

PAEDIATRIC ANAESTHESIA

3-10 Local Anaesthetic Toxicity V.2

Signs of severe toxicity:

- Sudden alteration in mental status, severe agitation or loss of consciousness, with or without tonic-clonic convulsions.
- Cardiovascular collapse: sinus bradycardia, conduction blocks, asystole and ventricular tachyarrhythmias may all occur.
- Local anaesthetic toxicity may occur some time after an initial injection.

<p>START</p> <ol style="list-style-type: none"> 1 STOP injecting the local anaesthetic (remember infusion pumps). 2 Call for help and inform immediate clinical team of problem. 3 Call for cardiac arrest trolley and LAST cart. 4 Give 100% oxygen and ensure adequate lung ventilation: Maintain the airway and if necessary secure it with a tracheal tube. Avoid hypercarbia – consider mild hyperventilation. 5 Confirm or establish intravenous access. 6 If circulatory arrest: <ul style="list-style-type: none"> • Start continuous CPR using standard protocols (→ 2-1) but: • Give intravenous lipid emulsion (see Box A). • Use smaller adrenaline dose ($\leq 1\mu\text{g.kg}^{-1}$ instead of 1 mg) • Avoid vasopressin. • Recovery may take >1 hour. • Consider the use of cardiopulmonary bypass if available. If no circulatory arrest: <ul style="list-style-type: none"> • Conventional therapies to treat hypotension, brady- and tachyarrhythmia. • Consider intravenous lipid emulsion (Box A). 7 Control seizures: <ul style="list-style-type: none"> • Small incremental dose of benzodiazepine is drug of choice. • Thiopental or propofol can be used, but beware negative inotropic effect. • Consider neuromuscular blockade if seizures cannot be controlled. 	<p>Box A: LIPID EMULSION REGIME</p> <p>Use 20% Intralipid® (propofol is not a suitable substitute)</p> <p>Immediately</p> <ul style="list-style-type: none"> • Give an initial IV bolus of lipid emulsion 1.5 ml.kg^{-1} over 2-3 min (~100 ml for a 70 kg adult). See drug dosing guide. • Start an IV infusion of lipid emulsion at $15 \text{ ml.kg}^{-1}.\text{h}^{-1}$ (17.5 ml.min^{-1} for a 70 kg adult) <p>At 5 and 10 minutes:</p> <ul style="list-style-type: none"> • Give a repeat bolus (same dose) if: <ul style="list-style-type: none"> o cardiovascular stability has not been restored, or o an adequate circulation deteriorates <p>At any time after 5 minutes:</p> <ul style="list-style-type: none"> • Double the rate to $30 \text{ ml.kg}^{-1}.\text{h}^{-1}$ if: <ul style="list-style-type: none"> o cardiovascular stability has not been restored, or o an adequate circulation deteriorates <p>Do NOT exceed maximum cumulative dose 12 ml.kg^{-1} (70 kg: 840 ml)</p> <p>Box B: CRITICAL CHANGES</p> <p>Cardiac arrest → Check already done 1 to 5, then → 6</p> <p>Box C: AFTER THE EVENT</p> <p>Arrange safe transfer to appropriate clinical area Exclude pancreatitis: regular clinical review, daily amylase or lipase Report case as critical incident.</p>
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