University Hospitals Dorset
NHS Foundation Trust

Entonox during endoscopic procedures

Endoscopy Department Patient Information

What is Entonox?

Entonox nitrous oxide/oxygen mixture provides the pain-relieving properties of nitrous oxide with the benefits of additional oxygen without producing unconsciousness. It is a widely used analgesic for acute, short-term pain relief in a wide range of clinical situations, from painful procedures to birth.

How does Entonox work?

Entonox takes effect within the brain and spinal cord, reducing pain sensations. It is fast and effective – the onset of pain relief takes two to three minutes. It is a commonly used alternative to epidurals or systemic opioids such as morphine. Once given, it is quickly and effectively excreted, meaning it won't stay in your system for very long.

Why is Entonox used during endoscopic procedures?

Endoscopic procedures such as flexible sigmoidoscopy and colonoscopy involve passing a smooth, flexible tube which has a camera on the tip, into the bowel, so the lining can be inspected. It is necessary to introduce air to the bowel through the endoscope, so the endoscopist (doctor) can view the lining. This can be uncomfortable and even painful for short periods. Inhaling Entonox can help to make these procedures more manageable. It may be used on its own, or in addition to intravenous (injected) sedation and analgesia if required.

What are the benefits of using Entonox?

Entonox is a ready-to-use medical gas mixture of 50% nitrous oxide and 50% oxygen that provides rapid, safe and effective short-term pain relief. Key features include:

- predictable and reliable
- easy, self-regulated administration (you are in control of how much you take)
- effective pain relief without loss of consciousness
- works quickly and leaves the body quickly
- minimal side-effects

How is Entonox given?

The endoscopy nursing staff will show you how to use the Entonox effectively and monitor and support you while you are using it. Before your procedure begins, you will be given a mouthpiece which is attached to a cylinder of Entonox gas. It is important you hold the mouthpiece firmly between your lips to form a good seal. You will need to breathe deeply for one to two minutes before there is enough Entonox in your body for it to work. Entonox will only flow when you breathe in, therefore the deeper you breathe, the better your pain relief will be. You do not need to breathe Entonox for your entire procedure - only at times of pain or discomfort.

What are the risks of using Entonox?

When Entonox is used for short periods, the main concern is that the gas may become trapped in parts of the body. This is only likely to cause problems for those with specific medical conditions. The nurses will ask you for details of your medical history and carefully assess whether it is safe for you to use Entonox. You should not use Entonox if you have:

- a recent or current ear infection, or an operation on your ears
- recent eye surgery where injections of gas have been used
- recently been scuba diving (within 48 hours) or have decompression sickness
- a collapsed lung or pneumothorax
- lung disease or breathing difficulties (unstable asthma, emphysema)
- a head injury (or suspected or known increased pressure on the brain)
- a known problem with air trapped in the body (e.g. in an artery)
- a severely bloated stomach
- injuries to the face and jaw
- paraquat poisoning (a weedkiller)
- **or if you take methotrexate**

What are the side effects of using Entonox?

Entonox can make you feel dizzy or nauseous (sickly, but these side effects usually settle if you slow your breathing down or stop using the gas. Some people complain of parasthesia (a tingling sensation) and light-headedness while using the gas. If you keep breathing Entonox continuously, you will eventually become drowsy and unable to hold the mouth piece to your lips. The nursing staff supervising you will give you some oxygen while the effects wear off and you will wake up naturally as this happens. Use of Entonox will also be discontinued if you start to complain of earache, if you find the side effects unpleasant or persistent, or if you are not finding it helpful, in which case alternative pain-relieving medication may be used.

Are there any restrictions after using Entonox?

You will be monitored for half an hour after you have stopped using Entonox, until the nursing staff are happy that you have recovered and are safe to be on your own and resume your normal activities, such as driving and working.

For further advice contact:

The Royal Bournemouth Hospital Endoscopy Department
on **0300 019 4668** (Mon-Fri 8am -6pm)

Poole Hospital Endoscopy Department
on **0300 019 2772** (Mon-Fri 8am-6pm)

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