

# LOCAL ANESTHETIC SYSTEMIC TOXICITY (LAST)

print this checklist at [nwhed.org/block-checklist](http://nwhed.org/block-checklist)

## INCIDENCE

Very rare (about 1 in 1000 major events) which you must be aware of if you are performing nerve blocks. In the past the most common cause was due to intravascular injection of anesthetic. But safety measures including use of ultrasound have decreased the incidence of these events and we now have a treatment - Intralipid.

## SYMPTOMS

Initial symptoms: when seen shortly after injection CNS excitation symptoms of LAST include: tinnitus, perioral numbness, metallic taste, agitation, visual changes, muscle twitching, and ultimately, seizure.

CNS depression: follow excitation: somnolence coma and respiratory depression.

Cardiovascular: can occur in isolation, but usually occur with CNS symptoms above.

- Bradycardia or Tachycardia, Hypotension or Hypertension
- Dysrhythmia, shock or Cardiac arrest

## TREATMENT

- INTRALIPID (20%)
  - Immediately give a 1.5 mL/kg bolus followed by a 0.25 mL/kg/min infusion.
  - Repeat bolus for persistent cardiovascular collapse
  - Double infusion rate to 0.5mL/kg/min if blood pressure remains low.
  - Continue infusion for 10 minutes after attaining circulatory stability
  - Maximum dose 10mL/kg in the first 30 minutes.
  - Intralipid is a lipid emulsion which has multiple salutary effects including shuttling the anesthetic away from the brain and heart to organs that store and detoxify the drug.
- Manage Airway
  - 100% oxygen by non-rebreathing, consider intubation
- Manage Circulation
  - Hypotension: IV fluid bolus & vasopressors.
  - Seizure: use midazolam 1-2 mg IV
  - Dysrhythmia/Arrest: ACLS algorithm
  - Favor Amiodarone for arrhythmias; avoid beta blockers, calcium channel blockers and lidocaine.
  - Decrease dose of epinephrine to <1 mcg/kg

## POST-PROCEDURE NURSING PROTOCOL

- Vital signs every 10 minutes x 30 minutes
- Assess neurovascular status of limb including: color, temp, cap refill, pain and sensation Q15 mins for at least 30 mins
- Ensure limb is maintained in a neutral position to prevent injury
- Fall precautions