Local anaesthetic is one of the best inventions in medicine. It is difficult to imagine doing minor surgery, debridement, incision and drainage, repair of laceration, excisions, etc., without it, though we have only had infiltration local anaesthetics for about a century (with the creation of synthetic cocaine in 1891).

My first regular experience with infiltration local anaesthetics was in the emergency department. There was always a steady flow of people presenting with lacerations. At that time, I had always used whatever was available. However, there are some tricks to using "local".

**Where available and not contraindicated, use lignocaine 2% + 1:80,000 adrenaline**

Simply, lignocaine 2% works better than lignocaine 1%. Adrenaline causes local tissue vasoconstriction, leading again to better and longer anaesthesia, and a less bloody field. Furthermore, as the adrenaline keeps the lignocaine in the local tissues longer, you are less likely to have systemic side-effects (meaning you can use more local anaesthetic).

**Contraindications**

- Avoid higher concentrations of lignocaine in infants and children. Use plain lignocaine 1%;
- don’t use adrenaline in areas with end arterial supply or else you risk tissue infarction - e.g., fingers, toes, nose, ears, penis;
- avoid in people with known sensitivity to sympathomimetic amines (e.g., tachyarrhythmias);
- avoid in pregnant women;
- adrenaline is contraindicated in any intravenous regional anaesthetic technique.

**Maximum dosage of lignocaine**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Without adrenaline</td>
<td>3 mg per kg (body weight)</td>
</tr>
<tr>
<td>With adrenaline</td>
<td>7 mg per kg (body weight)</td>
</tr>
</tbody>
</table>
Caution must be used particularly with Lignocaine 2% without adrenaline as you can easily infiltrate up to (and over) 10 mL on a large laceration.

Technique tips

There isn't really much to know about the "technique" of infiltrating local anaesthetic. However, you can try the following:

- Use a syringe size appropriate to your volume of local anaesthetic: usually either a 5 mL or 10 mL syringe;
- use a small 25 gauge hypodermic needle for superficial infiltration;
- use a longer 23 gauge hypodermic needle for more extensive infiltration;
- warn the patient that the initial injection of local anaesthetic is painful;
- inject a small sub-dermal "bleb" and wait for 30-60 seconds to create a sentinel area of local anaesthesia before extending your infiltration;
- Lignocaine solution is acidic (pH 5-7 for plain and pH 3-4.5 with adrenaline) and some people suggest mixing a small amount of sodium bicarbonate solution to raise the pH (and reduce the pain) - I personally have never bothered with this;
- advise the patient (and remember yourself) that the local anaesthetic will wear off in 1-2 hours. Prescribe a moderate strength analgesic if appropriate.

Please read the disclaimer