

- SOP No:** AHP 72
- SUBJECT:** Uninephrectomy in the rodent.
- POLICY:** This procedure may only be performed by operators skilled in the technique.

Surgery must be performed under aseptic conditions
- PRECAUTIONS:** Surgical gloves, eye protection, long-sleeved gown, closed in shoes.
All instruments and materials (including catheter) must be sterilized before use.
- EQUIPMENT:** Anesthetic
Analgesic
70% Alcohol
Scalpel (No 22), scissors, forceps, haemostats
Silk ligatures
Suture material or staples
- PROCEDURE:**
1. Anaesthetise animal (specify dose, route and volume).
 2. Shave and swab the left side of the animal and lay the animal on its right side on a sterile bench pad covering a warm heating pad.
 3. Locate the kidney by palpation.
 4. Incise the underlying muscle layers and stretched by blunt dissection using blunt ended scissors to give a 25mm opening to the abdominal cavity.
 5. Locate and exteriorize the kidney using two cotton-tipped applicators.
 6. Identify and separate the adrenal gland located in the apical renal fat.
Peel away the connective tissue surrounding the kidney leaving the arterial supply intact.
 7. Place a ligature of surgical silk around the renal blood vessels without damaging the adrenal vessels.
 8. Cut the renal vessels close to the kidney.
 9. Remove the kidney, close the abdominal muscle layer with a continuous suture and close the skin with a Michel clip.
 10. Keep the animal warm and allow to recover. Monitor closely for 8 hrs and provide analgesia for 24hrs

RECOMMENDATIONS:

Administer benzyl penicillin (60mg i.m.) to prevent infection.

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REVISED:

REFERENCES

1. Levine DZ, Iacovitti M, Robertson SJ. Modulation of single-nephron GFR in the db/db mouse model of type 2 diabetes mellitus. II. Effects of renal mass reduction. *Am J Physiol Regul Integr Comp Physiol.* 2008 Jun;294(6):R1840-6. Epub 2008 Apr 16
2. Nabokov AV, Amann K, Wessels S, Münter K, Wagner J, Ritze. Endothelin receptor antagonists influence cardiovascular morphology in uremic rats. *Kidney Int* 55: 512–519, 1999
3. Zalups RK, Lash LH. Effects of uninephrectomy and mercuric chloride on renal glutathione homeostasis. *J Pharmacol Exp Ther.* 1990 Sep;254(3):962-70.