

MIF Cardiac CTA Questions for Nurse:

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|--------------------------|--------------------------|-----------------------------|----------------------|
| 1. Indication for study | 4. Current Medications? | 7. IV contrast w/in 24 hrs? | 10. HR and BP? |
| 2. Patient Age, BMI, GFR | 5. Prior Cor Stent, ICD? | 8. Pregnancy? | 11. HR rx contraind? |
| 3. Allergies - premed? | 6. Prior CABG? | 9. Breath hold ability? | |

Contraindications to Cardiac CTA Medication

Metoprolol	Ivabradine	Nitroglycerin
<input type="checkbox"/> HR < 55 OR SBP < 100 mmHg	<input type="checkbox"/> HR < 60 OR SBP < 90 mmHg	<input type="checkbox"/> SBP < 80 mmHg
<input type="checkbox"/> Allergy to Metoprolol	<input type="checkbox"/> Allergy to Ivabradine	<input type="checkbox"/> Allergy to Nitroglycerin
<input type="checkbox"/> LV ejection fraction < 40% or Acute CHF	<input type="checkbox"/> "-azole" antifungals, "-mycin" antibiotics and HIV protease inhibitors, or other QT prolonging medication	<input type="checkbox"/> Hypertrophic cardiomyopathy
<input type="checkbox"/> Severe Aortic Stenosis	<input type="checkbox"/> Severe liver disease	<input type="checkbox"/> Severe Aortic Stenosis
<input type="checkbox"/> 2nd or 3rd degree of AV block	<input type="checkbox"/> 2nd/3rd degree AV block, SA block or sick sinus syndrome	<input type="checkbox"/> Viagra, Stendra, Levitra < 24 hrs ago
<input type="checkbox"/> Asthma or COPD currently requiring regular inhalers	<input type="checkbox"/> Pregnancy, breast feeding	<input type="checkbox"/> Cialis < 48 hrs ago

Heart Rate Lowering Rx Selection Algorithm

Contraindication	SBP > 110 mmHg	SBP < 110 mmHg & > 90 mmHg
No Contraindications	Combo Met + Ivab	Ivabradine ONLY
Metoprolol	Ivabradine ONLY	Ivabradine ONLY
Ivabradine	Metoprolol ONLY (SBP > 100 mmHg)	No heart rate lowering medication

Heart Rate Lowering Protocols -

Have patient take medication 2.5 hours prior to CT scan appointment

	Metoprolol ONLY	Ivabradine ONLY	Combo Met+Ivab
Oral route	Avg wait time 45-60 min	Avg wait time 60-120 min	Avg wait time 45-60 min
HR < 55 bpm	No HR lowering needed	No HR lowering needed	No HR lowering needed
HR 55-60 bpm	50 mg Metoprolol p.o. x 1	No HR lowering needed	50 mg Metoprolol p.o. x 1
HR 60-65 bpm	100 mg Metoprolol p.o. x 1	15 mg Ivabradine p.o. x 1	25 mg Metoprolol p.o. x 1 + 15 mg Ivabradine p.o. x 1
HR 65-70 bpm	100 mg Metoprolol p.o. x 1	15 mg Ivabradine p.o. x 1	50 mg Metoprolol p.o. x 1 + 15 mg Ivabradine p.o. x 1
HR > 70 bpm	100 mg Metoprolol p.o. x 1	15 mg Ivabradine p.o. x 1	50 mg Metoprolol p.o. x 1 + 15 mg Ivabradine p.o. x 1
MAX DOSE	200 mg p.o.	15 mg p.o.	200 mg p.o. + 15 mg p.o.
IV Route	Contact supervising physician	None	Contact supervising physician
HR > 60, hold for < 100 mmHg	5 mg Metoprolol IV q5 min, may repeat up to 15 mg total	None	5 mg Metoprolol IV q5 min, may repeat up to 15 mg total

Max dose is 200 mg for Beta-blockers in one day and 15 mg for Ivabradine.

Need 18 gauge Diffusics fenestrated catheter (or 20 gauge if not able to get 18) in Right AC prior to CT scan

Administer 0.8mg NTG in CT scanner 5 min prior to scan if SBP > 100 mmHg or 0.4mg NTG if <100 but > 90 mmHg.

Treatment for Adverse Reactions:

Bradycardia: HR < 40 bpm or < 50 bpm and symptomatic. Consider Atropine 1mg IV (may repeat 3 times as needed)

Hypotension: If in the setting of bradycardia, treat as above. Otherwise, give a 250 ml 0.9% sodium chloride ('normal saline') IV bolus

Bronchospasm: 2 puffs of albuterol from albuterol inhaler