*v.1.2 Obstetric Anaesthetists’ Association 2024. Issued under Creative Commons license CC BY-NC-SA 4.0. See* [*www.oaa-anaes.ac.uk/qrh*](https://urldefense.com/v3/__http%3A/www.oaa-anaes.ac.uk/qrh__%3B%21%21OL9ShTEEVu4%21vAoxgZaQzMqYG--7f2E-xVvybwt9JKPPC9GvZ1T0oiST3_f7pcrwyYOU1ZKnHOx8diU8QYFG-hMJvoGlz4ttlZf2l1qamA%24)

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.

❶ **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**

❷ **Stop all local anaesthetics** ➔ **check pumps and IV infusions**

❸ **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

❹ **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**)

❺ **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**