SCOPE:
Poudre Valley Hospital EMS and represented Northern Colorado services [See page 1]

PURPOSE:
To define the use of prehospital Ketamine

INDICATIONS:
Agitation / Pain
A. Agitation, hyper-adrenergic, excited delirium or sympathomimetic toxidrome patients where the safety of patient and/or providers Is of substantial concern.
B. Acute or chronic pain from known or suspected injury or medical condition.
RSI (to be utilized only by staff who have been cleared to perform RSI)
A1. Induction for RSI.
B1. Particularly useful in patients with sepsis, and patients with acute bronchospasm requiring RSI.

CONTRAINDICATIONS:
A. Known hypersensitivity to any ingredient in the product.
B. In Control of Agitation - contraindicated in patients less than 13 years of age.
RSI additional
C. Patients < 13 years of age.
D. Any hypertensive state (>140 systolic).
E. Suspected AMI, stroke, or aortic pathology.

PROCEDURES AND GUIDELINES:
A. Continuous pulse oximetry.
B. Continuous waveform capnography.
C. Vital signs every 10 minutes.
D. ECG monitoring as soon as possible
E. Frequent assessment of mental status and airway patency.
F. Ketamine is supplied in a high concentration vial. Use caution when dosing. Commonly supplied as 100mg/ml for IM dosing.
G. Suction / monitor airway as needed secondary to possible hyper salivation.

<table>
<thead>
<tr>
<th>Drug Protocol: Ketamine (Ketalar)</th>
<th>EMT- B</th>
<th>EMT - IV</th>
<th>EMT-I</th>
<th>EMT-P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate to Severe Pain</td>
<td></td>
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</tr>
<tr>
<td>Adult and Pediatric IV dose</td>
<td>0.3 mg/kg</td>
<td></td>
<td></td>
<td>SO</td>
</tr>
<tr>
<td>Adult and Pediatric IM dose</td>
<td>0.5 mg/kg</td>
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<td></td>
<td>SO</td>
</tr>
<tr>
<td>Repeat dose after 20 minutes</td>
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<td></td>
<td>DO</td>
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</tbody>
</table>
**Page Dimensions:** 612.0x792.0

**DEPARTMENT:** Poudre Valley Hospital Emergency Medical Services

**POLICY DESCRIPTION:** Ketamine (KETALAR)

**PAGE:** 2 of 3

**REPLACES POLICY DATED:** 10/1/2014

**APPROVED:** 12/1/2016

**RETIRED:**

**EFFECTIVE DATE:** 12/1/2016

**REFERENCE NUMBER:** 5240

<table>
<thead>
<tr>
<th>EMT- B</th>
<th>EMT- IV</th>
<th>EMT- I</th>
<th>EMT-P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agitated / aggressive patient:</strong></td>
<td></td>
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</tr>
<tr>
<td>Adult IM dose</td>
<td>4 mg/kg</td>
<td></td>
<td>SO</td>
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<tr>
<td>Repeat dose after 20 minutes</td>
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<td>DO</td>
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<tr>
<td><strong>RSI Induction:</strong> cleared staff only</td>
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<tr>
<td>Adult:</td>
<td>1.5mg/kg</td>
<td>IV</td>
<td>SO</td>
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</tbody>
</table>

**ADDITIONAL CONSIDERATIONS:**

- Ketamine is a non-competitive NMDA receptor antagonist and dissociative, amnestic, analgesic, anesthetic agent. It has been shown to be very effective in the prehospital setting to control acute and chronic pain in sub-dissociative doses.
- Ketamine has less significant effects on respiratory drive and blood pressure, than other sedation agents.
- Emergence reaction: presents as anxiety, agitation, apparent hallucinations or nightmares as ketamine wears off. For severe reactions consider Benzodiazepine administration: Midazolam 0.5-1.0 mg IV.
- Hyper salivation: Suction is usually sufficient. If profound and causing airway difficulty. Administer atropine: 0.5 mg IV.
- Patients that receive both benzodiazepines and Ketamine are at a higher risk of requiring intubation. Use with caution in the presence of other sedatives.
- All uses of ketamine will be evaluated in the QA/QI process.
- Ketamine can cause significant laryngospasm and vomiting. This is related to rate of administration for IV use. Use caution and administer slow IVP.
- May Increase heart rate and Blood pressure.

**REFERENCES:**


