

**Laurentian University Animal Care Facility**

**Anesthesia Policies**

**MICE**

<b>ANESTHESIA</b>	<b>DOSE (mg/kg) &amp; ROUTE</b>	<b>COMMENTS</b>
Isoflurane (Forane®) Halothane (Fluothane®) Enflurane (Ethrane®)	To effect	Inhalation; precision vaporizer required; adequate ventilation or scavenging system essential
Pentobarbital	35 IV 40-70 IP	Variable response; administer to effect  Up to 20 min. sleep time
Thiopental	50 IP 25 IV	
Tribromoethanol (Avertin)	125-250 IP	Store at 4°C; dark conditions
Ketamine + Xylazine	100 + 10 IP	
Ketamine + Medetomidine	75 + 1.0 IP, SC	
Chloral hydrate	400 IP	Use a 5% solution
Hypothermia (neonate only)	3-4 min	Submerge pup (to cervical area) in water + ice; 10 min. anesthesia
<b>ANALGESIA</b>		
Morphine	1-10 SC	3 hr
Oxymorphone	0.05 SC	3 hr

Meperidine	10-20 SC	3 hr
Imipramine	2-3 SC	12 hr
Butorphanol (Torbutrol® 0.5mg/ml)	0.5-5 SC	6-12 hr
Buprenorphine (Buprenex®)	0.05-0.1 SC	6-12 hr; do not use with tribromoethanol
Pentazocine	10 SC	4 hr
<b>SEDATION</b>		
Medetomidine	30-100µg/kg SC	Reverse w/atipamezole; 1µg/kg SC, IP, or IV
Ketamine	44 SC	
Chlorpromazine	5-10 SC	

#### NOTES

Small muscle mass: Mice have a relatively small total muscle mass and are prone to develop muscular atrophy or nerve damage following IM injections. This route should therefore be avoided in mice. If drugs must be administered via the IM route, minimal injection volumes (0.05 ml) should be used. Use 27-30 gauge needle.

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## RATS

ANESTHESIA	DOSE (mg/kg) & ROUTE	COMMENTS
Isoflurane (Forane®) Halothane (Fluothane®) Enflurane (Ethrane®)	To effect	Inhalation; precision vaporizer required; adequate ventilation or scavenging system essential
Pentobarbital	30-40 IV 40-60 IP	40-60 min. duration
Thiopental	20-40 IV 40 IP	5-10 min. duration
Ketamine + Xylazine	60-90 + 6-9 IP	30-45 min duration; supplement with 1/3 of ketamine dose only
Ketamine + Medetomidine	75 + 0.5 IP, SC	
Urethane	1000-1500 IP	Prolonged (12 hr +) anesthesia; terminal procedure only; carcinogenic + mutagenic
Chloral Hydrate	300-400 IP	Use 5% solution; anesthetic dose approaches LD <sub>50</sub>

Inactin	80-100 IP	
Tiletamine-Zolazepam (Telazol®)	20-40 IP	Concentration of reconstituted mixture is 100 mg/ml
Methohexital	40 IP	1% solution; 20 min. duration
Equithesin	3 ml/kg	40 min. duration; fresh mixture req.
<b>ANALGESIA</b>		
Morphine	10 SC	3 hr
Meperidine	20 SC	3 hr
Imipramine	10 SC	12 hr
Butorphanol (Torbutrol® 0.5mg/ml)	10-12 SC	3 hr
Buprenorphine (Buprenex®)	0.02-0.05 SC	6-12 hr
<b>Carprofen</b>	5 SC	12-24 hr
<b>SEDATION</b>		
Medetomidine	30-100 µg/kg SC	Reverse w/atipamezole; 1 µg/kg SC, IP, or IV
Ketamine	50-100 IM, IP	

## NOTES

Small muscle mass: Rats have a relatively small total muscle mass and are prone to develop muscular atrophy or nerve damage following IM injections. This route should be minimized in rats. If drugs must be administered via the IM route, minimal injection volumes (0.3 ml) should be used. Use a 25-gauge needle (or smaller).

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