PHARMACOLOGY AND ACTIONS:
Lidocaine depresses the automaticity of purkinje fibers; therefore, raises stimulation threshold in the ventricular muscle fibers (makes ventricles less likely to fibrillate). Lidocaine causes CNS stimulation including: tremors, restlessness and clonic convulsions (rare) followed by depression and respiratory failure at higher doses. Cardiovascular effect: Decreased conduction rate and force of contraction, mainly at toxic levels. The effect on the heart of a single bolus disappears in 10-20 minutes. Metabolic half-life is about 2 hours; toxicity develops with repeated doses.

INDICATIONS:
- Antiarrhythmic medication for arrest and non-arrest ventricular arrhythmias
- Pre-medication for all head injured patients prior to receiving Succinylcholine.
- For pain relief in conscious patients with IO access.

CONTRAINDICATIONS:
- 2° type II HB and 3° HB
- PVC's in the setting of bradycardia. Treat bradycardia prior to treating PVC's.

ADMINISTRATION:

<table>
<thead>
<tr>
<th>ADULT</th>
<th>PEDIATRIC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PRE-MEDICATION FOR RSI:</strong></td>
<td><strong>PRE-MEDICATION FOR RSI:</strong></td>
</tr>
<tr>
<td>o 1.5mg/kg IVP</td>
<td>o Same as adult</td>
</tr>
<tr>
<td><strong>ANESTHETIC FOR IO PLACEMENT:</strong></td>
<td><strong>ANESTHETIC FOR IO PLACEMENT:</strong></td>
</tr>
<tr>
<td>o 40mg IO wait approx 1 to 2 minutes prior to other fluid administration</td>
<td>o 0.5mg/kg IO wait approx 1 to 2 minutes prior to other fluid administration</td>
</tr>
</tbody>
</table>

PRECAUTIONS AND SIDE EFFECTS, CONT. (LIDOCAINE):
- Use with extreme caution in presence of advanced AV block unless artificial pacemaker is in place.
- In atrial fibrillation or flutter, quinidine-like effect may cause alarming ventricular acceleration.
- Lidocaine is not recommended for treatment of supraventricular arrythmia.
- Do not administer with heart rate less than 50; you may suppress the heart completely. The same is true for hypotension in which case caution is advised. However an arrhythmia is often the cause of the hypotension. In this situation the arrhythmia is considered “unstable”, and should probably be cardioverted.
- CNS disturbances: Sleepiness, dizziness, disorientation, confusion, convulsions.
- Hypotension: Decreased myocardial contractility and increased AV block at toxic levels can lead to hypotension.
- In rare instances, sudden cardiovascular collapse and death.
- All Lidocaine doses after loading dose must be reduced to 1/4 of initial bolus in patients with CHF, shock, hepatic disease, or are > 70 years of age. This does NOT apply to patients in cardiac arrest. Maintain IV drip at half rate.
- A bolus of Lidocaine will establish a given level of drug in the blood. The drip maintains this level by replacing metabolized drug. A Lidocaine drip should be started immediately after the initiation of bolus therapy. Lidocaine drip therapy should always be preceded with an IV bolus. Without a bolus, a Lidocaine drip has no effect for 30-60 minutes.
- Toxicity is more likely in elderly patients.
- PVC’s should only be treated when significant PVC’s are encountered in the setting of acute angina or MI. Asymptomatic bigeminy for example should not be treated.