

## BIRD 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. Dilution of injected drugs allows more precise dosing, but may shorten the shelf-life of the compound (UCSF standard: diluted drugs should be labeled, then discarded after 1 month)

DRUG NAME	DOSE (mg/kg) & ROUTE	FREQUENCY	NOTES
<b>Inhalation anesthetics</b>			
<b>Recommended:</b> Isoflurane or Halothane or Sevoflurane	1-3% inhalant to effect (up to 5% for induction). Up to 8% for Sevoflurane	Whenever general anesthesia is required	Survival surgery requires concurrent preemptive analgesia. Must use precision vaporizer
Methoxyflurane	To effect (cannot determine percentage)	Whenever general anesthesia is required	Survival surgery requires concurrent preemptive analgesia. Not currently available in USA
Carbon dioxide	To effect (cannot determine percentage)	Once, at time of euthanasia	May be used for fast terminal procedure followed by euthanasia
<b>Ketamine combinations</b>			
Ketamine alone	100-200 IP	As needed	Deep sedation, but not surgical anesthesia. Not often used alone.
Ketamine-Medetomidine	50-75 + 0.5 -1 IP (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
<b>Recommended:</b> Ketamine-Xylazine	80-100 + 5-10 IP (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 or Yohimbine
Ketamine-Xylazine-Acepromazine	30-40 + ~6 + ~1 (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 or Yohimbine
Ketamine-Midazolam	80-100 + 4-5 IP (in same syringe)	As needed	May not produce surgical-plane anesthesia for major procedures, but may be useful for restraint.
<b>Reversal agents</b>			
Atipamezole	0.1 - 1.0 subcutaneous or IP	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).
Yohimbine	1.0 – 2.0 SC or IP	For reversal of xylazine effects	
<b>Other injectable anesthetics</b>			
Sodium pentobarbital (Nembutal)	40 – 50 IP	Recommended for terminal/acute procedures only, with	Consider supplemental analgesia (opioid or NSAID) for invasive procedures

		booster doses as needed	
Propofol	12-26 IV	As needed	Only useful IV, so therefore limited usefulness in birds. Respiratory depression upon induction is possible.
<b>Opioid analgesia</b>			
Butorphanol	0.5-2 mg/kg IM	Every 4-6 hours	
<b>Non-steroidal anti-inflammatory analgesia (NSAID) Note that prolonged use may cause renal, gastrointestinal, or other problems</b>			
Carprofen	4 mg/kg PO, IM	Every 12 hours	
Ibuprofen	5-10 mg/kg PO	Every 12 hours	
Ketoprofen	1-4 mg/kg IM	Every 8-24 hours	
Aspirin	5 mg/kg PO	Every 8 hours	
Meloxicam	0.1 mg/kg IM or PO	Every 24 hours	
Flunixin	4 mg/kg IM Usually 4 mg/kg is the psittacine/passerine dose	Every 12-24 hours	Renal disease and death occur occasionally in psittacines after repeated doses of flunixin. Use the lowest possible dose for the shortest duration of time. Recommend supplemental hydration. More for inflammatory conditions, not surgical.
<b>Local anesthetic/analgesics (lidocaine and bupivacaine may be combined in one syringe for rapid onset and long duration analgesia)</b>			
Bupivacaine	1-2 mg/kg maximum dose, mixed with lidocaine at 1-4 mg/kg lidocaine	Use locally before making surgical incision	
Lidocaine	1-4 mg/kg maximum dose mixed with bupivacaine at 1-2 mg/kg bupivacaine	Use locally before making surgical incision	