

# Metoprolol IV Administration & Monitoring for Stable Tachycardia on Medical-Surgical /Maternity Units

## Site Applicability

*PHC Acute Care Only*

## Practice Level

RN (role as outlined in this protocol)

Physician

Nurse Practitioner

## Requirements

- Only physicians or NPs may administer intravenous metoprolol on Providence Health Care acute medical - surgical wards or in the Maternity Centre
- Patients in other areas who require IV beta blockers to control heart rate or blood pressure should be transferred to a higher level of care, i.e. critical care unit.
- When a patient's condition or history warrants continuous ECG monitoring, consult CICU/ICU for transfer of patient to higher level of care prior to administration of metoprolol
- **The physician/NP administering the IV metoprolol must remain on the unit for 15 minutes following the administration of each dose.**
  - **A maximum of 3 doses of metoprolol IV, regardless of the drug dosages** (usually 2.5 to 5 mg IV each), can be given on the medical/surgical wards or in the Maternity Centre. If additional doses are required, the patient must be transferred to a critical care unit.
- A Registered Nurse must be present at the patient's side during metoprolol administration.
- A Registered Nurse must provide constant care for the periods of time outlined in the protocol. Constant care is defined as care that is within arm's reach or safe proximity of the patient and having eye contact with the patient at all times.
- The nurse must review the PDTM for metoprolol prior to administration

## Need to Know

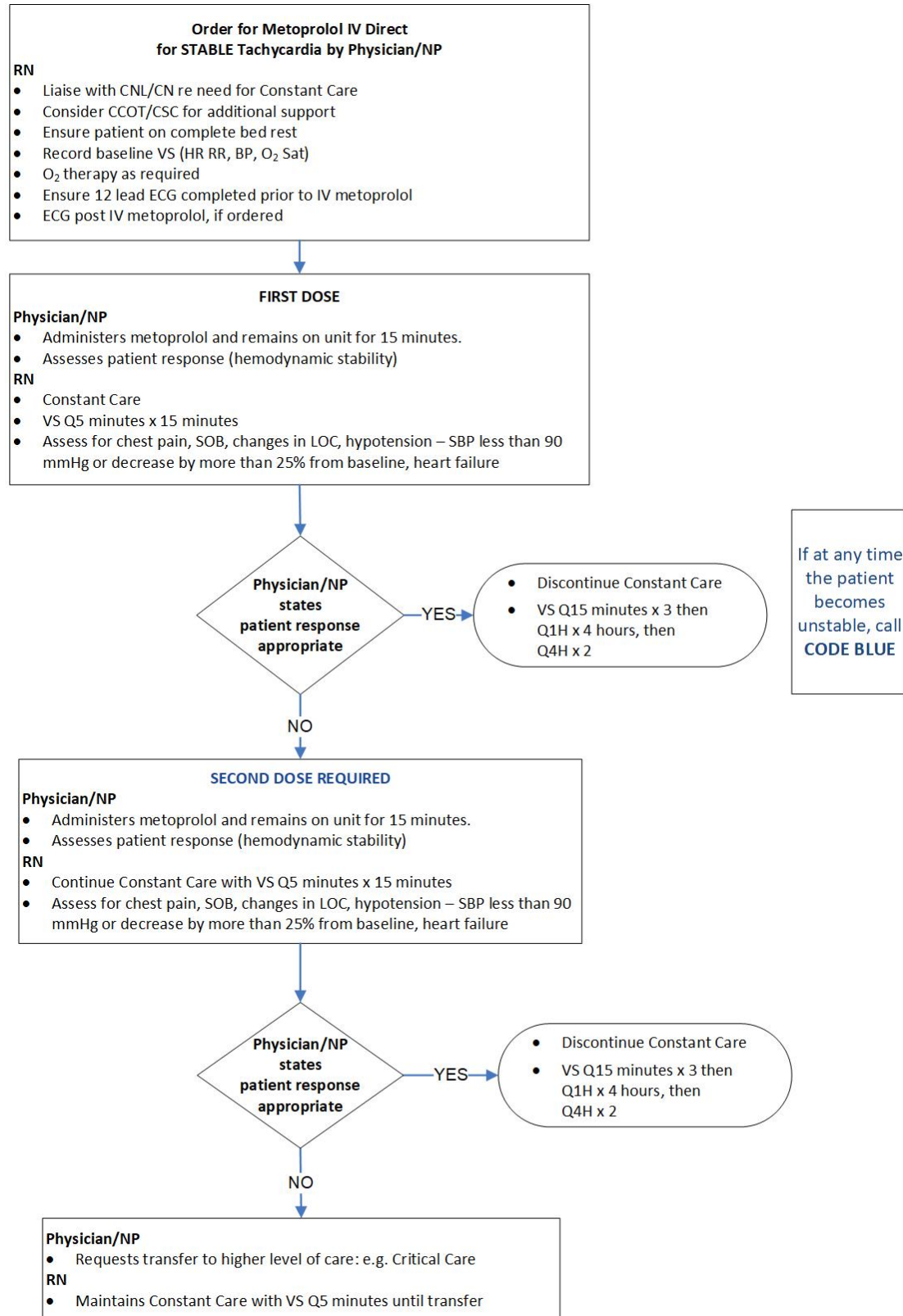
- This protocol applies to patients with stable tachycardia only. If a patient has unstable tachycardia (See table below) - call physician/NP STAT &/or CODE BLUE.

Unstable Tachycardia
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| <ul style="list-style-type: none"><li>• Decreased level of consciousness</li><li>• Hypotension-SBP less than 90 mmHg or decrease by more than 25% from baseline</li><li>• Chest discomfort or other signs of ischemia (e.g. jaw, throat, shoulder pain, light headedness, concurrent nausea or vomiting, diaphoresis)</li><li>• Shortness of breath</li><li>• Other signs of poor organ perfusion (e.g. decreased urine output, skin cool and clammy)</li></ul> |
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- Metoprolol is a selective beta<sub>1</sub> adrenergic receptor blocking agent.
- Metoprolol via direct IV push is used in the setting of hypertensive emergencies and rapid, perfusing rhythms (atrial fibrillation/flutter with rapid ventricular response; supraventricular tachycardia (SVT) –characterized by a heart rate significantly greater than 100 bpm.
- In some cases of tachycardia, metoprolol may be urgently needed to decrease myocardial oxygen demand by reducing heart rate, blood pressure, and myocardial contractility
- IV metoprolol has a rapid onset, and peaks rapidly (in less than 15 minutes)
- It is metabolized through the liver
- Potential side effects include:
  - New or worsening heart failure
  - Hypotension
  - Severe bradycardia
  - Bronchospasm
- It is common for patients to be on oral metoprolol while receiving IV metoprolol

## Algorithm & Protocol



## Documentation

### Nursing

1. Record all VS in electronic health record, Cerner, Powerchart, Interactive View, Adult Quick View.
2. Record a complete physical assessment in Cerner, Interactive View Adult Systems Assessment, and Intake and Output.
3. Record patient response to metoprolol in Cerner, Interactive View, Adult View and Adult Systems Assessment

### Physicians/NPs

- Providers need to document all medications that they administer for non-emergency situations.
- Navigate to the MAR, click on the medication task. The charting window opens, fill out any information and make sure your name is in the performed by field. Click the check mark to sign. Document the reason for administration of metoprolol, patient's response and plan of care in Cerner documentation.

## Patient and Family Education

- Inform patient of reason for metoprolol administration and plan of care, including bed rest, O<sub>2</sub> therapy if applicable, VS assessment and level of care.
- Inform patient of need to immediately alert RN if having chest discomfort, shortness of breath or any discomfort/change in condition.
- Inform patient of need to transfer to higher level of care as required.

## Related Documents

1. [B-00-07-10060](#) - Cardiac Arrest (Code Blue): Initiating and Responding
2. [B-00-13-10019](#) - Oxygen Therapy: Acute Care
3. [B-00-13-10096](#) – Physical Assessment: Patients on Cardiac or Cardiac Surgery Inpatient Units
4. [B-00-13-10186](#) - Physical Assessment of Patients on an Acute Medicine Ward

## References

1. Page, R. L., Joglar, J. A., Caldwell, M. A., Calkins, H., Conti, J. B., Deal, B. J., Estes, 3rd, N A Mark, Field, M. E., Goldberger, Z. D., Hammill, S. C., Indik, J. H., Lindsay, B. D., Olshansky, B., Russo, A. M., Shen, W., Tracy, C. M., & Al-Khatib, S. M. (2016). 2015 ACC/AHA/HRS guideline for the management of adult patients with supraventricular tachycardia: A report of the American College of Cardiology/American Heart Association task force on clinical practice guidelines and the heart rhythm society. *Journal of the American College of Cardiology*, 67(13), e27-e115.  
<https://doi.org/10.1016/j.jacc.2015.08.856>

2. Parenteral Drug Therapy Manual. [Monograph Metoprolol](#). January 15, 2018. Retrieved December 9, 2021 [pdtm.vch.ca/](#)
3. Lexi-Comp Online, [Metoprolol Lexi-Drugs Online](#), Hudson, Ohio: Lexi-Comp, Inc.; 2011; retrieved Dec 20, 2021 from <https://online.lexi.com>.

**Persons/Groups Consulted:**

Clinical Nurse Specialist, Medicine

Medicine Nurse Educators

Cardiologists

Clinical Pharmacist, Cardiology

**Revised By:**

Clinical Nurse Specialist Heart Failure/Transplant

Nurse Educator Cardiac Wards

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