**Pre-op Equipment**

* Drugs- lidocaine (local anesthetic), xylazine (local anesthetic and analgesia), NSAIDs, Antibiotics (Penicillin-Streptomycin), Anti-parasitics (Ivermectin)
* Antiseptic solutions should be used e.g. povidone iodine, chlorhexidine and isopropyl alcohol
* Restraint aids- disbudding box, chemical restraint (drugs for sedation and analgesia), halters and lead ropes

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| **Scenario 1: 2wk old Saanen**  | **Scenario 2: 6mnth old calf**  | **Scenario 3: 2yr old breeding ram** |
| Disbudding box  | Restraint aids- chemical, halters and lead ropes etc. | Restraint aids- chemical (sedation and local anesthesia), halters, lead ropes etc. |
| Syringes and Needles | Syringes and Needles  | Syringes and Needles  |
| Shaver/Scissors  | Shaver/Scissors  | Shaver/Scissors |
| Sedation drugs  | Sedation drugs  | Sedation drugs  |
| Antiseptic solutions | Antiseptic solutions  | Antiseptic solutions  |
| Hot iron dehorners  | Barnes-type Dehorner\* | Draping material |
| Dehorning paste  | Knife\* | Scalpel blade and handle  |
| Wound dusting powder  | Keystone Dehorners\* | Forceps  |
|  | Callicrate Bander\* | Needle holder |
|  | Gigli/Obstetrical Wire\* | Suture Material  |
|  | Dehorning spoons, cups and tubes\* | Hand Saw |
|  | Hand Saw\* | Gigli/Obstetrical Wire |
|  | Dehorning pads | Cautery  |
|  | Wound dusting powder | Bone chisel and mallet |
|  | Bandaging material  | Wound dusting powder |
|  | Antibiotic drugs  | Bandaging material  |
|  |  | Gloves  |
|  |  | Antibiotic drugs  |

NOTE: xxx\*- The equipment listed with the star will be chosen for use depending on the size of the horn of the animal. They were listed just to show all the different types of equipment.

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| **Equipment**  | **Advantages**  | **Disadvantages**  |
| Dehorning paste  | 1. Less stressful than other methods
2. Can be performed at a young age
3. No blood for this procedure
4. Less risk of infection
 | 1. Should not be used in rainy weather
2. Painful without anaesthesia
3. Can cause damage to the animal’s eyes if paste contacts the eye
 |
| Hot Iron  | 1. Bloodless procedure
2. Can be used during anytime of the year
3. Performed in young calves up to 12 weeks of age
 | 1. If done incorrectly can lead to scurs
2. Extremely painful so anaesthesia and analgesia should be used
3. Horns should be passed the button stage
4. If performed by inexperienced personnel the bones of the skull and calf’s brain can be damaged if iron held on the horn for too long
 |
| Dehorning spoon or tube  | 1. Useful for young calves
2. Effective on very small horns
 | 1. Not a bloodless procedure
2. Risk of infection because of open wounds
3. Avoid use during fly season to prevent infection
4. Leads to scurs if done incorrectly
5. Should not be done without anaesthesia or analgesia as well as a way to control bleeding
 |
| Scoop, Gouge or Barnes-Type Dehorner  | 1. Fast procedure- takes a few seconds to perform
2. Can be used after the horn bud attaches to the skull
3. Barnes-type Dehorner has 2 sizes one for smaller cattle (6-8 months) and one for bigger cattle (yearling or older)
 | 1. There is a risk of infection because of open wounds
2. Not a bloodless procedure
3. Can open the frontal sinus in older calves which can lead to sinusitis
4. Avoid use during fly season to prevent infection
5. Can lead to scurs if procedure is done incorrectly
6. Anaesthesia and analgesia should be used
7. Control of bleeding is required for this procedure
 |
| Keystone Dehorner  | 1. Can be used in older cattle with large horns
 | 1. There is a greater risk of infection because of exposed sinus
2. Not a bloodless procedure
3. Can be extremely painful and anaesthesia or analgesia should be used
4. Requires follow-up care
 |
| Knife  | 1. This is effective on very small horns
 | 1. It is a bloody and painful procedure
2. There is a risk of infection
 |
| Gigli/ Obstetrical Wire | 1. Can be used for horn removal in older cattle
 | 1. There is a greater risk of infection due to exposed sinus
2. It is a bloody and painful procedure so therefore anaesthesia and analgesia should be used
3. Required follow-up care
 |
| Hand Saw  | 1. Can be used for horn removal in older calves with large horns
 | 1. There is an increased risk of infection
2. Death from blood loss can occur with this method
3. Monitoring afterward is required to prevent infection
4. Can be extremely painful so anaesthesia and analgesia should be used
 |
| Callicrate Bander  | 1. Can be used on cattle, goat and sheep with large horns
2. Not as painful as other procedures
3. Less risk of infection
4. Less stressful on the animal
5. It is a bloodless procedure
 | 1. Takes about 2-3 months for horns to be completely removed
2. Anaesthesia or analgesia should be used
3. Bands should be covered with duct tape to prevent fly strike or infection
 |

**Videos on How to Use Equipment:**

1. <https://youtu.be/Z1KcieP5H-E> - Dehorning paste
2. <https://youtu.be/F_WWq1jssGU>- Hot-iron on calf
3. <https://youtu.be/lnxI5_gi7BI>- Hot-iron on kid
4. <https://youtu.be/GxV35EZ1px4>- Gigli wire dehorning
5. <https://youtu.be/JmmbpOG5NzQ>- Keystone dehorner
6. <https://youtu.be/Fg4qCwq58nQ>- Barnes-type dehorner
7. <https://youtu.be/hLZ-DwRlXgY>- Callicrate bander dehorner

**References**

1. [**http://www.thebeefsite.com/articles/2261/dehorning-of-calves/**](http://www.thebeefsite.com/articles/2261/dehorning-of-calves/)
2. [**http://www.dehorning.com/dehorning-methods/hand-saw-dehorning**](http://www.dehorning.com/dehorning-methods/hand-saw-dehorning)
3. [**https://www.dpi.nsw.gov.au/animals-and-livestock/beef-cattle/husbandry/general-management/dehorning-cattle**](https://www.dpi.nsw.gov.au/animals-and-livestock/beef-cattle/husbandry/general-management/dehorning-cattle)