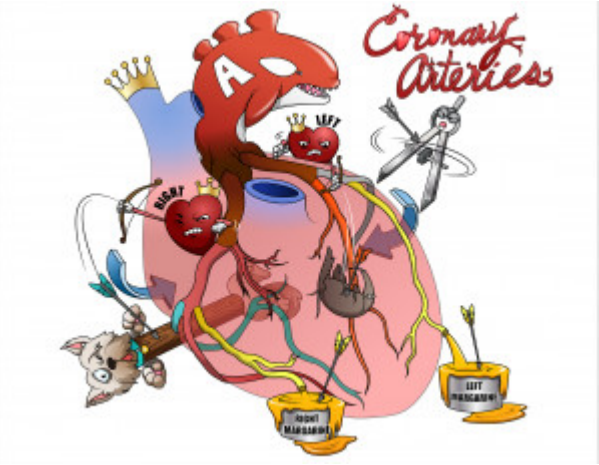
Coronary Arteries

The vessels that deliver oxygen-rich blood to the myocardium are known as coronary arteries. As the left and right coronary arteries run on the surface of the heart, they can be called epicardial coronary arteries. The coronary arteries are classified as "end circulation" since they represent the only source of blood supply to the myocardium; there is very little redundant blood supply, which is why blockage of these vessels can be so critical.



PLAY PICMONIC

Aortic Root

A-orca Roots

The two coronary arteries originate from the left side of the heart at the beginning (root) of the aorta, just after the aorta exits the left ventricle.

Right Coronary Artery (RCA)

Right Crown-heart

The right coronary artery (RCA) is an artery originating above the right cusp of the aortic valve. It supplies the SA and AV nodes, and an infarct of the RCA may lead to bradycardia or heart block. It branches into the posterior descending artery and the right marginal artery. In addition to supplying blood to the right ventricle, the RCA supplies 25% to 35% of the left ventricle. In 85% of patients (right dominant), the RCA gives off the posterior descending artery (PDA).

Right (Acute) Marginal Artery

Right Margarine

The right marginal branch of the right coronary artery (or right marginal artery) is a large marginal branch that follows the acute margin of the heart and supplies branches to both surfaces of the right ventricle.

Posterior Descending Artery (PDA)

Post-terrier Descending

The posterior descending artery (PDA) is an artery running from the posterior interventricular sulcus to the apex of the heart, where it meets with the anterior interventricular artery. It supplies the posterior 1/3rd of the interventricular septum and the posterior walls of the ventricles. It is typically a branch of the right coronary artery (right dominance). Alternately, the PDA can be a branch of the circumflex coronary artery (15%, known as left dominance) which is a branch of the left coronary artery.

Left Coronary Artery (LCA)

Left Crown-heart

The left coronary artery (LCA) is an artery that arises from the aorta above the left cusp of the aortic valve and feeds blood to the left side of the heart.

Left Anterior Descending (LAD) Artery

Left Anteater Descending

The left anterior descending artery (LAD) is the first branch off of the LCA. Coronary artery occlusion happens more often at this artery, hence the nickname "the widowmaker." It supplies the anterolateral myocardium, apex, anterior 2/3rds of the interventricular septum, and anterior papillary

muscle. The LAD typically supplies 45-55% of the left ventricle.

Circumflex Artery

Circumference-compass

The circumflex artery curves to the left around the heart within the coronary sulcus, giving rise to one or more left marginal arteries as it curves toward the posterior surface of the heart. It supplies 15-25% of the left ventricle in right-dominant systems. If the coronary anatomy is left-dominant, the LCX supplies 40-50% of the left ventricle.

Left Marginal Artery

Left Margarine

The left marginal artery is a branch of the circumflex artery, originating at the anterior interventricular sulcus and traveling along the left margin of the heart toward the apex. The left marginal artery lies in the AV septum.