



Drug Therapy Protocols: Methoxyflurane

Policy code	DTP_METH_0419
Date	May, 2019
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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Methoxyflurane

May, 2019

Drug class

Analgesic (at low doses)

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 < 1 year
- History of significant liver or renal disease
- History of malignant hyperthermia

Precautions

- ALOC
- Intoxicated or drug affected patients

Side effects

- 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 Consult 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.^[1,4]
- 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.^[2]

Special notes (cont.)

- The total weekly dose should not exceed 15 mL with administration on consecutive days not recommended.^[4]
- To reduce the risk of occupational exposure to methoxyflurane, officers are to ensure the following:
 - Only one dose of 3 mL should be administered per patient whilst 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 are to adequately ventilated.

Adult dosages

Pain



INH

3 mL

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

Paediatric dosages

Pain



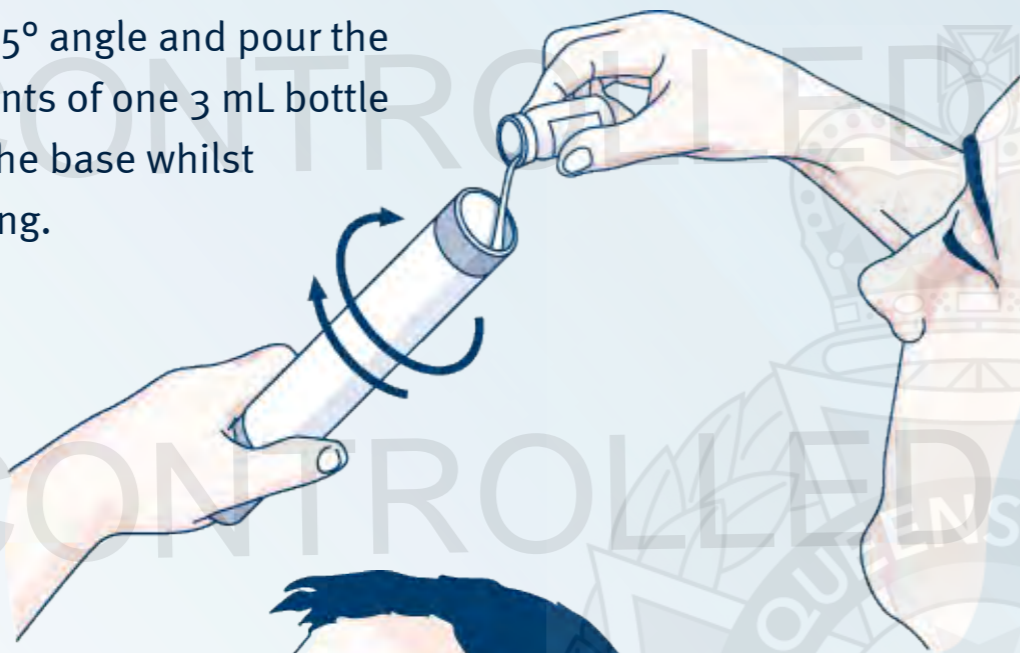
INH

≥ 1 year – 3 mL

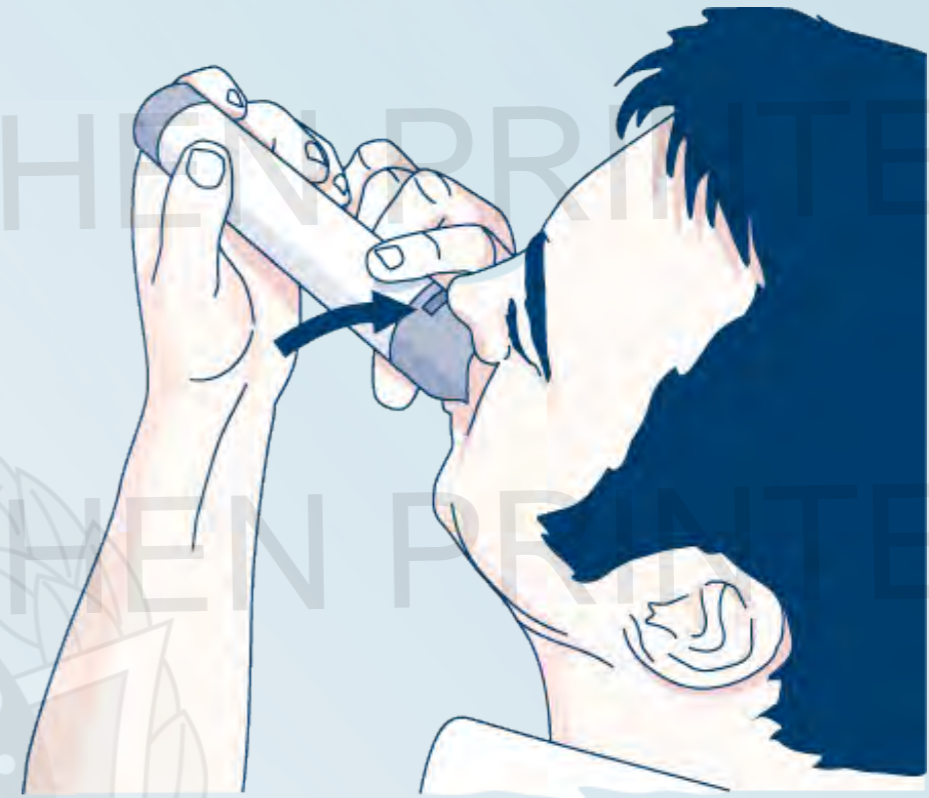
Single dose only.

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 whilst 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.