

**Gonadectomy In Rats
And Mice**
IACUC Standard Procedure
Effective Date: October 2021

Description of procedure:

A. Ovariectomy

1. The animal is weighed and anesthetized following [UCSF Rodent Anesthesia Guidelines](#). Anesthesia and analgesic drugs are administered as per Section I., Agents, in the IACUC protocol under which surgery is performed. Surgical plane of anesthesia and peri-operative analgesia are required. Multimodal analgesia is encouraged (e.g., local anesthetic, NSAID, and opioid).
2. The surgeon will follow [IACUC guidelines for aseptic survival surgery](#).
3. Ovaries are typically approached by two separate flank incisions [Fig 1]. Alternatively, experienced surgeons may use a single midline skin incision on the back, if they can do this without excessive tissue manipulation [Fig 2]. Skin incision is approx. 5 mm in mouse and 10 mm in rat. Animal is kept in sternal recumbency if using a single incision, or laid on her side if using two incisions. The skin is separated from the underlying muscle before incising the muscle.

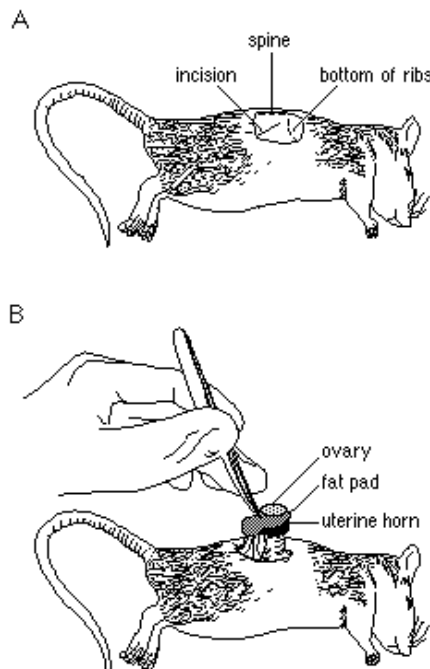


Figure 1. Flank incision approach to the ovaries

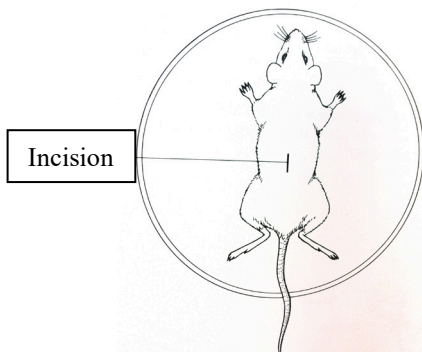


Figure 2. Single incision approach to the ovaries

4. Before making the incision through the muscle overlying the ovary, the surgeon confirms the location of the ovarian fat pad which is sometimes visible under the muscle. Rather than cutting the muscle, the tip of small double-sharp iridectomy scissors is inserted just through the muscle layer to separate the muscle fibers by opening the scissors in a dorsal ventral direction.
5. The ovary is gently pulled through the incision with a blunt forceps by grasping the fat pad surrounding it. A hemostat or similar is placed at the boundary between the oviduct and uterus, a ligature placed just below the hemostat (next to the uterus) and a cut is made just above the hemostat. Once the ovary and oviduct are removed, the hemostat is released and hemostasis is verified before letting go the uterus and allowing it to return to the abdomen. Muscle layer is closed, usually with absorbable suture. Skin is closed with suture or wound clips.
6. For the standard two-incision approach, the animal is turned over, and the second side treated as the first was done.
7. Anesthetic recovery follows UCSF Rodent Anesthesia Guidelines.

B. Orchiectomy

1. The animal is weighed and anesthetized following [UCSF Rodent Anesthesia Guidelines](#). Anesthesia and analgesic drugs are administered as per Section I., Agents, in the IACUC protocol under which surgery is performed. Surgical plane of anesthesia and peri-operative analgesia are required. Multimodal analgesia is encouraged (e.g., local anesthetic, NSAID, and opioid).
2. The surgeon will follow [IACUC guidelines for aseptic survival surgery](#).
3. Two approaches are possible: a single transverse incision at the caudal abdomen, or a single midline incision on the scrotal sac. [Fig 3] Skin is separated from the muscle layer, then a similar transverse incision is made through muscle. Alternatively, the surgeon may push both testes down into the scrotum by gentle pressure on the abdomen and make a 5 mm incision through the scrotal skin and the underlying tunica.

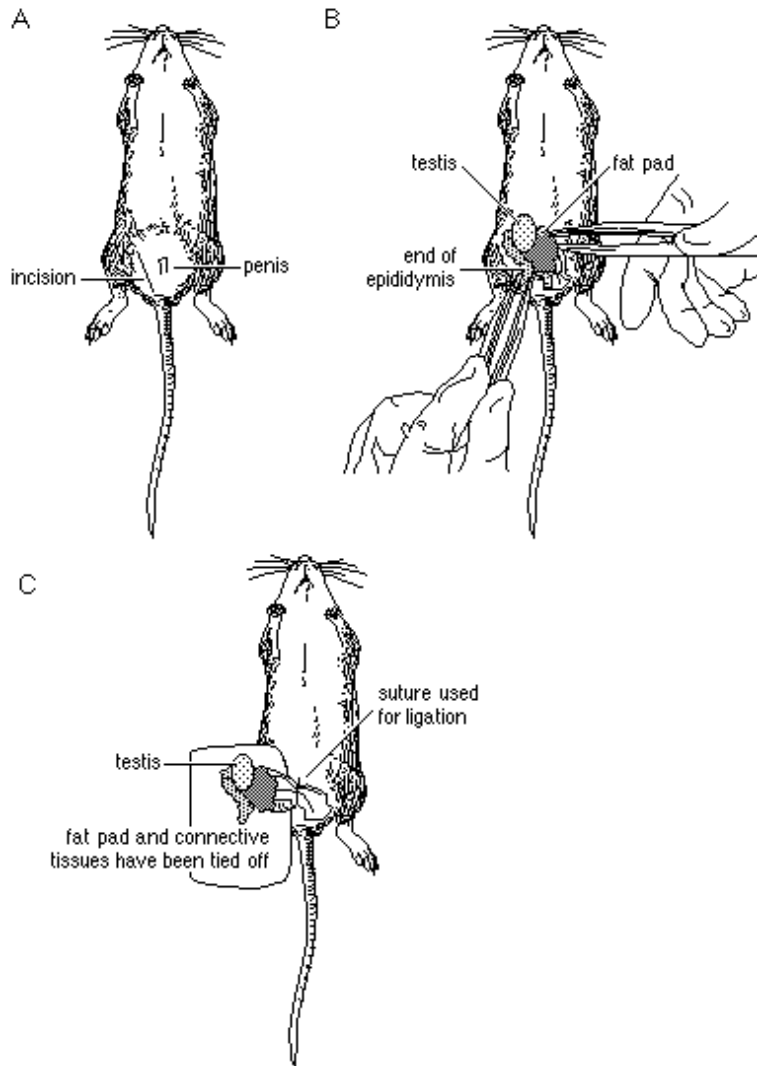


Figure 3. Single midline incision on the scrotal sac

4. Both testes can be reached through the same incision. The testicular fat pad on the one side is pulled through the incision using a blunt forceps. Place a hemostat below the testes and epididymis across the testicular cord (contains blood vessels and vas deferens). A ligature (absorbable suture is preferred) is placed below the hemostat the surgeon then removes the testes and epididymis with a scissors, releases the hemostat and makes sure no bleeding occurs.
5. The incision is closed in two layers with suture or wound clips.

Agents: This procedure requires appropriate anesthetic and analgesic agents. All agents administered to animals should be listed in the “Agents” section I of the RIO application.

Adverse Effects: Adverse effects of pain and infection should be listed in Section J of the RIO application.