

Note: There were slight differences before performing each method of castration, these are elicited here.

Pre-Operative Procedure for Burdizzo:

- 1. Restrain animal using a halter tied to a bar.**
- 2. Clean all areas with alcohol swabs to be injected.**
- 3. Inject the calculated volume of Flunixin meglumine intravenously into the jugular vein.**
  - This was done by isolating the vein, holding it off for a moment, cleaning the area with a swab of alcohol as seen in the picture (IV injection site).
  - Insert the needle at a 45° angle once through the skin direct the needle parallel to the vein, aspirate until blood is observed in the hub then administer the drug.
- 4. Perform a Ketamine stun by administering the calculated initial volume of xylazine (0.63 ml) and then ketamine (1.3 ml) in the same site using the same needle hub.**
  - The rump (or thurl) was isolated as shown in the picture (IM injection site).
  - The area was cleaned with alcohol, the area was tapped quickly and the needle was inserted in tandem perpendicularly to the muscle.
  - Aspiration was done to ensure that it was not in a blood vessel then administer the drugs.
  - Allow 5 minutes for sedation to take effect.
- 5. Inject Penicillin-Streptomycin in the same location of the ketamine stun, following the same procedure just on the contralateral side of the animal.**
- 6. Bruce remained in standing sedation so an additional form of restraint was added as seen in the picture (Bruce restraint). Pass the rope around the animal just cranial to his hind limbs and Hooks (also known as Hips or Tuber coxae,) through the loop of a bow line knot at one end, then tie to a bar with a quick release slip knot.**
- 7. Clean the scrotum thoroughly with Chlorohex scrub, then wipe with Iodine and Alcohol. Ensure to remove all debri.**

8. Observe the scrotum for (mostly a) bilateral symmetry. If it is observed that one testicle has a proximal bulge, which is soft and easily compressed that animal may have an inguinal hernia which needs a different surgical approach (Surgical Repair of Direct/Indirect Inguinal Hernia) before castration to prevent septic peritonitis.
9. It is essential to check upon palpation that both testes have descended into the scrotum before surgery. This prevents unilateral castration of cryptorchid animals, which would give the misleading external appearance of a castrated male, that can still produce spermatozoa and testosterone.
10. Bruce is now ready for the local anaesthetic, Lidocaine and then the application of the Burdizzo.

*Pre-Operative Procedure for Surgical Castration:*

11. Assess the animal prior to the surgical castration.
12. Upon signs of increasing alertness and agitation administer as explained above in step 4, a subsequent volume of the ketamine stun. This was half of the initial volume/dose. Administer the volume of xylazine (0.31 ml) and then ketamine (0.63 ml).
13. No other drugs were administered at this point.
14. Bruce went into lateral recumbency, so an alternative form of restraint was applied.
15. Pass the rope around the animal's fetlock, on the upper most hind limb, through the loop of a bow line knot at one end, then tie to the halter with a quick release slip knot.
16. Clean the scrotum thoroughly with Chlorohex scrub, then wipe with Iodine and Alcohol. Ensure to remove all debris.
17. Bruce is now ready for surgical castration.