RODENT OVARIECTOMY

1. PURPOSE

The intent of this Standard Operating Procedure (SOP) is to describe procedures for ovariectomy surgery in rodents.

2. RESPONSIBILITY

Principal investigators (PI) and their staff, veterinary care staff or any individual performing surgery on rodents, or assisting in those procedures.

3. MATERIALS

3.1.   Analgesics

3.2.   Anesthetic: isoflurane

3.3.   Sterile ophthalmic ointment

3.4.   Electric clipper or depilatory cream

3.5.   Gauze (sterile and non-sterile)

3.6.   70% Alcohol

3.7.   Chlorhexidine 2% solution or povidone-iodine solution

3.8.   Sterile isotonic saline solution

3.9.   Sterile cotton swabs

3.10.   Sterile surgical instruments

3.11.   Dry bead sterilizer

3.12.   Absorbable suture

3.13.   7mm or 9mm wound clips (autoclips)

3.14.   Heating disc/pad, red heat lamp or incubator

4. PROCEDURES

4.1.   Refer to Rodent Surgery SOP.

4.2.   Administer analgesia pre-operatively as per Rodent Analgesia SOP.

4.3.   Anesthetize animal using isoflurane according to Anesthesia SOP.

4.4.   Apply ophthalmic ointment in both eyes to prevent corneal desiccation. Reapply as needed.

4.5.   Remove hair over the dorsum of the animal, between the rib cage and hip surgical area using a clipper, depilatory cream or by plucking. Remove loose hair with gauze.

4.6.   Wipe the skin surface with 70% alcohol followed by 2% chlorhexidine solution or povidone-iodine solution.

4.7.   Ovariectomy:

4.7.1.   Place animal in sternal recumbency.

4.7.2.   Make a midline incision, approximately 1cm in length, in the mid-dorsum of the animal.

4.7.3.   The skin is gently separated from the underlying muscle using cotton swabs or a blunt probe.

4.7.4.   Locate each ovary by visualizing a white spot under the muscle on the flanks of the animal. This white spot is the fat pad covering the ovary.

4.7.5. Make a small incision, approximately 0.5cm in length, directly over one of the white spots (ovary).

4.7.6. Soak a sterile gauze pad with sterile isotonic saline.

4.7.7. Grasp the fat pad using fine forceps, gently pull it out of the incision and rest it on the saline-soaked gauze.

4.7.8. Using two fine forceps, gently pull apart the ovary and fat pad off of the uterine horn. Alternatively, cauterize the ovary and fat pad to remove it. Set removed ovary aside. Check for bleeding.

4.7.9. Use sterile cotton-tipped swabs to gently return the uterine horn into the abdominal cavity.

4.7.10. Apply topical local analgesic to the muscle incision.

4.7.11. Hold the edges of the muscle incision together with forceps and use one suture to close the muscle.

4.7.12. Repeat with the other ovary.

4.7.13. Apply one drop of topical local analgesic to the skin incision.

4.7.14. Hold the edges of the skin incision together with forceps and use one wound clip to close the incision. Alternatively, suture the incision.

4.8. Disinfect the instruments between each animal by dipping them in a hot glass bead sterilizer for approximately 30 seconds after removing any blood and debris (let cool completely).

4.9. Allow animals to recover in a clean cage. Provide supplemental heat (use a heating disc or pad, heating lamp or incubator) for approximately 30 minutes and monitor the animals until they have fully recovered prior to returning them to their housing room.

4.10. Administer analgesics post-operatively as per Rodent Analgesia SOP.

4.11. Remove wound clips or sutures once the incision is completely closed, usually 7-10 days following surgery.

SOP REVISION HISTORY

DATE	PREVIOUS VERSION	NEW VERSION
2016.09.22	Title: MOUSE OVARIECTOMY	Title: ~~MOUSE~~ **RODENT** OVARIECTOMY
2016.09.22	1. PROCEDURE The intent of this Standard Operating Procedure (SOP) is to describe procedures for ovariectomy surgery in mice.	1. PROCEDURE The intent of this Standard Operating Procedure (SOP) is to describe procedures for ovariectomy surgery in ~~mice~~ **rodents**.
2016.09.22	4.3. Anesthetize mouse using isoflurane according to Mouse Anesthesia SOP.	4.3. Anesthetize ~~mouse~~ **animal** using isoflurane according to ~~Mouse~~ Anesthesia SOP.
2016.09.22	4.7.1 Place mouse in sternal recumbency.	4.7.1 Place ~~mouse~~ **animal** in sternal recumbency.
2016.09.22	4.7.2 Make a midline incision, approximately 1cm in length, in the mid-dorsum of the mouse.	4.7.2 Make a midline incision, approximately 1cm in length, in the mid-dorsum of the ~~mouse~~ **animal**.
2016.09.22	4.7.4 Locate each ovary by visualizing a white spot under the muscle on the flanks of the mouse	4.7.4 Locate each ovary by visualizing a white spot under the muscle on the flanks of the ~~mouse~~ **animal.**

Rodent Procedure Log

Comparative Medicine Animal Resources Centre

McGill

Investigator:	Protocol:
Procedure: Ovariectomy	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: mouse: 20mg/kg, rat: 5-10 mg/kg, SC, every 24 hrs

☐ buprenorphine: mouse: 0.1mg/kg SC or IP every 4-8 hrs;
    rat: 0.05mg/kg, SC or IP, every 8-12 hrs

☐ lidocaine/bupivacaine (local analgesic)

☐ other:_____

ANESTHESIA

☐ isoflurane 2-2.5%

☐ ketamine/xylazine/acepromazine*:
    mouse: 100 mg/kg (K)- 10 mg/kg (X)- 3 mg/kg (A) IP
    rat: 50 mg/kg (K)- 5 mg/kg (X)- 1 mg/kg (A); IP or IM

☐ other:_____

OTHER AGENTS ADMINISTERED

☐_____

☐_____

☐_____

		Anesthesia		Analgesia		Other _____		Heat Source Provided		Recovery time	Comments/observations	Initials
Animal ID	Date	dose	time	dose	time	dose	time	procedure	recovery			
1								☐	☐			
2								☐	☐			
3								☐	☐			
4								☐	☐			
5								☐	☐			
6								☐	☐			
7								☐	☐			
8								☐	☐			
9								☐	☐			
10								☐	☐			
11								☐	☐			
12								☐	☐			
13								☐	☐			
14								☐	☐			

Comments/footnotes:

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

Revised: 2014-01-06

Rodent Procedure Log

ANALGESIA

☐ carprofen: mouse: 20mg/kg, rat: 5-10 mg/kg, SC, every 24 hrs

☐ buprenorphine: mouse: 0.1mg/kg SC or IP every 4-8 hrs; rat: 0.05mg/kg, SC or IP, every 8-12 hrs

☐ OTHER_____

Initial the appropriate boxes when completed

	Animal ID	Date	Analgesia			SC fluids			Wet food			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															
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12															
13															
14															

Comments/footnotes: