

DOG FORMULARY

Note that all of these doses are approximations and must be titrated to the animal's strain, age, sex and individual responses. Significant departures from these doses should be discussed with a veterinarian. Doses will also vary depending on what other drugs are being administered concurrently.

All doses are listed as milligrams per kilogram (mg/kg) unless otherwise noted.

DRUG NAME	DOSE (mg/kg) & ROUTE	FREQUENCY	NOTES
Inhalation anesthetics			
Recommended: Isoflurane or Halothane or Sevoflurane	1-3% inhalant to effect (up to 5% for induction). Up to 8% Sevoflurane	Whenever general anesthesia is required	Concurrent preemptive analgesia is recommended for survival surgery Must use precision vaporizer.
Ketamine combinations			
Ketamine alone	Not recommended for dogs		
Recommended: Ketamine-Midazolam	5-10 + 0.1-0.2 IV, IM or SC (in same syringe)	As needed	May not produce surgical-plane anesthesia for major procedures, but may be useful for restraint. Note that IM Ketamine combinations often sting upon injection.
Ketamine-Diazepam	6 - 11 + 0.05 – 0.2 IV (in same syringe)	As needed	May not produce surgical-plane anesthesia for major procedures.
Ketamine-Medetomidine	5 - 10 + 0.6 – 1.0 IM or SC (in same syringe)	As needed	May not produce surgical-plane anesthesia for major procedures. If redosing, use ketamine alone. May be partially reversed with Atipamezole. Note that IM Ketamine combinations often sting upon injection.
Reversal agents			
Atipamezole	~ 1.0 subcutaneous or IV	Any time medetomidine or xylazine has been used	More specific for medetomidine than for xylazine (as a general rule, Atipamezole is dosed at the same <i>volume</i> as Medetomidine, though they are manufactured at different concentrations).
Other injectable anesthetics and tranquilizers			
Sodium pentobarbital (Nembutal)	20 - 60 IV single or intermittent bolus, or 2-20 mg/kg/hr IV continuous infusion	Recommended for terminal/acute procedures only, with booster doses as needed. Occasionally used on survival basis when cortical evoked responses are being measured.	Consider supplemental analgesia (opioid or NSAID) for invasive procedures
Sodium thiopental (Pentothal)	13 – 26 IV	As induction agent, prior to general anesthesia with pentobarbital or inhalant	Consider supplemental analgesia (opioid or NSAID) for invasive procedures
Recommended: Propofol	16 - 22 IV	As induction agent, prior to general anesthesia with	Respiratory depression upon induction is possible.

		pentobarbital or inhalant	
Fentanyl-Droperidol	~ 2 µg + ~0.1 mg/kg SC	Any time sedation is required or as pre-surgical-anesthetic	Deep sedation with pain relief; not surgical plane of anesthesia
Acepromazine	0.03 – 0.2 IM or SC. Maximum of 3 mg, even for larger animals.	May be used whenever ketamine combinations are used	Usually only used in conjunction with anesthetics such as ketamine. Acepromazine is a tranquilizer and does not confer analgesia.
Opioid analgesia			
Recommended: Buprenorphine	0.01 - 0.02 SC, IV, IM	Used pre-operatively for preemptive analgesia and post-operatively every 8-12 hour	For major procedures, may require more frequent dosing than 12 hour intervals. Consider multi-modal analgesia with a NSAID
Recommended: Butorphanol	0.5 – 1.0 PO	Used pre-operatively for preemptive analgesia and post-operatively every 4-6 hour	Consider multi-modal analgesia with a NSAID
Recommended: Oxymorphone	0.01-0.2 SC, IM	Used pre-operatively for preemptive analgesia and post-operatively every 3-4 hour, or for 'rescue analgesia' when buprenorphine is not potent enough	More potent but shorter duration than buprenorphine or butorphanol.
Fentanyl patch	50 µg/hr by dermal patch	Place patch 24 hours in advance of surgery and maintain for up to 3 days	When severe post-surgical pain is anticipated. Discuss application process with veterinary staff.
Non-steroidal anti-inflammatory analgesia (NSAID) -- Note that prolonged use may cause renal, gastrointestinal, or other problems			
Recommended: Carprofen	2 - 4 SC or PO	Used pre-operatively for preemptive analgesia and post-operatively every 12- 24 hours for up to 4 days.	Depending on the procedure, may be used as sole analgesic, or as multi-modal analgesia with buprenorphine.
Aspirin (Buffered)	10-25 mg/kg PO	Every 8-12 hours	
Ketoprofen	~ 1.0 – 2.0 SC, PO 2 mg/kg once as loading dose , then 1 mg/kg.	Used pre-operatively for preemptive analgesia and post-operatively every 24 hour for up to 4 days	Depending on the procedure, may be used as sole analgesic, or as multi-modal analgesia with buprenorphine.
Flunixin	1 mg/kg SC	Every 24 hours	Consult with vet services regarding repeated administration
Local anesthetic/analgesics (lidocaine and bupivacaine may be combined in one syringe for rapid onset and long duration analgesia)			
Lidocaine hydrochloride	May dilute to 0.5 - 1% (=10mg/ml). May be mixed in same syringe with bupivacaine. SC or intra-incisional	Use locally before making surgical incision	Faster onset than bupivacaine but short (<1 hour) duration of action
Bupivacaine	May dilute to 0.25 – 0.5%, May be mixed in same syringe with lidocaine. SC or intra-incisional	Use locally before making surgical incision	Slower onset than lidocaine but longer (~ 4-8 hour) duration of action