

<b>Medication:</b> Methoxyflurane	<b>PDN:</b> 6999.02	<b>Last Updated:</b> August 21 2025	<b>PMD:</b> Andrew Travers*	<b>PDC:</b> Chloe Koen-Butt*	Page 1 of 2
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## **Methoxyflurane (Penthrox®)**

### **1.0 Classification**

- Non-opioid analgesic
- Halogenated hydrocarbon volatile anaesthetic agent

### **2.0 Mechanism of Action**

- Exact mechanism is poorly understood.
- Liquid becomes a vapor when inhaled then distributed to the blood and tissues.
- Creates a reservoir of medication within the fatty tissue which releases over time.

### **3.0 Indications**

- Moderate to severe acute pain associated with trauma in which the patient is unable to tolerate, is refusing, or has a contraindication for ketorolac and opioids are unavailable or not appropriate for administration.

### **4.0 Contraindications**

- Patients under the age of 16
- Patients who are pregnant, peripartum or breast feeding
- Altered LOC due to any cause
- Patients currently on antibiotics
- Inadequate understanding or lack of patient cooperation
- Renal insufficiency/renal disease/renal failure
- Liver failure
- History of liver dysfunction secondary to halogenated anesthetics
- Hypersensitivity to methoxyflurane or other halogenated anesthetics
- Personal or genetic history of malignant hyperthermia
- Hemodynamic instability
- Clinically evident or impending respiratory failure

### **5.0 Precautions**

- Methoxyflurane is not appropriate for providing relief of breakthrough pain in chronic pain conditions.
- Administer with caution in patients over 65 with any hypotension or bradycardia (can cause worsening)
- Methoxyflurane should be avoided in patients taking CNS depressants
- Ensure the area (e.g. ambulance) is ventilated. Only one dose per patient should be given while they are in the ambulance. It is also important that the patient is educated on exhaling through the device/carbon filter.
- The device should be sealed into a plastic bag before discarding in a waste bin.

### **6.0 Route**

- Self-administered via hand-held inhaler

## **7.0 Dosage**

### **Adult**

- 3 mL via intermittent inhalation; repeat x 1 in 30 minutes (after initial dose is done) if required (maximum of 6 mL)

## **8.0 Supplied**

- 3 mL bottle with hand-held inhaler containing a polypropylene wick and accompanying activated carbon chamber

## **9.0 May Be Given By**

- PCP/ACP/CCP

## **10.0 Adverse effects**

- Dizziness
- Headache
- Drowsiness
- Nausea, vomiting
- Respiratory depression
- Coughing
- Amnesia
- Fever
- Hypotension

## **11.0 Special notes**

- Provides an alternative to opioid analgesia in the appropriate context.
- If the patient remains in moderate to severe pain post-methoxyflurane, opioids can be administered in conjunction with methoxyflurane; however, this increases the depressant effect. The patient should be monitored closely and small doses used. Fentanyl is preferred over morphine due to the more limited vasoactive effects.
- Pregnancy category C [if the patient will benefit from a Category C drug, it is generally used]; however, for EHS purposes, the administration of methoxyflurane for patients who are pregnant, peripartum or breast feeding is contraindicated. Pregnant or breastfeeding staff should not supervise the administration of methoxyflurane to limit or avoid their exposure to the volatile agent.

## **12.0 References**

- Pentrox® Product Monograph

\*Electronically Signed

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