
1. PURPOSE

This Standard Operating Procedure (SOP) describes methods for anesthetizing birds, with a specific emphasis on laboratory finches.

2. RESPONSIBILITY

Principal investigators (PIs) and their research staff, veterinary care staff.

3. Introduction

- 3.1. The fasting period for birds depends on the size of birds. For small birds such as finches, a fasting period less than 2 hours is adequate.
- 3.2. Birds can be anesthetized with either inhalant gas or injectable drugs. The use of inhalant gases is the preferred method of anesthesia whenever possible.
- 3.3. Heat loss is rapid in anesthetized birds. Keep animals warm by covering them (e.g. gauze pad or towel) and/or providing a heat source (e.g. heated pad, jacket or heat lamp) until the animal has recovered from anesthesia.
- 3.4. Never leave an anesthetized animal unattended.

4. MATERIALS

- 4.1. Material or equipment to provide or conserve body heat (e.g. gauze pads, towel, heating pad, jacket or heat lamp). If using heat lamp, use 60W bulbs or less.
- 4.2. Ophthalmic ointment (natural tears)
- 4.3. Gas anesthesia machine (calibrated within the last 12 months) with adequate gas scavenging system or filter
- 4.4. Induction chamber constructed of a see-through material (glass, polycarbonate, etc.)
- 4.5. Tight-fitting mask
- 4.6. Isoflurane
- 4.7. Ketamine (100mg/mL) *Controlled drug
- 4.8. Xylazine (20mg/mL)
- 4.9. Equithesin (10mg/mL)
- 4.10. Midazolam (5mg/mL)
- 4.11. Atropine (0.5mg/mL)
- 4.12. Sterile isotonic saline (0.9% saline) or sterile water for injection

5. PROCEDURES FOR ADULTS

- 5.1. As a pre-anesthetic, atropine 0.01mg/kg can be administered to prevent secretions.
- 5.2. Isoflurane anesthesia:
 - 5.2.1. Induction:
 - 5.2.1.1. Place the mask, connected to the Bain circuit, over the beak of the animal
 - 5.2.1.2. Adjust the oxygen flowmeter to 0.5 to 2.5 L/min.
 - 5.2.1.3. Adjust the isoflurane vaporizer to 3% to 5% until loss of consciousness

5.2.2. Maintenance:

5.2.2.4. Adjust the flowmeter to 0.5 to 2.5 L/min.

5.2.2.5. Adjust the isoflurane vaporizer to 0.5 to 2 % (dose to effect).

5.2.2.6. Apply ophthalmic ointment (natural tears) to both eyes to prevent dryness and damage to the cornea. Reapply as needed.

5.2.3. Recovery:

5.2.3.1. Turn off the isoflurane vaporizer but keep the animal on oxygen.

5.2.3.1. Transfer animal to their cage once it begins to move and allow to recover fully (sternal position).

5.3. Injectable anesthesia:

5.3.1. Injectable anesthetic dose can vary with the sex, the age, the strain, and the body condition of the animal.

5.3.2. Can be used alone for short, non-invasive procedures or prior to use of isoflurane anesthesia for smooth and rapid induction.

5.3.3. Contact your veterinarian for advice on the appropriate dose prior to use.

Drug	Dose	Route	Duration of Effect	Notes
Ketamine	10 - 40mg/kg	IM	15 to 30 minutes	Can be mixed in the same syringe.
Ketamine – Midazolam	10 - 40mg/kg	IM	30 minutes to 1 hour	Can be mixed in the same syringe.
Ketamine – Xylazine	25 - 40mg/kg – 5 – 50mg/kg	IM	1 to 2 hours	Can be mixed in the same syringe. After 30 minutes, a half dose may be administered as needed.

5.3.4. After injection, place animal in a dark and quiet holding chamber with a heat source.

5.3.5. Apply ophthalmic ointment (natural tears) to both eyes to prevent dryness and damage to the cornea. Reapply as needed.

SOP REVISION HISTORY

DATE	PREVIOUS VERSION	NEW VERSION

Investigator:	Protocol:
Procedure:	Performed by:

Instructions: complete this log for rodent procedures requiring anesthesia, analgesia or post-procedure care (ex. surgeries, experimental infection). Keep the log in the housing room while active and in your files for 3 years for future review by the Quality Assistant and/or the FACC.

ANALGESIA

- carprofen: finch: 20mg/kg, SC, every 24 hrs
- butorphanol: finch: 2 - 4 mg/kg IM every 4 - 6 hrs
- lidocaine/bupivacaine (local analgesic)
- other: _____

ANESTHESIA

- isoflurane 0.5-2%
- ketamine/xylazine*:
finch: 25 - 40 mg/kg (K)-5 - 50 mg/kg (X) IM
- other: _____

OTHER AGENTS ADMINISTERED

- _____
- _____
- _____

Animal ID	Species	Date	Anesthesia		Analgesia		Other		Heat Source Provided		Recovery time	Comments/observations	Initials
			dose	time	dose	time	dose	time	Procedure	recovery			
1									<input type="checkbox"/>	<input type="checkbox"/>			
2									<input type="checkbox"/>	<input type="checkbox"/>			
3									<input type="checkbox"/>	<input type="checkbox"/>			
4									<input type="checkbox"/>	<input type="checkbox"/>			
5									<input type="checkbox"/>	<input type="checkbox"/>			
6									<input type="checkbox"/>	<input type="checkbox"/>			
7									<input type="checkbox"/>	<input type="checkbox"/>			
8									<input type="checkbox"/>	<input type="checkbox"/>			
9									<input type="checkbox"/>	<input type="checkbox"/>			
10									<input type="checkbox"/>	<input type="checkbox"/>			
11									<input type="checkbox"/>	<input type="checkbox"/>			
12									<input type="checkbox"/>	<input type="checkbox"/>			
13									<input type="checkbox"/>	<input type="checkbox"/>			
14									<input type="checkbox"/>	<input type="checkbox"/>			

Comments/footnotes:

*Dose can vary with the sex, the age, the strain, and the body condition of the animal.

ANALGESIA

meloxicam: finch: 0.25mg/kg, PO or SC, every 24 hrs

butorphanol: finch: 2 - 4 mg/kg IM every 4 - 6 hrs

OTHER _____

Initial the appropriate boxes when completed

	Animal ID	Date	Analgesia			SC fluids			Supplemental Feeding			Time			Remove Sutures (Day 7-10)
			Day 1	Day 2	Day 3	Day 1	Day 2	Day 3	Day 1	Day 2	Day 3	Day 1	Day 2	Day 3	
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
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14															
Comments/footnotes:															