

## What are the pros and cons of local anesthetics used in dentistry?

Anesthetic	Advantages	Disadvantages	Maximum Adult Dose
<b>Articaine</b>	<ul style="list-style-type: none"> <li>• Fast onset and greater depth of action</li> <li>• Can use infiltration to anesthetize mandibular 6's in children</li> </ul>	<ul style="list-style-type: none"> <li>• Not recommended for use in children &lt;4 years</li> <li>• Mild neurotoxic effects</li> <li>• May result in prolonged anesthesia</li> </ul>	7 mg/kg
<b>Bupivacaine</b>	<ul style="list-style-type: none"> <li>• Slow onset, long acting</li> <li>• Good for post-operative pain control</li> <li>• (Levobupivacaine is isomeric form and less cardiotoxic and neurotoxic)</li> </ul>	<ul style="list-style-type: none"> <li>• Most cardiotoxic and can induce ventricular fibrillation</li> <li>• Avoid in patients with cardiac disease</li> </ul>	2.5 mg/kg
<b>Mepivacaine</b>	Faster onset than lidocaine Shorter duration of action compared to lidocaine	Crosses the placenta	
<b>Lidocaine</b>	<ul style="list-style-type: none"> <li>• Most commonly used</li> <li>• Rapid onset and has long duration of action</li> <li>• Rare to have complications</li> </ul>	<ul style="list-style-type: none"> <li>• Crosses the placenta</li> <li>• Can be found in breast milk</li> <li>• More apt to have overdoses in children, the elderly or sick patients</li> <li>• Avoid with certain cardiac disorders – porphyria and myasthenia gravis</li> <li>• Limit doses in children, ill or elderly patients, patients with kidney and liver disease</li> </ul>	<ul style="list-style-type: none"> <li>• 4.4 mg/kg (300 mg for the average adult)</li> <li>• 7 mg/kg, if epinephrine is used (500 mg for the average adult)</li> </ul>

## **Prilocaine**

- Fast onset, intermediate duration of action
  - Metabolized like lidocaine
  - May result in cyanosis 2-3 hours post-administration
  - Avoid in children, patients with methaemoglobinaemia, porphyria
- 400 mg in adults

## **Ropivacaine**

- Less profound pulpal anesthesia
- May cause increase in blood pressure and heart rate
- Avoid in children <12 years, elderly
- Avoid in those with liver disease or hypersensitivity