

# Bird Formulary

Dilution of injected drugs allows more precise dosing, but may shorten the shelf life of the compound. Aseptic technique must be observed as mixtures (cocktails) are prepared; this includes using sterile vials, syringes and needles, wiping the cover of each vial or bottle with 70% ethanol or isopropanol, diluting with Sterile Water for Injection or sterile PBS (phosphate buffered saline) and not reusing needles used for dilution or administration. As with undiluted drugs, only new, sterile needles must be used for withdrawing aliquots from the cocktail and for administering injections. Diluted drugs must be labeled and dated, then discarded after 6 months, or at the expiration date of any of the components, whichever comes first.

These drugs and doses listed below can vary with the order and/or species of bird. Information listed is based upon current use in passerines.

<b>Inhalation anesthetics</b> – Best administered using a precision vaporizer. Without a vaporizer the dose of isoflurane is very high, and cannot be titrated. Survival surgery requires concurrent pre-emptive analgesia.			
<b>DRUG NAME</b>	<b>DOSE &amp; ROUTE</b>	<b>FREQUENCY and EXPECTED DURATION</b>	<b>NOTES</b>
Isoflurane or Sevoflurane	1-3% inhalant to effect (up to 5% for induction).	Whenever general anesthesia is required	Induction is commonly performed in an induction box/chamber. Survival surgery requires concurrent pre-emptive analgesia.
Carbon dioxide	Inhalant to effect (cannot determine percentage)	Once, at time of euthanasia	May be used for fast terminal procedure.
<b>Injectable anesthetics-</b>			
<b>Ketamine combinations –</b>			
<b>DRUG NAME</b>	<b>DOSE &amp; ROUTE</b>	<b>FREQUENCY and EXPECTED DURATION</b>	<b>NOTES</b>

Ketamine-Xylazine	(K) 5-30mg/kg + (X) 1.0-4.0mg/kg Dose may go upto: (K) 50 mg/kg + (X) 30 mg/kg  All IM in same syringe.	First injection will last 20-30 minutes with supplemental boosters of ketamine only, as needed.  Caution should be exercised when using high doses of K&X, especially as higher dose of Xylazine can cause hypotension and bradycardia.	Provides surgical level anesthesia. If re-dosing, administer ketamine only at ¼ to ½ the original dose.
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#### Reversal of alpha-2 agents-

DRUG NAME	DOSE & ROUTE	FREQUENCY and EXPECTED DURATION	NOTES
Yohimbine	0.2 mg/kg IV or 1.25-2.25 mg/kg IM	Once. Repeat if needed.	For reversal of xylazine effects. Side effects of yohimbine include CNS excitement, muscle tremors, salivation, and increased respiratory rate.

#### Non-steroidal anti-inflammatory drugs (NSAID) analgesia-

DRUG NAME	DOSE & ROUTE	FREQUENCY and EXPECTED DURATION	NOTES
Meloxicam (Metacam®)	0.1-2 mg/kg IM	Used pre-operatively for pre-emptive analgesia and post-operatively every 24 hours	

#### Local anesthetic/analgesics-

DRUG NAME	DOSE & ROUTE	FREQUENCY and EXPECTED DURATION	NOTES
Lidocaine hydrochloride	Do not exceed 3 mg/kg total	Use locally before making surgical	Allow 3-5 minutes to take effect.

	dose, SC or intra-incisional	incision, duration of analgesia is 90-200 minutes	
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