

**Seminole Community College**  
**EMS 2605 Paramedic III**  
**Medication Handout #19**  
**Diazepam, Midazolam, Nitrous Oxide, Lorazepam**

**Name / Classification:** Diazepam (Valium) – Benzodiazepine, Sedative-hypnotic, Anti-convulsant, Anti-anxiety

**Indications-** An antianxiety and sedative drug used extensively in the U.S. It is used to treat status epilepticus, acute cocaine poisoning, and a variety of anxiety disorders. Prolonged use may cause dependence or tolerance. It is also used in the management of Seizures, Status Epilepticus, and as a Skeletal Muscle relaxant.

**Contraindications-** Hypersensitivity. Shock, Coma, Respiratory Depression, Acute Alcohol Intoxication, Hypotension, depressed vital signs, OB patients and infants less than 30 days old.

**Precautions-** Use with caution in the management of psychosis, mental depression, myasthenia gravis, impaired renal or hepatic function, or in the addiction prone patient.

**Side Effects-** CNS: drowsiness, fatigue, ataxia, confusion, paradoxical rage, dizziness, blurred vision, vertigo, amnesia, vivid dreams, headache, slurred speech, tremors. Cardiovascular: hypotension, tachycardia, edema, cardiovascular collapse. GI/GU: Nausea, constipation, incontinence, menstrual irregularities.

**Pharmacokinetics-** Onset time is 1-5 minutes IV or 15-30 minutes IM.  
Peak effects in 15 minutes IV and 30-45 minutes IM  
Duration 15-60 minutes.  
Half-life is 20-50 hours.

**Dosage / Route-**

**Seizures / Status Epilepticus-** Adult Dose: 5.0-10.0 mg IVP/Deep IM  
Pediatric: 0.5-2.0 mg IVP/Deep IM

**Acute Anxiety-** Adult Dose: 2.0-5.0 mg Deep IM  
Pediatric: 0.5-2.0 mg Deep IM

**Pre-Medication for Cardioversion-** Adult Dose: 5.0-15.0 mg IVP  
Pediatric: 0.5-0.5 mg/kg IVP

**Reversal Agent -** Romazicon

**Name / Classification:** Midazolam (Versed), Benzodiazepine, Short-acting Sedative

**Indications-** To induce sedation and / or amnesia prior to cardioversion and other painful procedures.

**Contraindications-** Contraindicated in patients with intolerance to Benzodiazepines, acute narrow-angle glaucoma, shock, coma, and acute alcohol intoxication.

**Precautions-** Use with extreme caution in patients with COPD, chronic renal failure, CHF and in the elderly.

**Side Effects-** Retrograde amnesia, headache, blurred vision, pinpoint pupils, euphoria, drowsiness, excessive sedation, confusion. Cardiovascular: hypotension, coughing, respiratory arrest, hives, swelling, tachypnea, hiccups, chills, weakness.

**Pharmacokinetics-** Onset time is 3-5 minutes IV or 15 minutes IM.  
Peak effects in 20-60 minutes.  
Duration is less than 2 hours IV or 1-6 hours IM.  
Half-life is 1-4 hours.

**Dosage / Route-**

**Sedation / Amnesia-** Adult Dose: 1.0-2.5 mg slow IV / 0.07-0.08 mg/kg IM

Pediatric Dose: 0.05-0.20 mg/kg IV / 0.1-0.15mg/kg IM

**Reversal Agent** – Romazicon

**Name / Classification: Nitrous Oxide (Nitronox) Analgesic**

**Indications:** Musculoskeletal, burn, and ischemic chest pain and severe anxiety including hyperventilation.

**Contraindications:** Contraindicated in patients who cannot understand verbal commands, intoxicated with drugs or alcohol, or with altered mental status secondary to head injury. Do not use Nitrous oxide with COPD patients for it may shut down the hypoxic drive, and blebs may swell and rupture causing pneumothorax.

**Precautions:** Use in well-ventilated area. It may cause nausea and vomiting.

**Side Effects:** Dizziness, light-headedness, altered mental status, hallucinations, nausea and vomiting.

**Pharmacokinetics:** Onset time is 2-5 minutes  
Peak effects in 2-5 minutes.  
Duration 2-5 minutes after administration is ceased.

**Dosage / Route:**

Adult Dose: Self-administered inhaled gas until pain is relieved or patient drops the mask.

Pediatric: Same as Adult.

**Name / Classification:** Lorazepam (Ativan) / Sedative Benzodiazepine

**Indications:** Sedation for Synchronized cardioversion and status epilepticus.

**Contraindications:** Contraindicated in patients with known hypersensitivity to benzodiazepines.

**Precautions:** Narrow-angle glaucoma, depression or psychosis, coma, shock, acute alcohol intoxication, renal or hepatic impairment, organic brain syndrome, myasthenia gravis, GI disorders, elderly, debilitated, or patients with limited pulmonary reserve.

**Side Effects:** Antegrade Amnesia, drowsiness, sedation, dizziness, weakness, unsteadiness, disorientation, depression, sleep disturbances, restlessness, confusion, hallucinations, hypotension, hypertension, blurred vision, diplopia, nausea, vomiting, anorexia, or abdominal discomfort.

**Dosage / Route:**

**Seizures / Status Epilepticus-** Adult Dose: 2. /0mg IVP / PR (2mg/min)

Pediatric: 0.1 mg/kg slow IVP / PR (over 2 to 5 min)

May be repeated at one-half dose as needed.

**Pre-Medication for Cardioversion-** Adult Dose: 2.0-4.0 mg IM , 0.5 – 2.0 mg IV

Pediatric: 0.03 - 0.5 mg/kg IV/IM/PR up to 4 mg

**Reversal Agent -** Romazicon