

Classification

Local Anesthetic

LA County Prehospital Indications

Multiple provider impressions: patients responsive to pain that have intraosseous (IO) access

Other Common Indications (Not authorized for EMS administration in LA County)

Topical, transmucosal or intradermal anesthesia
Ventricular arrhythmias refractory to other treatments

Adult Dose

2% 40mg slow IO push over 2 minutes; may give second dose of 20 mg x1 prn

Pediatric Dose

2% 0.5mg/kg (20mg/mL) slow IO push over 2 minutes, dose per [MCG 1309](#), not to exceed adult dose;
may repeat second dose at half the initial dose x1 prn

Mechanism of Action

Inhibits sodium ion channels, stabilizing neuronal cell membranes causing a nerve conduction blockage

Pharmacokinetics

Onset is 2 min; peak in 3-5 min; duration is 10-20 min

Contraindications

None, when used for anesthesia in IO placement

Interactions

No significant interaction at therapeutic doses for IO placement. In larger doses, multiple interactions possible including potentiation of fentanyl and amiodarone.

Adverse Effects

None for IO use, high doses have been associated with increased risk of seizure

Prehospital Considerations

- This should be given pre-infusion if IV fluids or infusion of other medications through the IO on patients that are responsive to pain.
- Lidocaine 2% (preservative and epinephrine free) should be used.
- Slow infusion is necessary to ensure the lidocaine remains in the medullary space.
- A base order is not needed to administer lidocaine as part of the IO procedure.