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 SpO_2 95-98%
   - Start continuous monitoring: SpO_2, 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**