



Drug Therapy Protocols: Methoxyflurane

Policy code	DTP_METH_o822
Date	August, 2022
Purpose	To ensure a consistent procedural approach to methoxyflurane 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.
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Author	Clinical Quality & Patient Safety Unit, QAS
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Methoxyflurane

August, 2022

Drug class

Analgesic (at low doses) ^[1]

Pharmacology

Methoxyflurane is volatile, self-administered inhalation analgesic indicated for short-term pain relief. Methoxyflurane is more susceptible to metabolism than other halogenated ethers and has a greater propensity to diffuse into fatty tissue. ^[1-3]

Metabolism

By the liver and excreted mainly by the lungs. ^[1]

Indications ^[3]

- Pain

Contraindications

- Allergy AND/OR Adverse Drug Reaction
- Patients less than 1 year of age
- History of significant liver OR renal disease
- History of malignant hyperthermia

Precautions

- ALOC
- Intoxicated or drug affected patients
- Cardiovascular instability
- Respiratory depression

Side effects ^[1]

- ALOC
- Cough
- Renal/hepatic failure (following repeated high dose exposure)

Presentation

- Bottle, 3 mL *methoxyflurane*

Onset (INH)

1–3 minutes

Duration (INH)

5–10 minutes

Half-life

Not available

Schedule

- S4 (Restricted drugs).

Routes of administration

Inhalation (INH)



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*.
- Experimental and clinical use of methoxyflurane in the low dose used for analgesia does **not** carry any particular risk of causing renal dysfunction or damage.^[3]
- The manufacturer recommends the use by children only when they self monitor pain and self-administer methoxyflurane with the inhaler. Poor administration will lead to ineffective analgesia.
- Deep sedation has been identified with methoxyflurane administration in patients < 5 years.^[1]
- At no time should unconsciousness be deliberately induced using methoxyflurane.
- At no time should a patient self-administering methoxyflurane be left unattended.
- The lowest dose of methoxyflurane to provide analgesia should be used.^[1]
- If the patient prefers simultaneous inhalation through both nose and mouth, the inhaler may be connected into a standard anaesthetic face mask prior to administration.^[1]

Special notes (cont.)

- The total weekly dose should not exceed 15 mL with administration on consecutive days not recommended.^[1-3]
- To reduce the risk of occupational exposure to methoxyflurane, officers must ensure the following:
 - Only one dose of 3 mL should be administered per patient while in the ambulance vehicle.
 - No single officer should administer more than two doses of methoxyflurane in the ambulance vehicle per shift.
 - Where possible, ambulance vehicles must be adequately ventilated.

Adult dosages^[1-3]

Pain



INH

3 mL

Repeated once after **20 minutes**.
Total maximum dose 6 mL.

Paediatric dosages^[1-3]

Pain



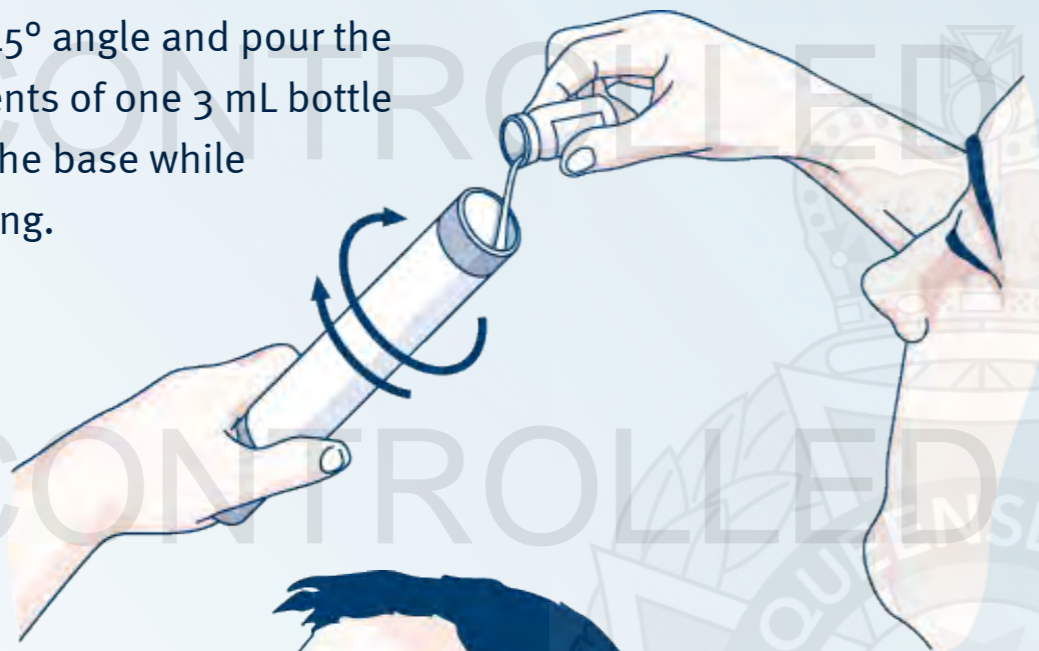
INH

≥ 1 year – 3 mL

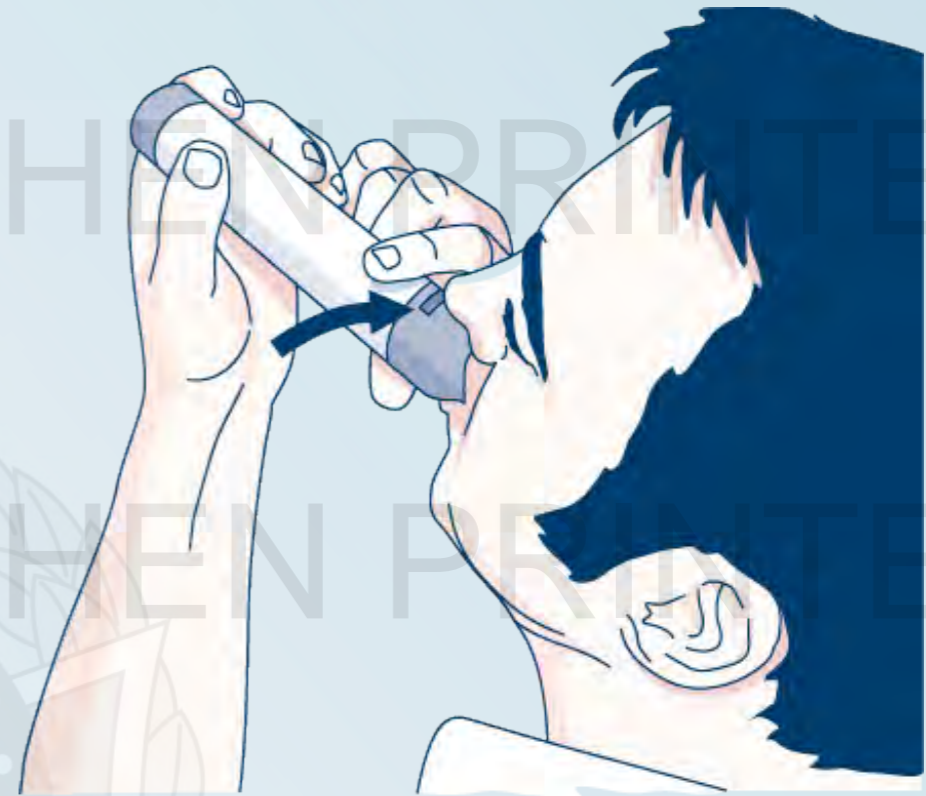
Single dose only.

Methoxyflurane Preparation / Administration Instruction

- 1 Tilt the PENTHROX® inhaler to a 45° angle and pour the contents of one 3 mL bottle into the base while rotating.



- 2 Instruct the patient to inhale and exhale gently through the mouthpiece.



- 3 If stronger analgesia is required, the patient may be instructed to temporarily cover the dilution hole with their own finger to increase concentration.