Drug Therapy Protocols:
Antiemetic/Placebo (BARPHs trial)

Policy code	DTP_APT_0924
Date	September, 2024
Purpose	To ensure a consistent procedural approach to antiemetic/placebo (BARPHs trial) administration.
Scope	Applies to Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless stated otherwise.
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Author	Clinical Quality & Patient Safety Unit, QAS
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Antiemetic/Placebo (BARPHs trial)

DRUG NAME	DRUG CLASS	PHARMACOLOGY	METABOLISM
Ondansetron	Antiemetic – 5-HT3 antagonist	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]	The majority of circulating ondansetron is metabolised by the liver and excreted by the kidneys.[1]
Metoclopramide	Central Nervous System – Antiemetics, antinauseants	Metoclopramide has antiemetic, antinauseant and gastrokinetic activity. It stimulates motility of the upper gastrointestinal tract. It may have serotonin receptor (5-HT3) antagonist properties.	This drug is metabolised by cytochrome P450 enzymes in the liver and excreted by the kidneys.
Droperidol	Antipsychotic[1,2]	Droperidol is an antipsychotic drug from the butyrophenone group that produces both sedation and antiemetic effects.	Hepatic metabolism with biliary/renal excretion as inactive metabolites.
Sodium chloride 0.9% (Placebo)	Isotonic crystalloid solution	Sodium chloride 0.9% is a isotonic crystalloid that acts as a vehicle for many parenteral drugs and as an electrolyte replenisher for maintenance or replacement of fluid deficits.[1,2]	This drug has 100% bioavailability. Excess sodium is predominantly excreted by the kidneys.[1]

Indications

- **Patients will be INCLUDED in this study if they are:**
  - Aged ≥ 20 years and are being treated for nausea and/or vomiting of sufficient severity to require an antiemetic
  - The paramedic intends to provide intravenous antiemetic therapy
  - The patient has provided consent

Contraindications

- **Patients will be EXCLUDED from this study if they are:**
  - Pregnancy or breastfeeding
  - Nausea and/or vomiting associated with (within 14 days of) chemotherapy or radiotherapy.
  - Intolerance or allergy to ondansetron, metoclopramide, or droperidol
  - Current treatment with dopamine antagonists
  - Parkinson's disease or restless legs syndrome
  - Cognitive or language issues that may impede the ability to consent
  - Lewy body dementia
  - QT interval prolongation
  - Previous antiemetic use within the past 8 hours

Precautions

- Hepatic impairment
- Elderly patients
- Intestinal obstruction
- Patients with risk factors for QT interval prolongation or cardiac arrhythmias
- Motion sickness prevention
- Hypertension
- Hypoperfused state
- Concurrent use of CNS depressants

Side effects

- Constipation
- Headache
- Dizziness
- Akathisia
- Drowsiness
- Vasodilation/hypotension
- Extrapyramidal effects e.g., dystonic reactions (rare)

Presentation

- Clear fluid in a pre-filled labelled (study number) syringe.

Schedule

- S4 (Restricted drugs).

Routes of administration

Intravenous injection (IV)

ACP2 CCP

Special notes

- This DTP is solely for use by authorised QAS Clinicians participating in the Brisbane-based Antiemetic Randomised Controlled Trial in the Prehospital Setting (BARPH's): A multi-arm double blind placebo-controlled trial comparing droperidol, metoclopramide, and ondansetron.
- Prior to study enrollment, Ambulance Clinicians are required to identify potential participants, briefly explain the study, assess eligibility, and obtain verbal consent as appropriate.
- If patients are unsure about participating in the study and require further time for consideration, the paramedic will assure them that participation is voluntary and will advise them that they will be treated as per standard care, including ondansetron as a treatment for their nausea/vomiting.
- 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*.

Special notes *(cont.)*

- Under no circumstances is a IV cannula to be inserted for the sole purpose of antiemetic administration. Unless contraindicated, ODT ondansetron should always be the preferred option.
- Transient adverse effects have been reported with rapid intravenous injections.

Adult dosages (age equal to or greater than 20 years)

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  - The paramedic intends to provide intravenous antiemetic therapy

ACP2 CCP	IV	**≥ 20 years – slow push over 2–3 minutes** Study arm 1: Ondansetron 8 mg Study arm 2: Droperidol 1.25 mg Study arm 3: Metoclopramide 10 mg Study arm 4: Sodium chloride 0.9% **Must not be given with 8 hours or previous antiemetic administration.**

Paediatric dosages

Note: QAS officers are **NOT** authorised to administer Ondansetron OR Metoclopramide OR Droperidol OR Sodlum Chloride 0.9% Placebo (RCT) to patients under 20 years of age.