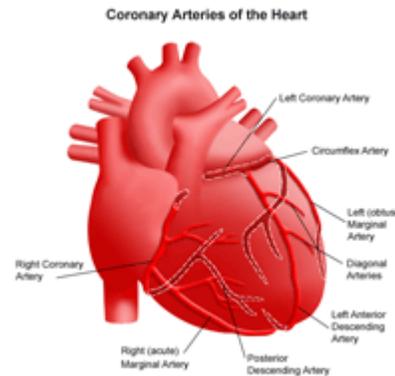




Anatomy and Function of the Coronary Arteries

Coronary arteries supply blood to the heart muscle. Like all other tissues in the body, the heart muscle needs oxygen-rich blood to function, and oxygen-depleted blood must be carried away. The coronary arteries consist of two main arteries: the right and left coronary arteries. The left coronary artery system branches into the circumflex artery and the left anterior descending artery.



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What are the different coronary arteries?

The two main coronary arteries are the left main and right coronary arteries. The left main coronary artery (LMCA), which divides into the left anterior descending artery and the circumflex branch, supplies blood to the left ventricle and left atrium. The right coronary artery (RCA), which divides into the right posterior descending and acute marginal arteries, supplies blood to the right ventricle, right atrium, sinoatrial node (cluster of cells in the right atrial wall that regulates the heart's rhythmic rate), and atrioventricular node.

Additional arteries branch off the left main coronary artery to supply the left side of the heart muscle with blood. These include the following:

- **Circumflex artery (Cx).** The circumflex artery branches off the left coronary artery and encircles the heart muscle. This artery supplies blood to the lateral side and back of the heart.
- **Left anterior descending artery (LAD).** The left anterior descending artery branches off the left coronary artery and supplies blood to the front of the left side of the heart.

Smaller branches of the coronary arteries include: acute marginal (AM), posterior descending (PDA), obtuse marginal (OM), septal perforator (SP), and diagonals.

Why are the coronary arteries important?

Since coronary arteries deliver blood to the heart muscle, any coronary artery disorder or disease can have serious implications by reducing the flow of oxygen and nutrients to the heart muscle, which may lead to a heart attack and possibly death. Atherosclerosis (a buildup of plaque in the inner lining of an artery causing it to narrow or become blocked) is the most

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common cause of heart disease.

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