

Medication: Lidocaine HCL 2% (IO)	PDN: 6949.01	Last Updated: Feb 26 2024	PMD: Andrew Travers*	PDC: Tanya Fraser*	Page 1 of 2
--	---------------------	-------------------------------------	--------------------------------	------------------------------	-------------

LIDOCAINE HCL 2% (IO) (preservative and epinephrine free)

1.0 Classification

- Local anaesthetic

2.0 Mechanism of Action

- Lidocaine is an amide anesthetic commonly used in nerve blocks and local infiltration. Lidocaine acts by blocking Na channels in the central and peripheral neurons of the nociceptive pathway. It is a class 1a antiarrhythmic drug used in the treatment of ventricular arrhythmias.

3.0 Indications

- IO infusion pain management

4.0 Contraindications

- Known hypersensitivity
- Seizure disorder

5.0 Precautions

- Age over 60 years old. Cardiac effects most notably occur with rapid administration and/or exceeding maximum dose in those with significant cardiac disease.

6.0 Route

- IO

7.0 Dosage

Adult

- For patients responsive to pain caused by IO infusion: 40 mg IO over 120 seconds and allow to dwell in IO space for 60 seconds then flush with 5-10 mL of normal saline. Slowly administer an additional 20 mg IO over 60 seconds and allow to dwell in IO space for 60 seconds then flush with 5-10 mL of normal saline.

Pediatric

- For patients responsive to pain caused by IO infusion: 0.5 mg/kg IO (not to exceed 40 mg in the initial dose) over 120 seconds and allow to dwell in IO space for 60 seconds then flush with 2-5 mL of normal saline. This may be repeated once with half the initial dose (not to exceed 20 mg in the repeat dose) over 60 seconds.

8.0 Supplied

- 40 mg in a 2 mL polyampule (20 mg/mL)

9.0 May Be Given By

- ACP/CCP

10.0 Adverse effects

- Dizziness
- Perioral numbness
- Nausea
- Exceeding the maximum dosage can result in numbness of the tongue, drowsiness, metallic taste, and tinnitus.
- Higher doses may result in visual disturbances, muscle twitching and seizures.
- Cardiovascular toxicity effects include sinus slowing, asystole, hypotension, and shock.

11.0 Special notes

- Note that the priming volume of the EZ-connect® extension set is approximately 1 mL.
- Pregnancy category B [if there is a clinical need for it, Category B drugs are considered safe to use]

12.0 References

- Shock Clinical Practice Guideline
- https://www.teleflex.com/global/clinical-resources/documents/MCI-2019-0394_VA_DS_EZ-IO_Intraosseus_Vascular_Access_LR.pdf
- Compendium of Pharmaceuticals and Specialties (CPS)
- UpToDate
- Zhong J, Hu J, Mao L, Ye G, Qiu K, Zhao Y, et al. Efficacy of intravenous lidocaine for pain relief in the emergency department: a systematic review and Meta-analysis. *Front Med (Lausanne)*. 2022;17:8.

*Electronically Signed
Copyright © Emergency Health Services