1. PURPOSE

Dehorning refers to the removal of the horn after attachment of the horn bud to the skull, occurring at a minimum of 2 weeks after weaning.

Calves are dehorned to minimize the risk of injury to themselves, other calves and humans. The purpose of this SOP is to describe the procedures for dehorning while minimizing stress to the animals.

Removal of extra teats is also performed after the dehorning as it avoids re-anesthetizing the animal.

2. RESPONSIBILITY

2.1 Qualified farm personnel.
2.2 Lead Technician, Dairy Manager
2.3 Veterinarian

3. MATERIALS

3.1 Halter
3.2 Weigh scale or weight tape
3.3 Measuring stick
3.4 Clippers
3.5 Scoop gouger
3.6 Metal bristled brush
3.7 Dehorning Iron
3.8 Pail with warm water and disinfectant (Endure or Virkon)
3.9 Nitrile Gloves
3.10 3, 5 and 10cc syringes
3.11 18gx 1” needles
3.12 20gx 1” needles
3.13 Rompun® (20mg/ml) or equivalent (e.g. Xylamax ®)
3.14 Lidocaine with Epinephrine® (20mg/ml) or equivalent
3.15 Metacam® (20mg/ml) or equivalent (e.g. Rheumocam®)
3.16 Dehorning Weight and Medication Chart
3.17 Sharp surgical scissors
3.18 Alcohol towelette
3.19 Blue Kote®
3.20 Aluspray®

4. GENERAL

4.1 Dehorning is a painful and stressful procedure; therefore, effective pain control methods MUST be used.
4.2 Bleeding control must be used when dehorning.
4.3 Appropriate standards of cleanliness and hygiene must always be observed; hands, the calf's environment and the dehorning instruments).
4.4 Never leave a sedated or anesthetized animal unattended.
4.5 Removal of extra teats eliminates a possible site of infection, since any unused cavity is ideal for bacterial growth and may interfere with the function of milking machines.
5. PROCEDURE DEHORNING

5.1 Ensure the calf pen has been cleaned and bedded before dehorning. Refer to SOP DC-209: Calf Pen Sanitation.

5.2 Remove all food from the manger. Calves are not to be given access to food until the evening feeding.

5.3 Place a halter on the calf and walk it to the weigh scale or weigh in pen using a weigh tape.

5.4 Weigh and measure the calf’s height.

5.5 Record measurements in the treatment log book.

5.6 Ensure that all materials are at hand.

5.7 Return calf to respective pen and tie the halter to the gate.

5.8 Preheat dehorning iron (about 10 minutes).

5.9 Refer to the Appendix DC-A-3A: Dehorning Weight and Medication Chart to determine the required dosage according to the weight.

5.10 Restrain the head of the animal.

5.11 Administer a sedative (e.g. Rompun 20mg/ml), intramuscularly as per Appendix DC-A-3A: Dehorning Weight and Medication Chart

**IMPORTANT**

ROMPUN IS AVAILABLE IN 20MG/ML AND 100MG/ML CONCENTRATIONS. CHECK THE PRODUCT CONCENTRATION PRIOR TO USAGE TO AVOID OVERDOsing. RE Appendix DC-A-3A: DEHORNING WEIGHT AND MEDICATION CHART FOR CONCENTRATION AND DOSAGE.

**IMPORTANT**

NEVER leave a sedated or anesthetized animal unattended.

5.12 When the calf is drowsy, untie and remove the halter.

5.13 Clip the hair surrounding the horn bud.

5.14 Verify the effect of anesthesia by observing physical movement or jaw chewing in response to stimulation, eye position and degree of muscle tone, and presence or absence of palpebral reflexes etc.

5.15 When the calf is appropriately anesthetized, administer local anesthetic Lidocaine® subcutaneously (see Fig. 1 and 2) in the groove of both horns, about mid-way between the horn and the eye. Refer to the Appendix DC-A-3A: Dehorning Weight and Medication Chart
5.16 Hold the calf’s ear out of the way to keep it from being burned.

5.17 Place the hot end of the dehorner over the horn so that the iron is in direct contact with the skin at its base (Fig. 3) If the calf reacts to the burner, STOP and administer more Lidocaine.

5.18 Apply mild pressure. When the burning hair begins to smoke, slowly rotate the dehorner by twisting your wrist.

5.19 Continue application for about 10-15 seconds.

**CAUTION**

Do not leave dehorner in place for too long. Heat can be transferred through the thin bones of the skull and damage the calf’s brain.

5.20 Cut off the remaining bud using the scoop gouger.

5.21 Press the gouger gently against the head.

5.22 Maintain the pressure and quickly spread the handles apart to bring the blades together to remove the horn bud. If bleeding occurs, cauterize with the hot iron.

5.23 Spray the horn with Blue Kote.

5.24 Spray the horn with Aluspray if slight bleeding.

5.25 Soak scoop gouger in pail of disinfectant (Endure or Virkon) between horns and calves.

5.26 Clean the dehorning iron with metal bristled brush to remove any ash.

5.27 Repeat steps 5.17 to 5.27 for the other horn.

5.28 Administer a non-steroidal anti-inflammatory analgesic - Metacam 2.5 ml/ 100 kg subcutaneously. Refer to the Appendix DC-A-3A: Dehorning Weight and Medication Chart.

5.29 Lift the hind leg that is exposed to identify any extra teats. If in doubt, consult with the Dairy Manager or Veterinarian.

5.30 Carefully inspect the mammary area for any extra teats. (see Figures 4a and b).
5.31 After you identify it, roll the teat between your fingers to be sure again; supernumerary teats feel firmer and have very little or no teat cistern.

5.32 Teat removal:

5.32.1 Disinfect sharp surgical scissors with alcohol towelette.

5.32.2 Using sharp scissors cut the teat at the base.

5.32.3 Spray the area with Aluspray.

5.33 Record the dehorning procedure, teat removal (if applicable) and all associated medications/quantities administered, in the treatment logbook.

5.34 Calves must be regularly monitored until they have regained full consciousness.(stable on their feet).

5.35 Dispose of needles in "sharps container" and syringes in the bio-box.

5.36 Disinfect all necessary tools and return all medication and instruments to their proper location in the pharmacy.

5.37 Ensure that the personnel on the next shift have been informed of the procedure.

5.38 Regularly monitor the animal for 1-2 weeks following the procedure for a decrease in appetite, bleeding and infections of their wounds that require treatment.

5.39 Report any abnormalities to the Lead Technician/ Dairy Barn Manager.

5.40 Consult with Veterinarian for any complications.

**IMPORTANT**
Be sure to remove only extra teats. Removal of a normal teat by mistake would be harmful to the animal.
### Appendix DC-A-3A: DEHORNING WEIGHT AND MEDICATION CHART

<table>
<thead>
<tr>
<th>WEIGHT (KG)</th>
<th>STEP 1: ROMPUN 20 MG/ML (0.75ml/45kg)</th>
<th>STEP 2: LIDOCAINE Min. 5 ml/ side (verify size of horn)</th>
<th>STEP 3: METACAM 2.5 ml/ 100 kg S.C</th>
<th>STEP 4: CHECK FOR EXTRA TEATS</th>
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6. REFERENCES


6.3 CCAC training module on: the ethical use and care of farm animals in research. Retrieved from https://www.ccac.ca/Documents/Education/Modules/Farm-animals/Core/Companion-notes.pdf


Document Status and Revision History

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<th>DATE</th>
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<td>NEW</td>
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<tr>
<td>6-June-2018</td>
<td>NEW</td>
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<tr>
<td>9-April-2019</td>
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<td>FACC approved with minor changes: Add dose and route of administration for Metacam (5.29) (5.29) Correct grammatical errors and remove duplicates/ add information on extra teat identification.</td>
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