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## Guidelines for ED Patient Cardiac CTA

**Admin Approval:** 6/1/2020  
**Next Review:** 6/2022

**Division/Champion:** Cardiothoracic Imaging/Blum/Winchester

**Subject:** Guidelines for ED Patient Cardiac CTA

**Purpose:** Indications and preparation of an ED patient scheduled for a cardiac CTA

### **Policy:**

#### **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 coronary anomaly.

#### **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 EKG 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/m<sup>2</sup>
- Coronary CTA performed within the last year

**IV Access** (Please see IV Access Guidelines)

Must support injection rates of at least 5cc/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**

- ED will place order: **CT Angio Cardiac Coronary Arteries IMG 12017**
- ED will contact CT charge technologist by phone, and verify that the patient meets the criteria listed above and provide the following for the CT charge technologist: Pt name, MRN, age, gender, brief history, heart rate and rhythm, IV access size and location, eGFR.
- CT will verify the availability of an appropriate scanner
- CT charge technologist will notify ED if a delay of greater than 1 hour is expected

**Premedication**

- Oral beta blockers should be used (unless contraindicated) to achieve a regular heart rate of 66 bpm or less.
- Any heart rate that cannot reliably be lowered under 80 bpm may not be scanned.

**Calcium Score**

- Calcium score will be performed in all patients age 40 and up.
- 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.

**Reporting of Results:** Although a non-emergent exam, in order to limit ER length of stay, this study is offered to the ED during all hours. After hours studies may result in a higher rate of indeterminate/non-diagnostic exams and need for patient recall after final interpretation.

<b>WEEKDAYS</b>	
0800-1700	Final report in EPIC, within 2 hours.
1700-0800	Preliminary report in EPIC within 2 hours. Final report the following morning. Any discrepancies will be called to the ED.
<b>WEEKENDS</b>	
0800-0800	Preliminary report in EPIC within 2 hours. All studies performed before noon Saturday and Sunday should be finalized by early afternoon. Remainder will be finalized the next day. Any discrepancies will be called to the ED.