South Australian Perinatal Practice Guidelines

Local anaesthetic toxicity

Introduction

- Local anaesthetic toxicity is a potentially fatal complication of regional anaesthesia. It can also occur in other situations with local anaesthetic injections
- This guideline has been adopted from the Association of Great Britain and Ireland Guidelines for the Management of Severe Local Anaesthetic Toxicity[1] and is endorsed by the Australian and New Zealand College of Anaesthetists

Signs of severe toxicity

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

Immediate management

- Stop injecting the local anaesthetic
- Call for help
- If not in theatre or after-hours: call code blue obstetrics (or equivalent hospital Cardiac Arrest Team)
- If in theatre during working hours: ring theatre emergency bell and if not already present page / contact senior anaesthetist and request additional anaesthetic assistance
- Maintain the airway and, if necessary, secure it with a tracheal tube
- Give 100 % oxygen and ensure adequate lung ventilation (hyperventilation may help by increasing pH in the presence of metabolic acidosis)
- Confirm or establish intravenous access
- Control seizures: give a benzodiazepine, thiopental or propofol in small incremental dose (the latter two medications should only be administered by an anaesthetist)
- Assess cardiovascular status throughout
- Consider drawing blood for analysis but do not delay definitive treatment to do this

Management in cardiac arrest

- Commence cardiopulmonary resuscitation (CPR)
- Manage arrhythmias, recognising that the arrhythmias may be very refractory to treatment
- Consider the use of cardiopulmonary bypass if available
- GIVE INTRAVENOUS INTRALIPID EMULSION (IV intralipid emulsion regimen flow chart)
- Follow regimen for intravenous lipid emulsion as above
- Continue CPR throughout treatment with lipid emulsion
- Recovery from LA-induced cardiac arrest may take >1 hour
- Propofol is not a suitable substitute for lipid emulsion
- Lidocaine should not be used as an anti-arrhythmic therapy

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Management without cardiac arrest

- Use conventional therapies to treat
  - Hypotension
  - Bradycardia
  - Tachyarrhythmia
- **CONSIDER INTRAVENOUS LIPID EMULSION** (IV intralipid emulsion regimen flow chart)

Follow-up

- Arrange safe transfer to a clinical area with appropriate equipment and suitable staff until sustained recovery is achieved
- Exclude pancreatitis by regular clinical review, including daily amylase and lipase assays for two days
- Notify via Advanced Incident Management System (AIMS)
- If Lipid has been given, also report its use to the international registry at www.lipidregistry.org. Details may also be posted at www.lipidrescue.org

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References

1. Association of Anaesthetists of Great Britain and Ireland. Guidelines for the Management of Severe Local Anaesthetic Toxicity. 2010. Available from URL: http://www.aagbi.org/publications/guidelines/docs/la_toxicity_2010.pdf
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Version control and change history

PDS reference: OCE use only

Version	Date from	Date to	Amendment
1.0	09 June 09	25 Jan 10	Original version
2.0	25 Jan 10	01 Feb 10	Review
3.0	01 Feb 10	current	

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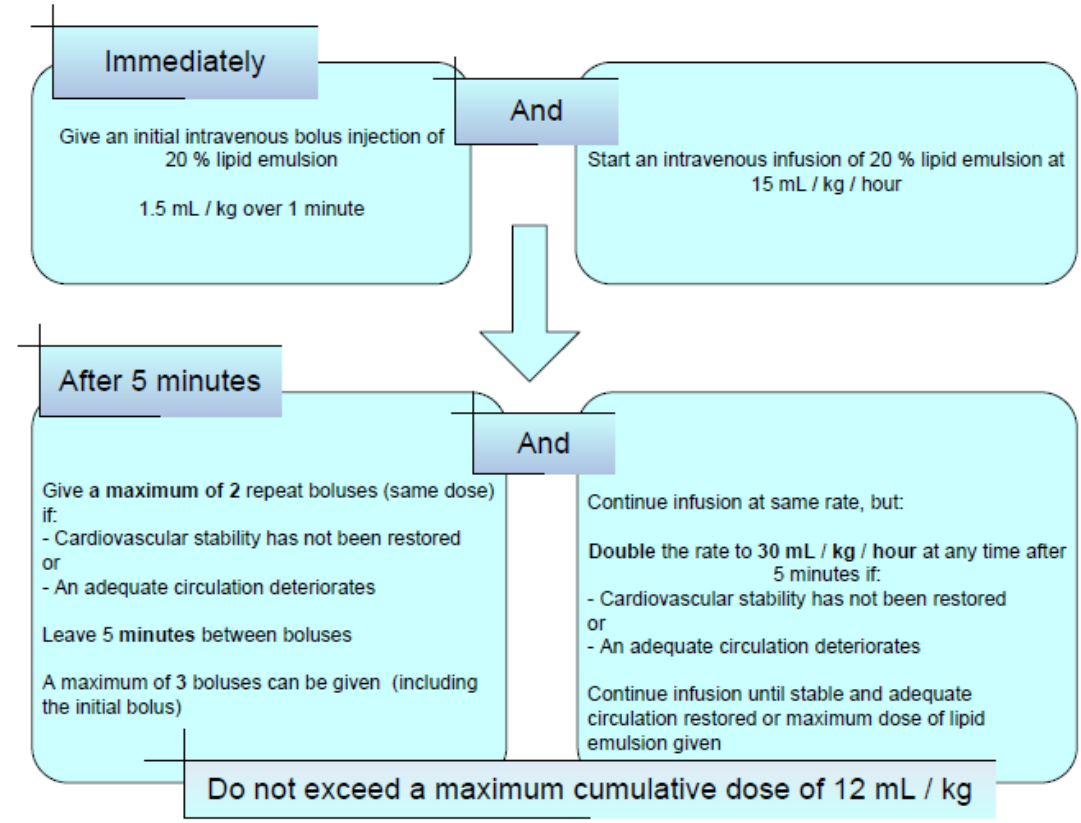
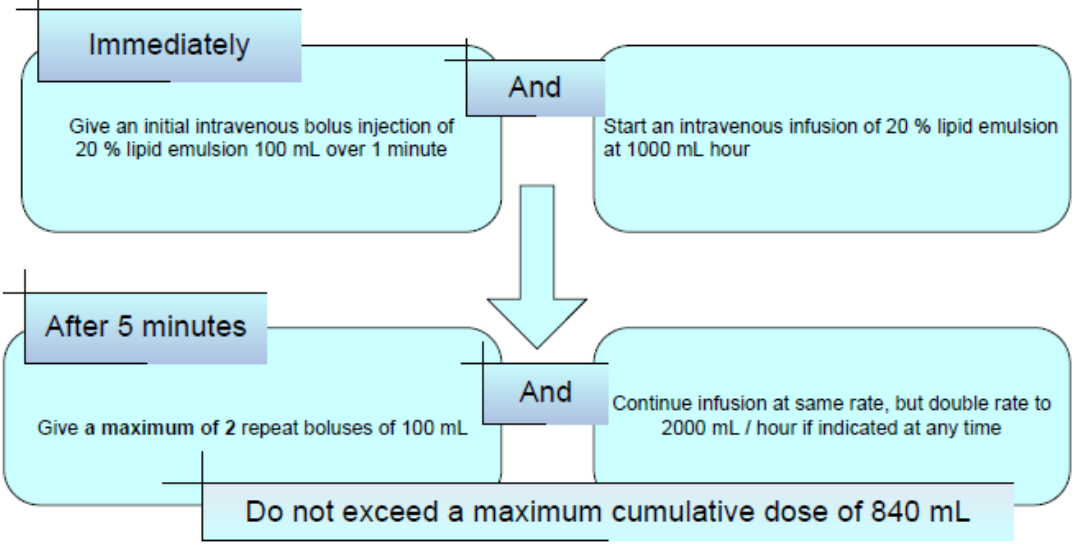
Regimen for intravenous lipid emulsion



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



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