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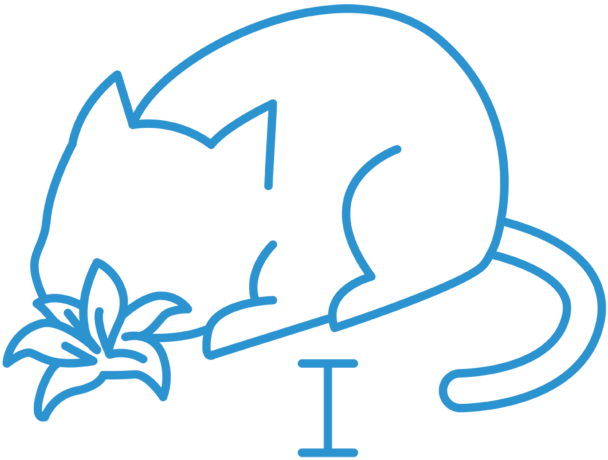

Toxicology Part 1

micro drip study guide

version 1

Instructor: Dr. Adam Lancaster, DVM, DACVECC

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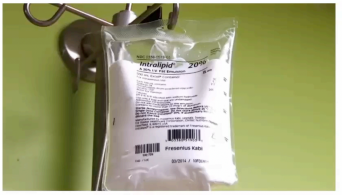
Advanced Therapies

- IV lipid therapy
  - Fat soluble toxins
  - Higher Log P = more lipid soluble



Drug	Log *P* value
Amlodipine	1.90
Baclofen	1.30
Bupivacaine	3.64
Bupropion	3.47
Carbamazepine	2.30
Carprofen	4.13
Chlorpheniramine	3.17
Chlorpromazine	5.35
Clomipramine	3.30
Cyclosporine	3.00
Dexamethasone	1.83
Diazepam	2.82
Digoxin	1.26
Diltiazem	2.80
Indomethacin	4.27
Itraconazole	5.90
Ivermectin	3.50
Ketoprofen	3.12
Lidocaine	2.26
Loratadine	5.20
Metoprolol	1.88
Moxidectin	4.10
Naproxen	3.18
Nicotine	1.17
Nifedipine	3.22
Nifedipine	2.50
Promethazine	2.85
Trazodone	1.80
Verapamil	3.83
Vinblastine	3.69

Some of these advanced therapies could be things like IV lipid therapy. This is useful for, basically, fat-soluble toxins. This chart here basically looks at a bunch of different toxins and it shows their log P-value. The higher the number under that log P value, it just means it's more lipid-soluble, essentially. So we can just pull out a couple of these here if anybody can read them here, bupivacaine has a fairly high log P-value of 3.64, carprofen 4.13. Let's see, what else we got on? Ivermectin 3.5, et cetera. So these are all drugs where IV lipid therapy might actually be useful in specific instances. If you have a drug that is not fat-soluble it's just water-soluble, then this is not going to actually do much.

The way that it works there's a variety of different theories. The most accepted theory is the lipid sink theory, which, basically, sequesters the toxin in the lipid component of the blood. So what you're doing with the IV lipid is you're basically artificially increasing the fatty component of the blood. It's going to for lack of a better term, I guess, sort of pull the toxin into the lipid that's circulating in the blood, and then that's going to basically get metabolized and then excreted out the body. So the way that it is typically administered is, initially with a bolus and then as a CRI after that. There have been a number of reported uses in vet med, so these are all various case reports that have been published for different kinds of NSAIDs like naproxen, ibuprofen, baclofen, and different kind of ivermectin, moxidectin, lidocaine, diltiazem, marijuana, even and those sorts of things. So again, this has been reported it does seem to be effective. When you would want to do this would be, again, when you have a severely affected pet, where the traditional emesis, activated charcoal, and supportive care are insufficient.