Royal Cornwall Hospitals
NHS Trust

Penthrox pain relief for children

Information for parents and carers

What is Penthrox?

This is a pain-relieving vapour, which can be inhaled through a special device known as a 'green whistle'.

Penthrox contains the active substance methoxyflurane. This is a type of anaesthetic medicine. The dose used in a Penthrox inhaler is much lower than that used for a general anaesthetic.

In the UK, Penthrox is currently only licensed for use in adults, so its use in children is considered 'off-label'. In other countries (such as Australia) it has been licensed for use, and used safely, in children for over 40 years.

What are the benefits of using Penthrox?

- Strong, short-acting pain relief.
- Self-administered so it can be used to 'keep on top' of pain.
- Reduces the need for needles.

What you need to know before your child is given Penthrox

Most patients can use Penthrox and a doctor or nurse will ensure that it is safe for your child before prescribing it.

Penthrox should **not** be used if:

- your child is allergic or has had a bad reaction to any anaesthetic given through a mask
- your child or family has a history of malignant hyperthermia. This is a condition where a very high fever occurs after being given an anaesthetic
- your child has serious kidney or liver problems
- your child has significant heart or circulatory problems
- your child has recently taken or is taking certain medications such as strong painkillers and some types of antibiotics, anticonvulsants and antivirals. Please tell your doctor about any regular or recent medication and they will advise accordingly.

How is Penthrox given?

Penthrox is self-administered, which means your child will have control of when to use it. It is simple to use, with the mouthpiece held in between the teeth and the lips closed around it. A nurse or doctor will show your child how to use the device correctly.

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Your child will be asked to breathe normally in and out through their mouth. It is important that your child breathes out through the mouthpiece as this collects any exhaled drug vapour rather than it being released into the air.

It usually takes 6-10 breaths before the medicine starts working. Penthrox has a strong fruity taste and smell. The first few breaths often taste very strong and usually cause patients to cough. This coughing sensation settles after the first few breaths.

How long does it last?

Once Penthrox has started working, your child can breathe it in from time to time when they feel they need more pain relief. When used like this an inhaler will typically last around an hour.

If we need to carry out a painful procedure (such as applying a cast, dressing a burn or treating a dislocation), we may ask your child to use the inhaler continuously for a short period of time to provide strong pain relief whilst we perform the procedure. When used like this an inhaler will usually last around 20 minutes. Pain relief will continue for several minutes after stopping Penthrox.

What are the possible side effects?

The most likely side effects can include:

- headache
- dizziness
- dry mouth
- drowsiness
- sickness
- tingling skin
- double vision
- flushing of the skin or skin irritation.

These side effects usually wear off within a few minutes of stopping use.

If your child becomes drowsy, they will be unable to hold the mouthpiece to their mouth. This will stop them from inhaling the vapour and so the drowsiness will resolve. If your child becomes drowsy or unresponsive, please alert a member of staff.

Serious side effects are rare but include allergic reactions, liver damage or kidney problems. If your child becomes unwell after using Penthrox please seek medical attention and tell staff that your child has recently used Penthrox.

Adapted with permission from Alder Hey Children's NHS Foundation Trust.

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