### NORTH COAST EMERGENCY MEDICAL SERVICES

Policies and Procedures

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Subject: Scope of Practice/Procedure – ALS

Benzodiazepines

## **Associated Policies:**

### I. Indications

- A. Sustained and/or recurrent grand mal seizures.
- B. Before cardioversion or transcutaneous pacing in conscious patients.
- C. Moderate to severe pain secondary to muscle spasms unrelieved with splinting or positioning.
- D. Management of severe anxiety unrelieved by other means. Midazolam ONLY
- E. Management of the combative patient Midazolam ONLY

# II. Therapeutic Effects

- A. Decreased cerebral irritability.
- B. Relaxes skeletal muscles.
- C. Sedation

#### III. Contraindications

- A. Absolute:
  - 1. Suspected or know allergy to Benzodiazepines.
  - 2. First Trimester Pregnancy

### B. Relative:

- 1. Shock
- 2. Active labor
- 3. Trauma to rectum (for rectal administration).
- 4. Congenital or surgical anomaly of the rectum (for rectal administration)

### IV. Adverse Effects

- A. Respiratory depression or arrest may be caused or worsened by Benzodiazepines.
- B. Drowsiness, vertigo, ataxia, transient hypotension
- C. Rectal injury may occur due to forceful entry of the syringe.
- D. Inadequate absorption, following rectal administration.

# V. Administration of Diazepam

A. Adult:

IV - 2.5-20 mg in 2.5 mg increments titrated to effect. May give up to 40 mg in status epilepticus.

IM - 5-10 mg.

B. Pediatric:

IV slow push - 0.1-0.3 mg/kg

PR - 0.5 mg/kg (maximum dose 20 mg).

### VI. Administration of Midazolam

- A. Adult:
  - 1. IV: 1-2.5 mg slow IV (over 2-3 min).

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may be repeated if necessary, in small increments (total maximum dose to 0.1 mg/kg not to exceed 10 mg)

- 2. IM: 5 mg (0.07 mg/kg)
- 3. IN: 5 mg 10 mg maximum 1 cc volume each nostril.

#### B. Pediatric:

- 1. IV .05 mg/kg not to exceed 5 mg per dose or 10 mg total.
- 2. IM 0.1 mg/kg. Further doses up to 0.4 mg/kg. No single dose to exceed 5 mg or 10 mg total.
- 3. IN: 0.1mg/kg with maximum volume of 0.5 cc each nostril.

# VII. Administration of Lorazepam (Ativan)

#### A. Adult:

- 1. 2 mg IV slow (over 1-2 minutes) every 5 minutes until seizures stop to a maximum of 8 mg.
- 2. IM 4 mg single dose
- 3. IN dosing of 2 mg may be repeated once.

### B. Pediatric:

- 1. Seizures: 0.1mg/kg slow IV. May repeat dose once. Additional doses require Base Contact. Maximum single dose of 2 mg.
- 2. IM 0.1 mg/kg maximum single dose of 2 mg.
- 3. IN 0.1mg/kg with max dose of 2 mg. Additional doses require Base contact.
- 4. Cardioversion: 0.05mg/kg slow IV.

## VII. Special Information

- A. Never give without resuscitation equipment available
- B. Push as close to the hub as possible as benzodiazepines may precipitate if mixed with other drugs or IV solutions.
- C. Effects of benzodiazepines potentiated with alcohol and other sedatives.
- D. Painful upon IM administration, unpredictable absorption.
- E. Do not inject a single IM dose of more than 2 cc. Any dose greater than 2 cc should be administered in multiple injections.
- F. Maximum volume of IN dose is 1cc to each nostril for adults and 0.5cc for pediatrics.