Classification
Benzodiazepine (mid-acting)

Pharmacology and action
Lorazepam is a potent, mid-acting, benzodiazepine (BDZ) agent that exhibits significant anxiolytic, hypnotic, anticonvulsant, muscle relaxant, and amnesiac properties. These actions are thought to be primarily caused by the enhancement of GABA-mediated inhibition in the central nervous system. GABA (gamma-Aminobutyric Acid) is the main inhibitory transmitter substance of the central nervous system. The administration of Lorazepam primarily effects GABA receptors in the ascending reticular activating system (aRAS) and blocks both limbic and cortical arousal.

Indications
1. Status Epilepticus Definition:
   a. Having seizures at the time of treatment by paramedic(s) and were reported by a reliable witness to have been convulsing >5min, or intermittent seizures without regaining consciousness for longer than 5 minutes.
2. Head trauma. In the patient who is combative and needs sedation to allow for adequate immobilization.
3. Chemical restraint for severely agitated patients.
4. Persistent pain, unrelieved by narcotic administration, that is caused by severe muscle spasms such as those commonly present in severe atraumatic back pain or the muscle spasms associated with acute fractures

Contraindications (in addition to having a known hypersensitivity to this medication or this class of medication)
1. Neo-nates or infants
2. Intra-arterial administration
3. Pregnancy (Class D – Positive evidence of human fetal risk – maternal benefit may outweigh fetal risk in serious or life-threatening situations)

Precautions
1. Lorazepam is associated with respiratory depression. Monitor the patient’s respiratory and cardiovascular status constantly.
2. Patients that have respiratory disease (esp. COPD), patients that are older, and patients that are debilitated are at risk for marked ventilatory compromise.
3. Use caution in patients that are in shock, are comatose, or are under the influence of alcohol or other CNS depressants.
4. Lorazepam may be given by either; the intramuscular, the intranasal, or the intravenous route, however, the preferred route will be via a intranasal route in the prehospital setting.

Administration

1. Adult
   a. Status seizures
      i. 2-4mg IV or IO
   b. Chemical Restraint
      i. 2-4mg IV or IO
   c. Pain Adjunct
      i. 2-4mg IV or IO

2. Pediatric
   a. Status Seizures
      i. 0.05mg - 0.1mg/kg
         a. may repeat at 0.5mg/kg in 10-15 minutes.

Side effects

1. Common side effects can include: Hypoventilation, sedation, dizziness, asthenia, ataxia, respiratory depression, hypotension, fatigue, amnesia, confusion, disinhibition, irritability, incontinence, and dystonia.

2. Serious side effects can include: apnea, respiratory failure, seizures, tachycardia, syncope, and CNS stimulation (paradoxical).

Special Notes

1. Lorazepam has a half-life of approximately 14 hours so repeat doses can have a cumulative effect.

2. Lorazepam is excreted primarily through urine after being metabolized by the liver.

3. Due to the relative contraindication of pregnancy with this medication, maternal benefits MUST outweigh the risks – consultation with on-line medical control is highly advised when dealing with Lorazepam and pregnant patients.