

**CLASS: A**

**PROTOCOL(S) USED IN: Cardiac Arrest V-tach/V-fib, Tachydysrhythmia-Vtach, Intraosseous Access & Infusion**

**PHARMACOLOGY AND ACTIONS:**

- A. Sodium channel blocker which depresses automaticity of Purkinje fibers thus increasing ventricular fibrillation threshold.
- B. Single bolus effect disappears in 10-20 minutes due to redistribution in the body.
- C. Metabolic half-life is about 2 hours; toxicity develops with repeated doses.

**INDICATIONS:**

- A. Local anesthetic for IO placement.
- B. V-tach with a pulse
- C. Pulseless V-tach/V-fib arrest

**CONTRAINDICATIONS:**

- A. Known or suspected sodium channel blocker overdose (eg TCA)
- B. Wide complex irregular tachycardia (suspected WPW)

**SIDE EFFECTS AND NOTES:**

- A. Will worsen dysrhythmias associated with sodium channel blocker overdose (TCA)
- B. Inadvertent overdose can cause local anesthetic systemic toxicity (LAST) and resulting cardiovascular collapse and refractory seizures.

**ADULT DOSING:**

- A. **IO insertion**  
0.5 mg/kg IO not to exceed 50 mg
- B. **V-tach with/without pulse or V-fib**  
1-1.5 mg/kg IV/IO. If with a pulse, given over 2-3 minutes. Repeat dose of 0.5-0.75 mg/kg every 5-10 minutes up to 3 mg/kg. May consider post ROSC prophylactic infusion at 1 – 4 mg/min within the first hour of ROSC during EMS transport

**PEDIATRIC DOSING:**

- A. **IO Insertion**  
Same as adult
- C. **V-tach with/without pulse or V-fib**  
1 mg/kg IV/IO. May repeat after 15 minutes. May consider post ROSC prophylactic infusion at 20-50 mcg/kg/min within the first hour of ROSC during EMS transport