

be found in the trauma situations which patrollers encounter and a limited dose (maximum 6mL) only is permitted.

11.5 Entonox

Entonox is an analgesic gas that contains 50% oxygen (O₂) and 50% nitrous oxide (NO). This gas is also odourless and not unpleasant in taste. The analgesic effect takes place within 1–2 minutes and lasts about 1 minute after removal of the gas. There is sometimes accompanying nausea and a feeling of euphoria is often induced. Some casualties feel drowsy once the pain has been relieved, but soon become alert again when the gas supply is stopped.

Administration of Entonox is via gas cylinders similar in size to those of oxygen (size C is the most efficient and portable). Entonox cylinders are painted blue and white and there is a specific pin system to only permit an Entonox regulator to fit on to the top of an Entonox gas cylinder.

Entonox is self-administered by the casualty through a demand valve that opens when the casualty inhales. The mouthpiece should be positioned so that if the casualty loses consciousness, the mask drops away from the face. Every casualty that uses Entonox also receives 50% oxygen.

Entonox cannot be used around sparks or flames because the oxygen supports combustion even though the nitrous oxide itself is non-flammable; refer to Section 5.6.3 **Hazards of Oxygen Supplementation.**

At temperatures below 0°C, the oxygen and nitrous oxide components of Entonox separate; consequently the Entonox cylinder must be stored in a warm place. When in use on the snowfield, it must be laid on its side and well insulated from the cold; e.g. in a backpack inside foam padding. The separation of its components can also be prevented from occurring by shaking the cylinder before use.



Figure 266 Entonox gas cylinder, demand valve and mouthpiece



11.5.1 ADMINISTRATION OF ENTONOX

- Obtain consent to use the drug from the casualty. In the case of minors, consent should be obtained where possible from a responsible adult carer.
- Shake the cylinder and turn on the gas supply after obtaining consent from the casualty to administer Entonox.
- Fit a clean disposable mouthpiece and one-way valve assembly to the flexible hose.
- Instruct the casualty to place the mouthpiece into the mouth, and suck on the mouthpiece.
- Encourage the casualty to breathe gently and slowly, without holding the breath. Warn the casualty that it may take some effort to initially open the inlet valve.
- Insist on self administration so that administration will cease if the casualty becomes unconscious. Ensure that the casualty holds the mouthpiece so that if the hand or arm relaxes it will naturally fall away from the mouth.
- Inform medical centre staff that Entonox has been used.





Figure 267 Entonox gas cylinder, demand valve and mouthpiece

11.5.2 ADVANTAGES, DISADVANTAGES AND CONTRAINDICATIONS

ADVANTAGES

- Entonox is an effective analgesic free from adverse side effects;
- 50% oxygen is delivered with Entonox; and



- equipment is reusable with the exception of low cost disposable mouthpieces and one-way valves.

DISADVANTAGES

- Entonox equipment is cumbersome and must be transported to the incident scene upon request.

CONTRAINDICATIONS

- Head or spinal injuries;
- lowered level of consciousness; and
- chest injuries (due to the way in which the body handles the nitrous oxide, which will preferentially fill chest cavity spaces, potentially worsening any penetrating chest wounds).

11.6 Conclusion

The vast majority of casualties encountered by patrollers will have painful injuries and may thus benefit from analgesia.

It is imperative the patroller is aware of this and acts accordingly, using all of the techniques described above.

Annual recertification for the use of analgesic gases is required and it is the responsibility of an appropriately qualified examiner within each resort to carry out this recertification.

