

This patient group direction (PGD) must only be used by registered health professionals who have been named and authorised by their organisation to practice under it. The most recent and in date final signed version of the PGD should be used.

## **Patient Group Direction (PGD)**

For the administration of

### **Methoxyflurane (Penthrox)**

By registered health care professionals for

### **Emergency relief of moderate to severe pain in conscious adult patients with trauma and associated pain**

Throughout the Manx Care and those contracted by the Manx Care where appropriate within practice

## **PGD NUMBER 20**

### **1. Change history**

<b>Version number</b>	<b>Change details</b>	<b>Date</b>
1	Original PGD ratified	25/08/2023

## 2. Medicines practice guideline 2: *Patient group directions*

Refer to the relevant sections of NICE medicines practice guideline 2: *Patient group directions* as stated in the blank template notes. For further information about PGD signatories, see the NHS and Manx Care [PGD website FAQs](#)

## 3. PGD development

Refer to the [NICE PGD competency framework for people developing PGDs](#)

Job Title & organisation	Name	Signature	Date
Author of the PGD (Senior Paramedic)			
Member of the PGD working group			

## 4. PGD authorisation

Refer to the [NICE PGD competency framework for people authorising PGDs](#)

Job Title	Name	Signature	Date
Medical Director			
Chief Pharmacist/ Pharmaceutical Adviser			
Nurse Consultant			
Director of Nursing			
GP Adviser			
Senior Microbiologist (if PGD contains antimicrobials)	Dr Rizwan Khan	N/A	N/A

## 5. PGD adoption by the provider

Refer to the NICE PGD competency framework for people authorising PGDs

Job title and organisation	Signature	Date	Applicable or not applicable to area

## 6. Training and competency of registered healthcare professionals, employed or contracted by the Manx Care, GP practice or Hospice

Refer to the NICE PGD competency framework for health professionals using PGDs

	Requirements of registered Healthcare professionals working under the PGD
<b>Qualifications and professional registration</b>	Registered Nurse or Paramedic, working within or contracted by Manx Care who are permitted staff groups as outlined within the current PGD policy
<b>Initial training</b>	<ul style="list-style-type: none"><li>• Knowledge of current guidelines and the administration of the drug specified in this PGD/BNF and of the inclusion and exclusion criteria</li><li>• Training which enables the practitioner to make a clinical assessment to establish the need for the medication covered by this PGD</li><li>• Training in the use of Methoxyflurane (Penthrox)</li><li>• Local training in the use of PGDs</li></ul>
<b>Competency assessment</b>	<ul style="list-style-type: none"><li>• Completion of the “Penthrox University for Healthcare Professionals” online training and production of a training completion certificate to the person’s line manager</li><li>• Staff will be assessed on their knowledge of drugs and clinical assessment as part the competency framework for registered health professionals using PGD’s</li></ul>
<b>Ongoing training and competency</b>	The registered health care professionals should make sure they are aware of any changes to the recommendations for this medication; it is the responsibility of the registered health care professionals to keep up to date with continuing professional development. PGD updates will be held every two years

## 7. Clinical Conditions

<b>Clinical condition or situation to which this PGD applies</b>	Emergency relief of moderate to severe pain in conscious adult patients with trauma and associated pain.
<b>Inclusion criteria</b>	<ul style="list-style-type: none"> <li>• Adults over 18 years of age</li> <li>• Patients with moderate to severe pain caused by traumatic injury</li> </ul>
<b>Exclusion criteria</b>	<ul style="list-style-type: none"> <li>• Children under 18 years of age</li> <li>• Unconscious patients</li> <li>• Patients with pain not associated with trauma.</li> <li>• Recent use of Methoxyflurane (more than 15 mL in the previous week)</li> <li>• Patients with known allergy or hypersensitivity to Methoxyflurane or anaesthetic gases</li> <li>• Patients with liver damage/impairment</li> <li>• Chronic kidney disease (stage 4/5)</li> <li>• Altered level of consciousness due to any cause including head injury, drugs or alcohol</li> <li>• Clinically evident cardiovascular instability, eg, hypotensive, arrhythmia, symptomatic heart failure</li> <li>• Respiratory depression</li> <li>• Personal or family history of malignant hyperthermia or severe adverse reaction to inhaled anaesthetic gases</li> </ul>
<b>Cautions (including any relevant action to be taken)</b>	<ul style="list-style-type: none"> <li>• Administration on consecutive days is not recommended</li> <li>• Repeated administration more than once in the last three months (increased risk of hepatic injury)</li> <li>• Avoid administration in a confined space and ensure adequate ventilation</li> <li>• Use with caution in older adults – increased risk of hypotension</li> <li>• Use with caution in pregnancy especially the first trimester and in breastfeeding mothers</li> </ul>
<b>Arrangements for referral for medical advice</b>	Patient should be referred to a more experienced clinical practitioner for further assessment
<b>Action to be taken if patient excluded</b>	Patient should be referred to a more experienced clinical practitioner for further assessment
<b>Action to be taken if patient declines treatment</b>	<ul style="list-style-type: none"> <li>• A verbal explanation should be given to the patient on: the need for the medication and any possible effects or potential risks which may occur as a result of refusing treatment</li> <li>• This information must be documented in the patients' health records</li> <li>• Any patient who declines care must have demonstrated capacity to do so</li> <li>• Where appropriate care should be escalated</li> </ul>

## 8. Details of the medicine

<b>Name, form and strength of medicine</b>	3 mL vial of Methoxyflurane 99.9% inhalation vapour, liquid												
<b>Legal category</b>	Prescription Only Medicine (POM)												
<b>Indicate any <u>off-label use</u> (if relevant)</b>	None												
<b>Route/method of administration</b>	Inhalation												
<b>Dose and frequency</b>	<p>Dose as per dose table below:</p> <table border="1"> <thead> <tr> <th>AGE</th><th>Adult ≥ 18 years</th></tr> </thead> <tbody> <tr> <td>INITIAL DOSE</td><td>3 mL (1 bottle) see*</td></tr> <tr> <td>REPEAT DOSE</td><td>3 mL (1 bottle)</td></tr> <tr> <td>DOSE INTERVAL</td><td>None</td></tr> <tr> <td>VOLUME</td><td>3 mL</td></tr> <tr> <td>MAX DOSE</td><td>6 mL (2 bottles)</td></tr> </tbody> </table> <p>* Initially 6 to 10 inhalations. Intermittent inhalation provides analgesia for one hour. Continuous inhalation provides analgesia for 25 to 30 minutes</p> <ul style="list-style-type: none"> <li>• Ensure activated carbon filter is fitted to methoxyflurane inhaler as per manufacturers guidelines</li> <li>• Patients should be advised to take the lowest possible dose to achieve pain relief</li> <li>• If stronger analgesia is required, patient can cover dilutor hole on the activated carbon chamber with finger during use</li> <li>• Single dose is 3 mL (1 bottle)</li> <li>• For analgesia, a maximum dose of 6 mL in a 24-hour period should not be exceeded</li> </ul>	AGE	Adult ≥ 18 years	INITIAL DOSE	3 mL (1 bottle) see*	REPEAT DOSE	3 mL (1 bottle)	DOSE INTERVAL	None	VOLUME	3 mL	MAX DOSE	6 mL (2 bottles)
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INITIAL DOSE	3 mL (1 bottle) see*												
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DOSE INTERVAL	None												
VOLUME	3 mL												
MAX DOSE	6 mL (2 bottles)												
<b>Quantity to be administered</b>	3 to 6 mls (1 to 2 bottles) Dose as per dose table												
<b>Maximum or minimum treatment period</b>	Single episode of care												
<b>Storage</b>	Room temperature												
<b>Adverse effects</b>	<ul style="list-style-type: none"> <li>• Drowsiness</li> <li>• Headache or nausea</li> <li>• Feeling of extreme happiness</li> <li>• Feeling drunk</li> <li>• Taste disturbance</li> <li>• Coughing</li> <li>• Irritation to the eyes</li> </ul>												

	<ul style="list-style-type: none"> <li>• Mucous membranes</li> <li>• Skin reactions</li> </ul>
<b>Records to be kept</b>	The administration of any medication given under a PGD must be recorded within the patient's medical records

## 9. Patient information

<b>Verbal/Written information to be given to patient or carer</b>	<ul style="list-style-type: none"> <li>• Verbal information must be given to patients and or carers for all medication being administered under a PGD</li> <li>• Give the patient the Patient Alert Card <a href="https://www.medicines.org.uk/emc/rmm/397/Document">https://www.medicines.org.uk/emc/rmm/397/Document</a></li> <li>• Where medication is being supplied under a PGD, written patient information leaflet must also be supplied</li> <li>• A patient information leaflet is available on request</li> <li>• If patients are feeling dizzy/drowsy they should be advised to avoid driving or operating heavy machinery</li> </ul>
<b>Follow-up advice to be given to patient or carer</b>	If symptoms do not improve or worsen or you become unwell, seek medical advice immediately

## 10. Appendix A

References
<ol style="list-style-type: none"> <li>1. British National Formulary (BNF) available online: <a href="https://bnf.nice.org.uk">https://bnf.nice.org.uk</a></li> <li>2. Nursing and Midwifery "The code" available online: <a href="https://www.nmc.org.uk">https://www.nmc.org.uk</a></li> <li>3. Current Health Care Professions Council standards of practice</li> <li>4. General Pharmaceutical Council standards</li> <li>5. Electronic medicines compendium available online: <a href="https://www.medicines.org.uk">https://www.medicines.org.uk</a></li> <li>6. Penthrox University for Healthcare Professionals</li> </ol>

## 11. Appendix B

Health professionals agreed to practice
<ul style="list-style-type: none"> <li>• Each registered healthcare professional will hold their own Competency framework which will be signed and agreed by their mentor</li> <li>• A mentor is defined within the Manx Care policy as any ward/area managers, sisters, senior nurses, GPs, pharmacists or senior paramedics who has completed the PGD training themselves</li> </ul>