Imaging of Coronary Artery Anomalies

Phillip Young MD
Department of Radiology
Stanford University Medical Center

Overview

• Cardiac anatomy and physiology
• Thoracic and coronary arteries
• Cardiac function
• Coronary arteries
Normal Coronary Anatomy

- Standard anatomy:
  - Right and Left Coronary Arteries
  - Originate from Right and Left Coronary Sinuses Respectively

Normal Coronary Anatomy - RCA

- RCA travels in right atrioventricular groove
- Supplies branches to the right heart
Normal Coronary Anatomy - LCA

- LCA bifurcates into
  - Left anterior descending (LAD)
  - Circumflex (LCX)

Left Coronary Artery

- Helpful to be able to find it on a coronary calcium study
- You can start your coronary scan 2 cm above it
- Look for pulmonary artery if you can't find it

Left Coronary Artery

- Another alternative is to start your scan 1 cm below the carina

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Ascending Aorta

Descending Aorta

Aortic Arch
Cardiac CT basics

Electrokardiogramm

RR-interval

Heart rate vs duration of diastole/systole

Heart rate (HR) vs duration of diastole/systole

60 bpm

120 bpm
Normal Coronary Anatomy

• Posterior descending artery travels in the posterior interventricular groove
• May receive supply from RCA, LXC, or both
  • “Right dominant”
  • “Left dominant”
  • “Co-dominant”

• About 70% of people have a right dominant system

• 10% of people have a left dominant system
  • May supply AV nodal branches also
  • 20% have dual supply to the inferior wall