

Guidelines for In-Patient Cardiac CTA

Admin Approval:

Next Review:

Division/Champion: Cardiothoracic Imaging/Patel/Matar

Subject: Guidelines for In-Patient Cardiac Coronary CTA.

Purpose: Indications and preparation of an in-patient scheduled for a Cardiac Coronary CTA.

Policy: As these are typically non-emergent exams and the expertise required to perform the imaging and interpret the study, inpatient Cardiac CTA are typically only performed between the hours of 8AM – 5PM on weekdays and weekend days.

Criteria for Cardiac CTA

- Patient felt to be low to intermediate pretest likelihood of having coronary ischemia as a cause of their chest pain

Appropriate Indications for Cardiac CTA

- Chest pain in low to intermediate risk patient
- Patient with possible structural non-atherosclerotic cardiac anomaly

Calcium Score

- Calcium score will be performed in all patients age <40
- For calcium score values above 600, calcium score images will be reviewed by a cardiovascular imaging attending or resident on call and may result in cancellation of the contrast enhanced portion of the exam

Absolute Contraindications for Cardiac CTA

- Clinical instability
- Inability to follow directions, hold breath, lie flat and still, or cooperate
- Increased cardiac enzymes, concerning for AMI
- Acute ECG changes, suggesting AMI
- Documented history of severe coronary atherosclerosis (stents, bypass)
- Irregular cardiac rhythm
- Pregnancy
- History of severe contrast reaction (anaphylaxis, respiratory/cardiovascular collapse requiring vasopressors/intubation)

Relative Contraindications for Cardiac CTA

- Age <40 (unless concern for coronary anomaly) or Age >75 (more likely to have significant calcific disease, especially males)
- EGFR <30, if not on chronic dialysis. EGFR <30 must be discussed on a case by case basis with radiologist based on risk/benefit to patient
- History of less severe contrast reactions which are safe for premedication (itching, hives, bronchospasm, hypotension not requiring vasopressors or mechanical ventilation)
- Body Mass Index >50 kg/m²
- Cardiac CTA performed within the last year

IV Access (Please see IV Access Guidelines for additional information)

- Must support injection rates at least 5 cc/sec
- 18g preferred, 20g min

Order of location preference: 1. Right AC; 2. Right mid forearm; 3. Left AC; 4. Left mid forearm.

CT-rated (>300 PSI) central venous lines are acceptable. All other locations, such as external jugular or hand veins are unacceptable for contrast bolus delivery for cardiac CTA. Other lines or catheters must be approved by the Cardiac Imaging Team or the radiologist/resident on call.

Ordering Cardiac CTA

- EPIC order: CT Angio Cardiac Coronary Arteries IMG 12017

In-patient Cardiac CTA Monday through Friday; 8AM – 5PM

In-patients scheduled for Cardiac CTA are managed by our Radiology Department nursing staff. The charge technologist should contact Radiology Care Unit or nursing staff assigned to CT to discuss availability of nursing staff. The Cardiac Team resident/attending will provide orders in EPIC for the following:

- IV Metoprolol: Dose: 5 mg q 5 min X 4, as needed for HR >66 bpm, prior to scan
- Sublingual Nitroglycerine: Dose: 0.4mg, 3-6 minutes prior to contrasted scan

In-patient Cardiac CTA Holidays and Weekend days; 8AM – 5PM

In-patients scheduled for Cardiac CTA on the weekend are to be managed by the hospital floor/unit nursing staff. The ordering physician will provide orders for beta blocker or other appropriate medication for heart rate control with a target heart rate of <66 bpm.

- Recommended Medication: 100mg oral metoprolol until target rate of <66 bpm is met
- Sublingual nitroglycerine is not administered due to the lack of nursing services at the scanner during these hours

Heart rate Management

- Scans **may** be performed with regular, non-arrhythmic heart rates >66 at the discretion of the Cardiac Team resident/attending
- Scans performed with heart rates >80 run a high risk of being non-diagnostic and are not performed

Reporting of Results

Weekdays

- 0800-1700 Final report in EPIC by 6PM
- 1700-0800 Final report in EPIC by 9AM the following morning

Weekends

- 0800-0800 All studies performed before noon on Saturday and Sunday will have a final read in EPIC by early afternoon
- Studies performed after noon will have final reads by Sunday early afternoon (Saturday PM studies) or Monday AM (Sunday PM studies)