

CORONARY CIRCULATION

Definition: Coronary circulation is the circulation of blood in the blood vessels that supply the heart muscle (myocardium). Coronary arteries supply oxygenated blood to the heart muscle, and cardiac veins drain away the blood once it has been deoxygenated.

Significance: The rest of the body, and most especially the brain, needs a steady supply of oxygenated blood that is free of all but the slightest interruptions, the heart is required to function continuously. Therefore its circulation is of major importance not only to its own tissues but to the entire body and even the level of consciousness of the brain from moment to moment.

Consequence of interruption: Interruptions of coronary circulation quickly cause heart attacks (myocardial infarctions), in which the heart muscle is damaged by oxygen starvation. Such interruptions are usually caused by ischemic heart disease (coronary artery disease) and sometimes by embolism from other causes like obstruction in blood flow through vessels.

Major Components in Human:

A. Aorta

Branches:

- a) Left coronary artery / Left main coronary artery (LMCA)
- b) Left circumflex artery (LCX)
- c) Obtuse marginal artery #1 (OM1)
- d) Obtuse marginal artery #2 (OM2)
- e) Left anterior descending artery (LAD)
- f) Diagonal artery #1
- g) Diagonal artery #2

B. Right coronary artery (RCA)

Branches:

- a) Atrioventricular nodal branch
- b) Right marginal artery
- c) Posterior descending artery (PDA)
- d) Posteriolateral artery #1 (PL#1)
- e) Posteriolateral artery #2 (PL#2)

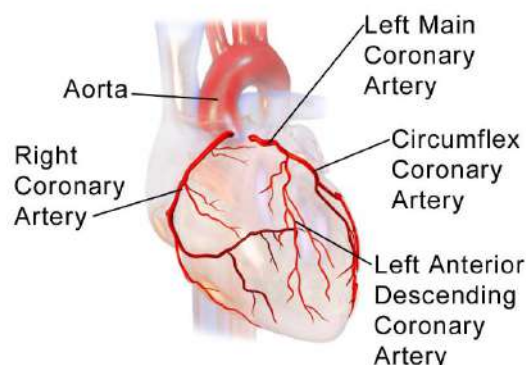


Fig. Major arteries of Coronary Circulation