



# Drug Therapy Protocols: Metoprolol

<b>Policy code</b>	DTP_METO_0722
<b>Date</b>	July, 2022
<b>Purpose</b>	To ensure a consistent procedural approach to metoprolol administration.
<b>Scope</b>	Applies to all Queensland Ambulance Service (QAS) clinical staff.
<b>Health care setting</b>	Pre-hospital assessment and treatment.
<b>Population</b>	Applies to all ages unless specifically mentioned.
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# Metoprolol

July, 2022

## Drug class<sup>[1,2]</sup>

$\beta_1$  selective adrenoceptor blocker

## Pharmacology

Metoprolol is a selective  $\beta_1$  receptor blocker used in the treatment of cardiovascular disease. Metoprolol blocks the action of the sympathetic nervous system thereby reducing heart rate, the force of myocardial contraction and thereby reducing blood pressure and myocardial oxygen demand.<sup>[1,2]</sup>

## Metabolism

Hepatic and excreted by the kidneys.<sup>[1]</sup>

### Indications

- **ACS** (unresponsive to nitrates)
- **Heart rate control** (in the setting of ACS)

### Contraindications

- Allergy AND/OR Adverse Drug Reaction
- Acute heart failure
- Heart rate < 60 beats
- Systolic BP < 90 mmHg
- Second OR third degree AV block
- Concurrent antiarrhythmic medication
- Bronchospasm OR allergic disorders which may suggest a predisposition to bronchospasm

### Precautions

- History of heart failure
- First degree AV block
- Diabetes Mellitus (patient receiving insulin or oral hypoglycaemics)

### Side effects<sup>[1,2]</sup>

- Hypotension
- Bradycardia
- Palpitations
- Dizziness
- Headache

## Presentation

- Ampoule, 5 mg/5 mL *metoprolol*

## Onset (IV)

1–2 minutes

## Duration (IV)

5–8 hours

## Half-life

3–7 hours

## Special notes

- Ambulance officers must only administer medications for the listed indications and dosing range. Any consideration for treatment outside the listed scope of practice requires mandatory approval via the *QAS Clinical Consultation and Advice Line*.
- Metoprolol 5 mg/5 mL ampoules are not currently available via QAS warehouse – for procurement information please refer to the *QAS Drug Management Code of Practice*.

## Schedule

- S4 (Restricted drugs).

## Routes of administration

Intravenous injection (IV)  
(RSQ taskings only)



## Adult dosages<sup>[1,3]</sup>

- **ACS** (unresponsive to nitrates)
- **Heart rate control** (in the setting of ACS)



IV

RSQ Clinical Coordinator consultation and approval required in all situations.

**1–2 mg**  
Repeated every **5 minutes**.  
**Total maximum dose 10 mg.**

## Paediatric dosages

**Note:** QAS officers are **NOT** authorised to administer metoprolol to paediatric patients.