

# AAGBI Safety Guideline

## Management of Severe Local Anaesthetic Toxicity

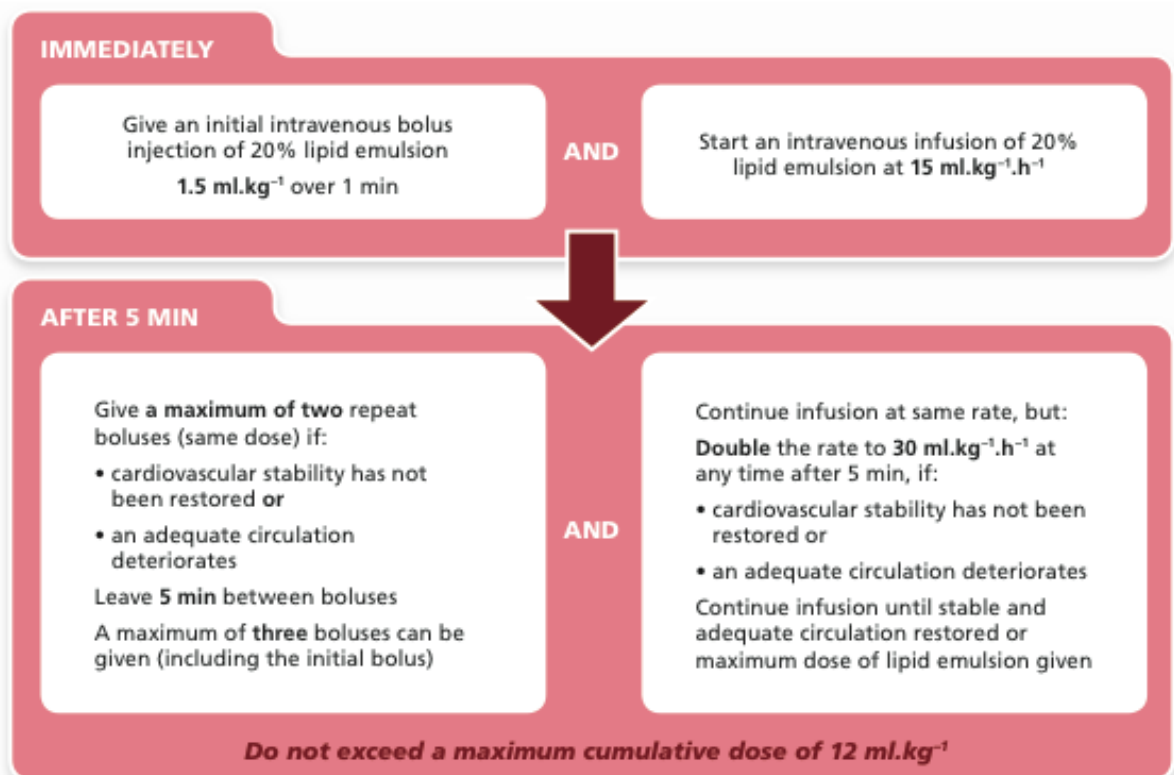


1 Recognition	<b>Signs of severe toxicity:</b> <ul style="list-style-type: none"><li>• Sudden alteration in mental status, severe agitation or loss of consciousness, with or without tonic-clonic convulsions</li><li>• Cardiovascular collapse: sinus bradycardia, conduction blocks, asystole and ventricular tachyarrhythmias may all occur</li><li>• Local anaesthetic (LA) toxicity may occur some time after an initial injection</li></ul>	
2 Immediate management	<ul style="list-style-type: none"><li>• Stop injecting the LA</li><li>• Call for help</li><li>• Maintain the airway and, if necessary, secure it with a tracheal tube</li><li>• Give 100% oxygen and ensure adequate lung ventilation (hyperventilation may help by increasing plasma pH in the presence of metabolic acidosis)</li><li>• Confirm or establish intravenous access</li><li>• Control seizures: give a benzodiazepine, thiopental or propofol in small incremental doses</li><li>• Assess cardiovascular status throughout</li><li>• Consider drawing blood for analysis, but do not delay definitive treatment to do this</li></ul>	
3 Treatment	<b>IN CIRCULATORY ARREST</b> <ul style="list-style-type: none"><li>• Start cardiopulmonary resuscitation (CPR) using standard protocols</li><li>• Manage arrhythmias using the same protocols, recognising that arrhythmias may be very refractory to treatment</li><li>• Consider the use of cardiopulmonary bypass if available</li></ul> <b>GIVE INTRAVENOUS LIPID EMULSION</b> (following the regimen overleaf) <ul style="list-style-type: none"><li>• Continue CPR throughout treatment with lipid emulsion</li><li>• Recovery from LA-induced cardiac arrest may take &gt;1 h</li><li>• Propofol is not a suitable substitute for lipid emulsion</li><li>• Lidocaine should not be used as an anti-arrhythmic therapy</li></ul>	<b>WITHOUT CIRCULATORY ARREST</b> Use conventional therapies to treat: <ul style="list-style-type: none"><li>• hypotension,</li><li>• bradycardia,</li><li>• tachyarrhythmia</li></ul> <b>CONSIDER INTRAVENOUS LIPID EMULSION</b> (following the regimen overleaf) <ul style="list-style-type: none"><li>• Propofol is not a suitable substitute for lipid emulsion</li><li>• Lidocaine should not be used as an anti-arrhythmic therapy</li></ul>
	<ul style="list-style-type: none"><li>• Arrange safe transfer to a clinical area with appropriate equipment and suitable staff until sustained recovery is achieved</li><li>• Exclude pancreatitis by regular clinical review, including daily amylase or lipase assays for two days</li><li>• Report cases as follows:<ul style="list-style-type: none"><li>in the United Kingdom to the National Patient Safety Agency (via <a href="http://www.npsa.nhs.uk">www.npsa.nhs.uk</a>)</li><li>in the Republic of Ireland to the Irish Medicines Board (via <a href="http://www.imb.ie">www.imb.ie</a>)</li></ul></li></ul> If Lipid has been given, please also report its use to the international registry at <a href="http://www.lipidregistry.org">www.lipidregistry.org</a> . Details may also be posted at <a href="http://www.lipidrescue.org">www.lipidrescue.org</a>	
4 Follow-up		

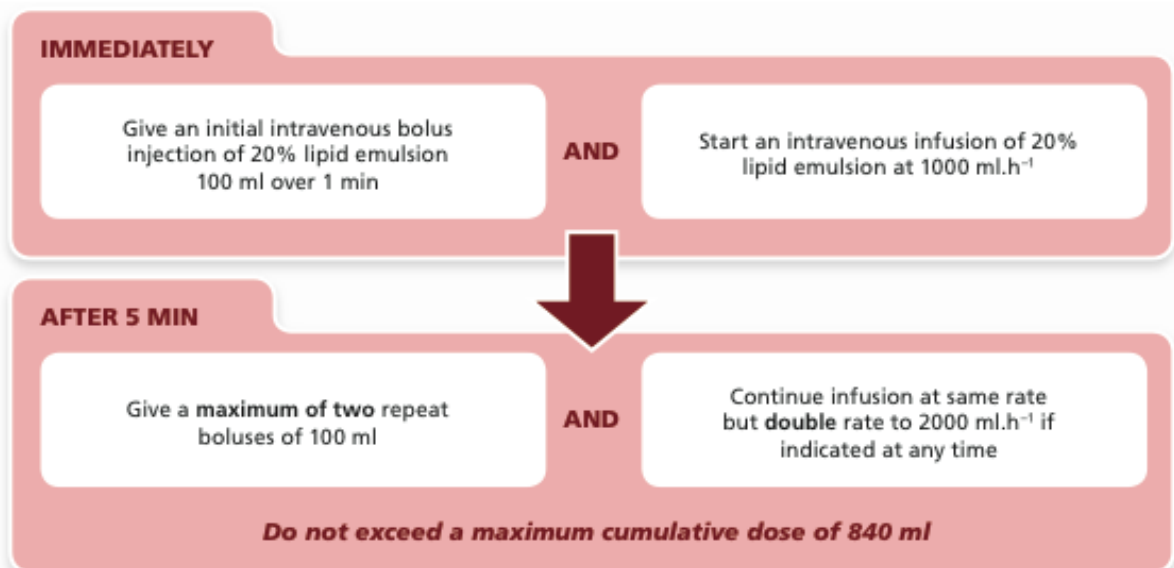
Your nearest bag of Lipid Emulsion is kept .....

This guideline is not a standard of medical care. The ultimate judgement with regard to a particular clinical procedure or treatment plan must be made by the clinician in the light of the clinical data presented and the diagnostic and treatment options available.

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**An approximate dose regimen for a 70-kg patient would be as follows:**



This AAGBI Safety Guideline was produced by a Working Party that comprised: Grant Cave, Will Harrop-Griffiths (Chair), Martyn Harvey, Tim Meek, John Picard, Tim Short and Guy Weinberg.

**This Safety Guideline is endorsed by the Australian and New Zealand College of Anaesthetists (ANZCA).**