

2-8 Local anaesthetic toxicity v.1.2

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**

START

- 1 Call for help** (obstetrician, midwife, anaesthetist +/- neonatal +/- cardiac arrest team)
 - ▶ **Ask:** "who will be the team leader?"
 - ▶ **Team leader assigns** checklist reader and scribe
 - ▶ **Ask for cardiac arrest trolley and lipid rescue pack**
- 2 Stop all local anaesthetics → check pumps and IV infusions**
- 3 Check clinical status using ABCDE approach**
 - ▶ Position woman left lateral (recovery) -or- supine with manual uterine displacement
 - ▶ If airway obstructed → perform head tilt / chin lift or jaw thrust
 - ▶ If intubation required → intubate. Avoid hypercarbia with mild hyperventilation
 - ▶ If breathing → apply oxygen at 15 L/min via reservoir mask, titrate to SpO₂ 95-98%
 - ▶ Start continuous monitoring: SpO₂, respiratory rate, 3-lead ECG and blood pressure
- 4 Check for cardiac arrest**
 - If **cardiac arrest** → Start continuous CPR using standard protocols → *modify as follows*
 - ▶ Give intravenous lipid emulsion (**Box A**)
 - ▶ Use smaller adrenaline doses (≤ 1 mcg/kg instead of 1 mg). Avoid vasopressin
 - ▶ Prolonged CPR maybe necessary (at least 1 hour)
 - ▶ Call for cardiopulmonary bypass if available on your site
 - If **no cardiac arrest**
 - ▶ If hypotension → give crystalloid fluid boluses and vasopressors
 - ▶ If arrhythmias → give standard therapy (avoid lidocaine)
 - ▶ Consider intravenous lipid emulsion (**Box A**)
- 5 Check for seizures**
 - ▶ If seizures present → give drugs to control seizure (**Box B**)

Box A: 20% intralipid® emulsion regime

Immediately: Give initial IV bolus of lipid emulsion 1.5 ml/kg over 2-3 min (~100 ml for a 70 kg adult)

Start IV infusion of lipid emulsion at 15 ml/kg/hr (17.5 ml/min for a 70 kg adult)

At 5 and 10 minutes: Give a repeat bolus (same dose) if: Cardiovascular stability has not been restored or an adequate circulation deteriorates

At any time after 5 minutes:

- ▶ Double the rate to 30 ml/kg/hr if: cardiovascular stability has not been restored or an adequate circulation deteriorates

DO NOT exceed maximum cumulative dose 12 ml/kg (70 kg: 840ml)

Box B: Drug doses for seizure activity

Benzodiazepines:

- ▶ Lorazepam IV 0.1 mg/kg (max 4mg) -or- if IV access not available
- ▶ Diazepam PR 0.5 mg/kg (max 10mg)

Repeat benzodiazepine dose after 5 minutes, if seizures persist
Clinicians experienced in their use can add propofol or thiopentone if seizures persist; beware negative inotropic effect

Consider neuromuscular blockade if seizure cannot be controlled

Contact anaesthetics / ICU if not already present

Box C: Post event actions

Arrange safe transfer to appropriate clinical area
Regularly assess for pancreatitis: clinical review, daily amylase / lipase
Report case locally and to relevant national system
Check if any administered drugs affect breast milk
Arrange postnatal obstetric anaesthetic clinic review

Box D: Critical changes

If cardiac arrest → continue lipid emulsion -and- → **Obstetric Cardiac Arrest 1-1**