cases.

Ventricular remodeling: A change in the size or shape of the left ventricle due to damage or physical stress from chronic high blood pressure and blood volume.

Ventricular Tachycardia (VT): A rapid heart rate that starts in the ventricles. During VT, the heart does not have time to fill with enough blood between heartbeats to supply the entire body with sufficient blood. It may cause dizziness or light-headedness and can be dangerous or even life threatening if it progresses to ventricular fibrillation.

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