IREDELL HEALTH SYSTEM

Metoprolol Dosing Protocol for Coronary CTA	
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Department of Radiology Cardiology Co-Management P&T Committee	Date: 03/2026 Date: 03/2026 Date: 04/2026
The contents of this policy are applicable to Iredell Memorial Hospital only.	

PURPOSE:
To establish policies and procedures for lowering heart rate (HR) for optimal study images with the use of metoprolol and nitroglycerin.

BACKGROUND:
Metoprolol tartrate has been demonstrated to be a safe pre-medication for coronary CT (CCTA) to lower the heart rate for optimal study images and is a current guideline recommended medication by the Society of Cardiovascular Computed Tomography.

POLICY:
Continuous HR monitoring shall be in place during entire procedure. BP monitoring shall occur prior to scan.

Technologists should observe the overall range of the HR to assess the **upper range of the HR**, not just a single viewpoint with vital acquisition.

Maximum total dosage of metoprolol tartrate prior to scan should not exceed 150 mg PO.

Metoprolol IV may be ordered and administered at the discretion of the provider.

PROCEDURE:
1) Determine if patient has already received an AV nodal blocker prior to the study, which includes atenolol, carvedilol, metoprolol, nadolol, bisoprolol, propranolol, ivabradine, diltiazem or verapamil.
2) Determine if patient has had a true allergic reaction to beta blockers in the past.
3) Refer to **Table 1** for patients who have **not received** any metoprolol or beta-blocker prior to scan.
4) Refer to **Table 2** for patients who have **received** metoprolol or beta-blocker prior to scan.
5) In the event the patient has blood pressure readings of SBP ≥ 190 but less than < 220, notify provider. RN and provider shall examine the patient and make decision if should proceed with testing. Provider may consider giving PO hydralazine or other PO home medication.
6) In the event the patient has blood pressure readings of SBP ≥ 220, notify provider. The study is to be cancelled. Provider may administer PO/IV hydralazine and/or recommend patient to be evaluated in the ED.
7) Nitroglycerin Sublingual PO administration shall be as below:
    a. For patients with normal blood pressures (SBP > 100): administer Nitroglycerin Sublingual 0.8 mg (2 tablets) and obtain contrasted scan after 5 minutes of administration.
    b. For patients with low blood pressures (SBP < 100): notify provider. Obtain order for Nitroglycerin sublingual 0.4 mg (1 tablet) and obtain contrasted scan 5 minutes of administration.
    c. If 7 minutes after last dose of nitroglycerin sublingual has elapsed prior to obtaining scan, notify provider. Obtain new BP and if SBP > 100 give additional 0.4 mg of Nitroglycerin sublingual.
    d. Maximum dose of Nitroglycerin should not exceed 1.2 mg per scan.
8) Obtain blood pressure after scan is complete.
    a. If SBP is ≥ 20 mm Hg lower than initial baseline BP, notify provider.
    b. If patient is experiencing significant orthostatic symptoms even with acceptable BP readings, notify provider.

Table 1: Patients who have **not** received any metoprolol or beta-blocker prior to scan	**Normal Range Blood Pressures (SBP > 100 but < 190)** *If SBP ≥ 190 see above	**Low Blood Pressures (SBP < 100)**
If HR > 60	Give metoprolol tartrate 100 mg PO at least 30 minutes prior to scan	Notify Provider for orders. May consider metoprolol 25 mg PO.
If HR 55 – 60	Give metoprolol tartrate 50 mg PO at least 30 minutes prior to scan	No metoprolol needed.
If HR < 55 including upper range of HR)	No metoprolol needed.	No metoprolol needed.
	If HR persistently > 65 despite administration of metoprolol 100 mg given, notify provider. May consider administering additional 50 mg PO or may consider CT scan protocol change to a systolic phase focused scan or spiral scan.	

Table 2: Patients who have received metoprolol or beta-blocker prior to scan	**Normal Range Blood Pressures (SBP > 100 but < 190)** *If SBP ≥ 190 see above	**Low Blood Pressures (SBP < 100)**
If HR > 60 AND already received 50 – 100 mg metoprolol tartrate	Give metoprolol tartrate 50 mg PO at least 30 minutes prior to scan	Notify Provider for orders.
If HR 55 – 60 AND already received 50 – 100 mg metoprolol tartrate	Give metoprolol tartrate 25 mg PO at least 30 minutes prior to scan	Notify Provider for orders.
If HR < 55 including upper range of HR)	No additional metoprolol needed.	Notify Provider for orders.

INITIAL EFFECTIVE DATE: 06/2026
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DATES REVIEWED (no changes):