



Drug Therapy Protocols: Ondansetron

Policy code	DTP_OND_0722
Date	July, 2022
Purpose	To ensure a consistent procedural approach to ondansetron administration.
Scope	Applies to all Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless specifically mentioned.
Source of funding	Internal – 100%
Author	Clinical Quality & Patient Safety Unit, QAS
Review date	July, 2024
Information security	UNCLASSIFIED – Queensland Government Information Security Classification Framework.
URL	https://ambulance.qld.gov.au/clinical.html

While the QAS has attempted to contact all copyright owners, this has not always been possible. The QAS would welcome notification from any copyright holder who has been omitted or incorrectly acknowledged.

All feedback and suggestions are welcome. Please forward to: Clinical.Guidelines@ambulance.qld.gov.au

Disclaimer

The Digital Clinical Practice Manual is expressly intended for use by appropriately qualified QAS clinicians when performing duties and delivering ambulance services for, and on behalf of, the QAS.

The QAS disclaims, to the maximum extent permitted by law, all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs incurred for any reason associated with the use of this manual, including the materials within or referred to throughout this document being in any way inaccurate, out of context, incomplete or unavailable.

© State of Queensland (Queensland Ambulance Service) 2022.



This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives V4.0 International License

You are free to copy and communicate the work in its current form for non-commercial purposes, as long as you attribute the State of Queensland, Queensland Ambulance Service and comply with the licence terms. If you alter the work, you may not share or distribute the modified work. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/4.0/deed.en>

For copyright permissions beyond the scope of this license please contact: Clinical.Guidelines@ambulance.qld.gov.au

Ondansetron

July, 2022

Drug class

Anti-emetic – 5-HT₃ antagonist^[1,2]

Pharmacology

Ondansetron is a serotonin 5-HT₃ receptor antagonist. It works by blocking the action of serotonin, a natural substance that may cause nausea and vomiting.^[1,2]

Metabolism

The majority of circulating ondansetron is metabolised by the liver and excreted by the kidneys.^[1]

Indications

- **Significant nausea AND/OR vomiting**

Contraindications

- **Absolute** contraindication:
 - Allergy AND/OR Adverse Drug Reaction
 - Congenital long QT syndrome
 - Current apomorphine therapy (used in severe Parkinson's disease)
 - Patients less than 2 years of age
- **Relative** contraindication:
 - First trimester pregnancy (may only be administered for extreme and uncontrolled hyperemesis)^[3]

Precautions

- Hepatic impairment
- Elderly patients
- Intestinal obstruction
- Patients with risk factors for QT interval prolongation or cardiac arrhythmias.

Adverse events^[3]

Common (> 1%)

- Headache
- Constipation

Rare (< 0.1%)

- Hypersensitivity reactions (including anaphylaxis)
- ECG changes

Presentation

- Ampoule, 4 mg/2 mL *ondansetron*
- Orally Disintegrating Tablet (ODT), 4 mg *ondansetron*

Onset (IV)

5 minutes

Duration (IV)

Several hours

Half-life

3–4 hours

Schedule

- S₄ (Restricted drugs).

Routes of administration

Per oral (PO)



Intramuscular injection (IM)



Intravenous injection (IV)



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 through the *QAS Clinical Consultation and Advice Line*.
- Ondansetron ampoules should be protected from light.
- Under no circumstances is an IV cannula to be inserted for the sole purpose of ondansetron administration. Unless contraindicated, ODT ondansetron should always be the preferred option.
- Transient adverse effects have been reported with rapid intravenous injections.
- All cannulae and IV lines must be flushed thoroughly with sodium chloride 0.9% following each medication administration.

Adult dosages^[1-5]

Significant nausea AND/OR vomiting

	ACP1	ACP2	CCP		
	↓	↓	↓	PO/IM	4–8 mg Total maximum dose 8 mg. Must not be given within 8 hours of previous ondansetron administration.
		↓	↓	IV	4–8 mg Slow push over 2–3 minutes. Total maximum dose 8 mg. Must not be given within 8 hours of previous ondansetron administration.

Paediatric dosages ^[1,2,4,5]

Significant nausea AND/OR vomiting

ACP1
ACP2
CCP

PO

≥ 5 years – **4 mg**
Single dose only.

2–4 years – **2 mg**
Single dose only.

Must not be given within 8 hours of previous ondansetron administration.

ACP1
ACP2
CCP

IM

≥ 2 years – **100 microg/kg** (rounded up to the nearest 5 kg)

Single dose only, not to exceed 4 mg.

Must not be given within 8 hours of previous ondansetron administration.

Weight	Dose	Volume
> 15 – 20 kg	2 mg	1 mL
> 20 – 25 kg	2.5 mg	1.25 mL
> 25 – 30 kg	3 mg	1.5 mL
> 30 – 35 kg	3.5 mg	1.75 mL
> 35 kg	4 mg	2 mL

ACP2
CCP

IV

≥ 2 years – **100 microg/kg**
Slow push over 2–3 minutes.

Single dose only, not to exceed 4 mg.

Must not be given within 8 hours of previous ondansetron administration.