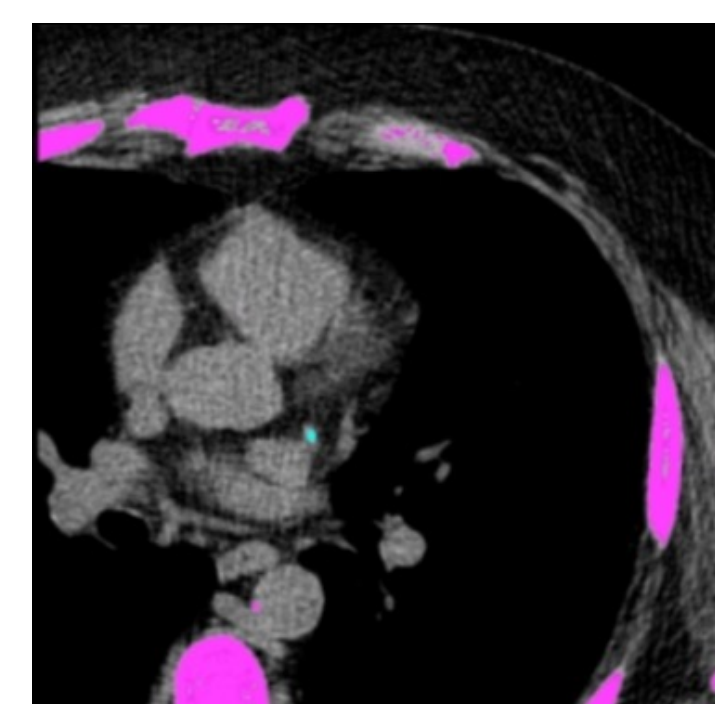
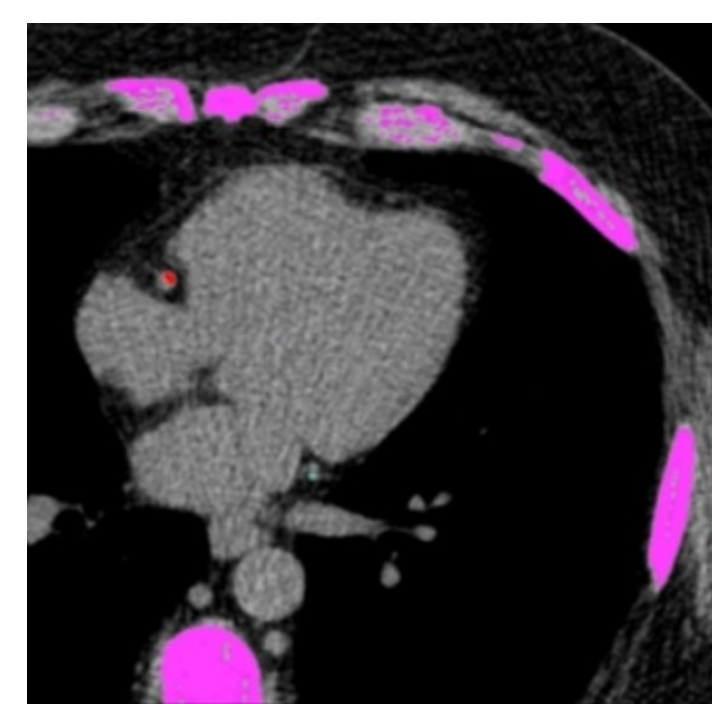
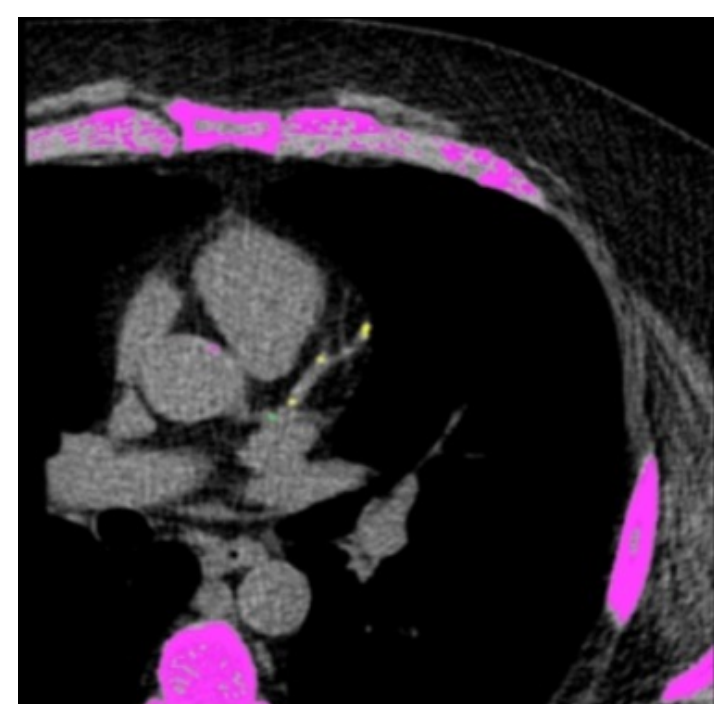


## Value of CAC Testing

- Presence of coronary artery calcium (CAC) = coronary artery disease (CAD)
- Zero calcium = excellent prognosis & low probability of severe CAD
- High CAC signifies high risk for long-term cardiovascular events even if myocardial perfusion is normal
- Positive CAC may motivate patients to control their risk factors (e.g., blood pressure, cholesterol)

## CAC Scoring

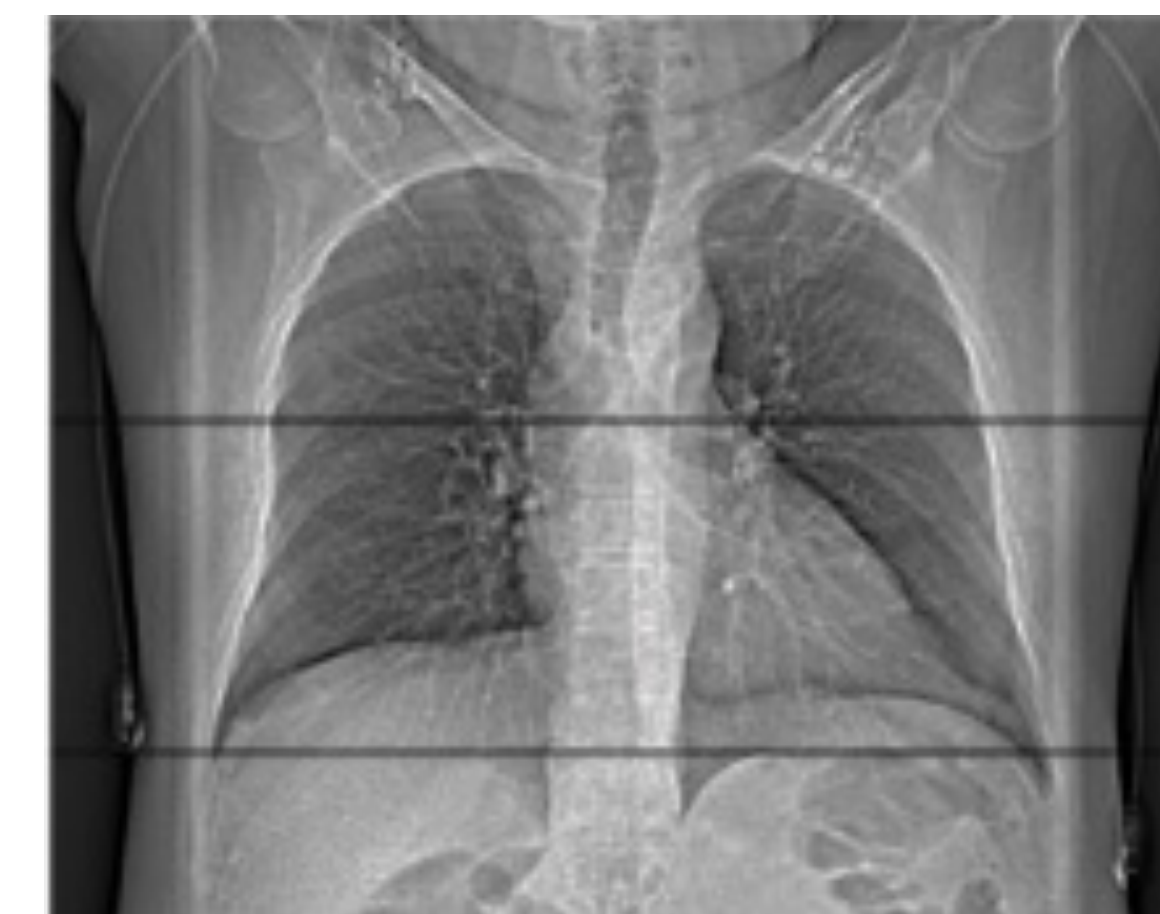
- Scroll through the slices and identify calcium in the right coronary, left main, left anterior descending and the left circumflex coronary arteries
- Depending on the reading software, calcium may be depicted with different color schemes
- In the example below, calcium is illustrated as purple, and every coronary artery is given a different color. There is calcium in the right coronary, left main, left circumflex, and left anterior descending arteries. The scores for each individual arteries are added to give a total CAC score
- CAC can also be visually estimated on non-gated-attenuation CT and described qualitatively as mild, moderate and severe



Artery	Score
LM	36.7
LAD	30.7
CX	70.2
RCA	99.8
Ca	0.0
<b>Total</b>	<b>237.3</b>

## Technical Considerations

	Calcium Score	CT Attenuation Correction
ECG gating	Gated	Non gated
Breath-hold	Yes	End expiration or free breathing
Non gated slice thickness	2.5-3.0mm	3-5mm
Tube potential	120 kVp	70-140 kVp



Scan range is determined from the AP scout view: 1 cm below the carina and 1 cm below the cardiac apex (see solid lines)

## Pitfalls

- During image reconstruction, field of view is around the heart (sternum anteriorly and vertebral body posteriorly as landmarks)
- Aortic (arrow) and mitral annular calcification can be mistaken for right coronary and left circumflex artery calcification, respectively. Do not include those
- In the setting of motion artifact, do not count the same area twice

