



## Section 14: Appendix 2: Medical Procedures

### SECTION 14: NITROUS OXIDE ADMINISTRATION

A	AEMT	A
P	PARAMEDIC	P

INDICATIONS	SIGNS AND SYMPTOMS	CONTRAINDICATIONS
<ul style="list-style-type: none"> <li>• Injury requiring pain management</li> <li>• Patient able to self-administer</li> </ul>	<ul style="list-style-type: none"> <li>• Chest pain secondary to infarction or angina</li> <li>• Acute urinary retention</li> <li>• Fractures</li> <li>• Severe burns</li> <li>• Kidney stones</li> <li>• Musculoskeletal trauma</li> </ul>	<ul style="list-style-type: none"> <li>• Altered level of consciousness</li> <li>• Head injuries</li> <li>• Chest injuries (blunt or penetrating)</li> <li>• Intoxication</li> <li>• Maxillofacial injuries</li> <li>• Psychiatric problems</li> <li>• COPD (because of the 50% oxygen mixture)</li> <li>• Pediatric patients under 12 years of age</li> <li>• Pregnancy</li> <li>• Respiratory distress</li> <li>• Abdominal pain</li> </ul>

#### PROCEDURE

1. Instruct patients to administer nitrous oxide to themselves by placing the mask tightly against their face and breathing deeply and slowly
2. Allow mask to fall away from face spontaneously when effects are felt
3. Check blood pressure, as nitrous oxide may cause BP to drop in some cases

#### KEY POINTS

- Nitrous oxide is a self-administered analgesic gas containing a mixture of 50% oxygen and 50% nitrous oxide.
- Nitrous oxide is supplied in a carrying case containing two cylinders, one of nitrous oxide and one containing oxygen, with a mixing valve and supply tubing. These agents are mixed on administration to deliver a 50% concentration of each to the patient.
- Nitrous oxide should be given to any patient who is alert and complaining of severe pain.
- Only self-administration by the patient is to be used.
- Upon administration of nitrous oxide, constantly monitor patient to see he does not fall asleep with mask in place.
- The side effects of nitrous oxide, in addition to analgesia, include light-headedness, drowsiness, and very occasionally nausea and vomiting. Changes in heart rate and respiratory rate are minimal.
- Nitrous oxide and oxygen are both non-flammable gases, but both support combustion. For this reason do not use nitrous oxide in areas where there is a combustion hazard.

**There is an increased risk of liver cancer and birth defects to individuals who are exposed repeated applications of nitrous oxide. For this reason nitrous oxide should be used in a well-ventilated environment.**