



23. LIDOCAINE (XYLOCAINE®)

a) Pharmacology

- (1) Anesthesia for IO infusions
- (2) Nasal anesthesia

b) Pharmacokinetics

- (1) Extremely rapid (within minutes) onset following IV administration and lasts approximately 10–20 minutes
- (2) Mucosal anesthesia with onset in 1–5 minutes

c) Indications

- (1) Anesthesia for IO infusions
- (2) Nasal tracheal intubation
- (3) Decrease intracranial pressure with Rapid Sequence Intubation

d) Contraindications

- (1) AV blocks
- (2) Sensitivity to lidocaine
- (3) Idioventricular escape rhythms
- (4) Accelerated idioventricular rhythm
- (5) Sinus bradycardia or arrest or block
- (6) Hypotension
- (7) Shock
- (8) Ventricular conduction defects

e) Adverse Effects


- (1) Lidocaine may cause clinical evidence of toxicity usually related to the central nervous system.
- (2) Toxicity:
 - (a) Early: muscle twitching, slurred speech, altered mental status, decreased hearing, paresthesia (pins and needles), anxiety, apprehension, visual disturbances, nausea, numbness, difficulty breathing or swallowing, decreased heart rate
 - (b) Late: convulsions, hypotension, coma, widening of QRS complex, prolongation of the P-R interval, hearing loss, hallucinations

f) Precautions

- (2) Reduce the dosage in patients with decreased cardiac output, liver dysfunction, and the elderly (age over 70).



g) Dosage

- (1) Adult/Adolescent with an IO infusion: To prevent or treat pain during an IO infusion in patients greater than or equal to 13 years of age, administer 20–40 mg (1–2 mL) of 2% (preservative free) lidocaine IO.
- (2)  IO infusion in patients less than 13 years of age: To prevent or treat pain during an IO infusion for patients under 13 years of age, consult a Pediatric Base Station.
- (3) Nasal Pharyngeal Anesthesia (age 13 years and greater)
Draw up 4 mL of lidocaine 4% (40 mg/mL) and using mucosal atomization device, administer 2 mL per nare. The patient IV, gel, and intranasal dosing should not exceed 3 mg/kg.

h) Interfacility Transport Only

- (1) IV Infusion
- (2) Maintain the IV infusion of lidocaine at the rate established by the sending physician and record vital signs every 15 minutes.
(See Lidocaine Infusion for Interfacility Transport.)