

Intralipid® for Overdoses

Intralipid® (lipid emulsion) is intravenous fat emulsion used to supplement parenteral nutrition, but has been studied as a possible salvaging therapy for certain overdoses. Intralipid® is composed of triglycerides, phospholipids and choline. Intralipid® forms chylomicron-like droplets in the serum that may act as a “sink” for lipid soluble toxins. The toxins distribute into the chylomicrons, away from binding sites and target organs of toxicity. Intralipid® may also modulate cardiac energy and improve calcium channel functioning, but these effects are felt to be minor.

Intralipid® use has been studied in animal models of bupivacaine, verapamil, clomipramine and propranolol cardiotoxicity. Human case reports of successful use of Intralipid® for bupivacaine, ropivacaine and bupropion-induced cardiac arrest are published. It is important to remember that current human data are limited on this experience. At this point, Intralipid® is only indicated if the patient suffers from a cardiac arrest from an exposure to the following:

INDICATIONS FOR INTRALIPID® - CARDIAC ARREST FROM OVERDOSE OF:	
Highly lipid-soluble drugs	Moderately lipid-soluble drugs
Bupivacaine (Marcaine®) Ropivacaine (Naropin®) Verapamil (Calan®, Isoptin®) Propranolol (Inderal®) Tricyclic antidepressants	Bupropion (Wellbutrin®) Organophosphate insecticides

Intralipid® 20% is given as an intravenous bolus in a dose of 1.5 mL/kg over 1 min. The bolus may be repeated one time if the patient remains in cardiac arrest. This is followed by 15 mL/kg/hr over 30-60 minutes. Intralipid® can also be administered peripherally. Potential complications with Intralipid® are fat embolization, interactions with other medications (such as vasopressors) leading to decreased efficacy, and allergic reactions (egg-derived).

DID YOU KNOW THAT... there is a LipidRescue™ website for health professionals?

LipidRescue™ (<http://lipidrescue.squarespace.com>) was developed to provide information on lipid emulsion therapy. This website provides an overview on local anesthetic toxicity, dosing recommendations for the use of Intralipid®, and references on lipid rescue studies and case reports. In addition, clinical experiences with using lipid rescue therapy for cardiac toxicity due to any drug or toxin are posted here.



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