

# Kittitas County Prehospital EMS Protocols

## **SUBJECT: NITROUS-OXIDE ANALGESIA**

Nitronox is a mixture of 50% nitrous-oxide and 50% oxygen. This mixture is attained by using two portable “D” size cylinders, one of nitrous-oxide and one of oxygen along with an inhalation apparatus. This apparatus is equipped with a special hand-held demand valve so that the patient can administer to himself, a safe and effective analgesic called NITRONOX.

Pain relief in the EMS setting starts within one to three minutes after inhalation. Once discontinued, the effects of this on-the-spot analgesic are reversed in approximately the same time.

### **ACTION:**

Nitronox may be used for almost any patient who is alert and complaining of pain. This includes children who are old enough to self-administer and can make a good mask or mouthpiece fit.

### **INDICATIONS:**

Trauma, Burn Injuries, Acute Abdomen or Kidney Stones, Myocardial Infarction, Childbirth, and any other patient in pain not presenting a contraindication.

### **CONTRAINDICATIONS:**

- Patient is unable to administer Nitronox.
- Patient is not alert and oriented.
- Chest Injury (Blunt or Penetrating) - Possible Pneumothorax.
- Serious Maxillofacial Injuries where a good seal cannot be obtained; unless a mouthpiece is available and can be tolerated.
- Intoxicated or drug sedated patients (due to the possibility of vomiting & unconsciousness).
- COPD patients (because of high oxygen concentrations).
- Female patients who are, or may be, pregnant.
- Caisson’s Disease (“Bends” or decompression sickness).

### **SIDE EFFECTS:**

The side effects with Nitronox usually tend to occur in the onset and cessation phases; in other words, when the patient is moving from the normal to the analgesic state or vice versa. The occurrence of side effects is slight and they are relatively mild. The following have been encountered in different studies: Unconsciousness or sleep, Drowsiness, Dizziness, Amnesia, Nausea, Vomiting

### **DRUG COMPATIBILITY:**

Nitronox appears, so far, to be compatible with all drugs now known to medicine.

### **NOTE:**

It must be remembered that Nitronox must be self-administered by the patient and that the effectiveness varies from 80-90% in adults and 50-70% in children.

# Kittitas County Prehospital EMS Protocols