**Pre-operative equipment**

|  |  |
| --- | --- |
| **Name** | **Use** |
| Rope Halter and lead rope  Weaver Leather Cattle Rope Halter, Cow, 35-7901-BL/BK at Tractor Supply Co. | Used on the bull calf to make a quick release slip knot. Allows for cattle to be safely restrained making surgery less dangerous for those performing it as well as decreasing risk of cattle injuring itself. |
| Rope  Blue Hawk 0.375-in x 50-ft Twisted Polypropylene Rope (By-the-Roll) in the  Rope (By-the-Roll) department at Lowes.com | Was used to restrain the hind limbs of the calf. |
| Boots | To protect feet from being stepped or stamped.  Keeps the veterinarian clean and also provides some protection from injury and dirt. |
| Coveralls | Worn when working with the cattle and are normally removed when exiting the farm to prevent any cross contamination between farms. |

**Intra-Operative Equipment**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Use** | **Advantage** | **Disadvantage** |
| Gloves  Medical Grade Powder Free Nitrile Gloves | * Used to keep hand and area clean and decrease the spread of bacteria onto the castration site thus increasing risk of infection. | * Helps decrease risk of wound infection by no having te veterinarian in direct contact with the wound | * Makes it harder for the veterinarian to tie ligatures as there is less grip. |
| Plastic Bag  Black Polyethylene Extra Large Garbage Bags Roll, Rs 80 /roll | ID:  17499567133 | * Was used to provide a ‘clean’ area to do the castration of the calf. |  |  |
| Haemostat  Haemostatic Artery Forceps Toothed Dissecting Tissue Forceps Haemostat  Locking 5097879618462 | eBay | * Used to clamp arteries in the spermatic cord as well as provide a clear indication of where should be incised. |  |  |
| Scalpel blade and scalpel handleScalpel Blade HD Stock Images | Shutterstock | * Used to incise surgical area | * Sharp and precise tool | * Due to sharpness, there is a risk of a slip and injury |
| Reimer EmasculatorReimer Emasculator | GerVetUSA Inc | * Used in both open -open and open-closed methods and is used in crushing and cutting of the spermatic cord. | * This method is more effective at ensuring the animal is fully castrated. | * There is a higher risk of infection and complications. |
| Burdizzo EmasculatomeAmazon.com : Private Label Bloodless Burdizzo Castrator Pinch Cord Castrate  Bulls Cattle Sheep Goat 19&quot; : Patio, Lawn &amp; Garden | * Used to closed castration to crush the skin and the spermatic cord as well as stop blood supply to the testis. * Used in stallion and bulls * Small ones are used in sheep and goats | * This is bloodless and less painful for the animal. * Less chance of infection due to there being no open wound. * Quick and easy to complete | * Increase risk of gangrene due to lack of blood supply to the scrotum. * If the cord is incompletely crushed, the animal can still breed. * Increase risk of injury to animal or the veterinarian |
| Elastrator  Elastrator Castration or Tail Docker Pliers Plastic &amp; Free 100 pcs Elastic  Bands | eBay | * Elastic rubber ring is placed around the scrotum with the testicles below | * Bloodless so increase risk of infection due to no open wound * Less painful than cutting * Quick and easy * No risk of maggot infection due to no open wound | * There are age limitations as it has to be done before ram lamb is 10 days old * There is a risk of a wound forming that can lead to an infection in particular tetanus * The discomfort can lead to decreased growth rate * Sometime scrotum doesn’t completely fall of and remainder will need to be cut |
| Newberry knifeBuy Agri-Pro Newberry Castrating Knife Online | Heritage Animal Health | * Makes 2 vertical incisions on either side of the scrotum to allow for testicle removal. | * Slits the scrotum in half * Allows for good drainage of the wound * Good access to the testis |  |
| GauzeFirst Aiders Choice Non-Sterile Gauze Swabs 5cm 100 Pack | Officeworks | * Used to clean surgical area or to provide grip during surgery. | * Used to soak up excess blood/ fluid to provide better visualisation of the surgical area. Can also be used to provide better grip. | * Risk of gauze being forgotten in surgical site by accident and leading to infection |
| Suture material (catgut)  Catgut Suture at Rs 1380/dozen | Catgut Suture | ID: 19346149848 | * Was used to form a strangle knot to stop bleeding when the spermatic cord is cut. | * It's absorbable so it doesn’t need to be cut to be removed. |  |
| Specimen Container  17,447 Specimen Container Stock Photos, Pictures &amp; Royalty-Free Images -  iStock | * Used to collect the testis for observation and histopathology if necessary. |  |  |

**Post-operative equipment**

|  |  |  |
| --- | --- | --- |
| **Name** | **Use** | **Advantage** |
| Tetravet Spray  Tetravet Aerosol | * An antibiotics spray used to treat and prevent topical microbial infections. | * Decreases risk of infection developing at the wound site. * Its a topical antibiotics spray that contains Oxytetracycline hydrochloride as the active ingredient. It’s a broad-spectrum bacteriostatic antibiotic and its colours allows for easy identification of where in the wound was sprayed. |
| Matabichera Fort dodge Spray  Matabichera FD | Zoetis AR | * This is an anti-myiasis spray which repels insects and flies from the wound area. | * This decreases risk of fly laying eggs leading to maggot wounds. * Its an anti-myasis spray and antiseptic that contains Active ingredients are chlorfenvinfos and dichlorvos |