



Clinical Pharmacology & Toxicology Pearl of the Week

~ Intravenous Lipid Emulsion (ILE) ~

Background

- ✓ ILE is a treatment for severe toxicity from local anesthetics. In addition, it has been used in life-threatening toxicity from
 - anticonvulsants (lamotrigine)
 - antidysrhythmics (flecainide)
 - antihistamines (diphenhydramine)
 - beta blockers
 - bupropion
 - calcium channel blockers
 - cocaine
 - cyclic antidepressants

Indications

- ✓ Cardiac arrest or hemodynamic instability resulting from hypotension, widened QRS interval or refractory seizures secondary to either local anesthetics or lipophilic drugs which are unresponsive to conventional resuscitation and advanced cardiac life support therapies.

Dosing:

- ✓ Continue cardiopulmonary resuscitation and standard therapies.
- ✓ ILE 1.5 ml/kg bolus via rapid IV push (over one minute).
- ✓ If 1st bolus ineffective, may repeat 1.5 ml/kg bolus every 3-5 minutes.
- ✓ There is insufficient evidence to recommend an ILE infusion. Ongoing boluses are sufficient.
- ✓ While definitive evidence on maximum dosing in poisonings is unavailable, a maximum total dose of 12 ml/kg of ILE is recommended.

Potential Hazards with Parenteral Administration:

- ✓ Local
 - thrombophlebitis at infusion site
- ✓ Other
 - adverse reactions - cholestasis, pancreatitis, acute lung injury, hepatomegaly, splenomegaly, thrombocytopenia, leukopenia, transient elevation of liver enzymes
 - fat emboli: priapism, stroke, limb ischemia, other end-organ failure
 - lipemic serum may transiently interfere with measurement of labs (electrolytes, blood gases) for 6-12 hours following ILE use
 - do not administer concurrently with extracorporeal assist devices (will clog the filter)

Relative Contraindications:

- ✓ Severe liver disease
- ✓ Pulmonary disease
- ✓ Severe renal disease
- ✓ Acute myocardial infarction
- ✓ Severe egg or soybean allergies
- ✓ Young age (neonates/infant)



The Calgary Clinical Pharmacology physician consultation service is available Mon-Fri, 9am-5pm. The on-call physician is listed in ROCA. Click [HERE](#) for clinical issues the CP service can assist with.



The Poison and Drug Information Service ([PADIS](#)) is available 24/7 for questions related to poisonings. Please call 1-800-332-1414, and select option 1.