

POSTPARTUM CARE OF DAIRY CATTLE

1. PURPOSE

To provide the appropriate care to the dam after calving. Proper nutrition and health monitoring in the days that follow are essential for a cow's health, reproduction, productivity, and longevity.

2. RESPONSIBILITY

- 2.1 Trained and qualified personnel.
- 2.2 Herd Manager
- 2.3 Veterinarian

3. MATERIALS

- 3.1 G1 ration
- 3.2 Glycol-P (or equivalent) and dosing applicator
- 3.3 Calcium bolus and dosing applicator
- 3.4 Fresh Cow Supplement (e.g., Fresh Cow Alpha)
- 3.5 "Fresh" card
- 3.6 "2nd cut hay" card
- 3.7 Anti-inflammatory (e.g., Anafen)
- 3.8 Thermometer
- 3.9 Blue leg bands
- 3.10 Keto Test Strips
- 3.11 Milker Action Sheet
- 3.12 Treatment binder

4. GENERAL

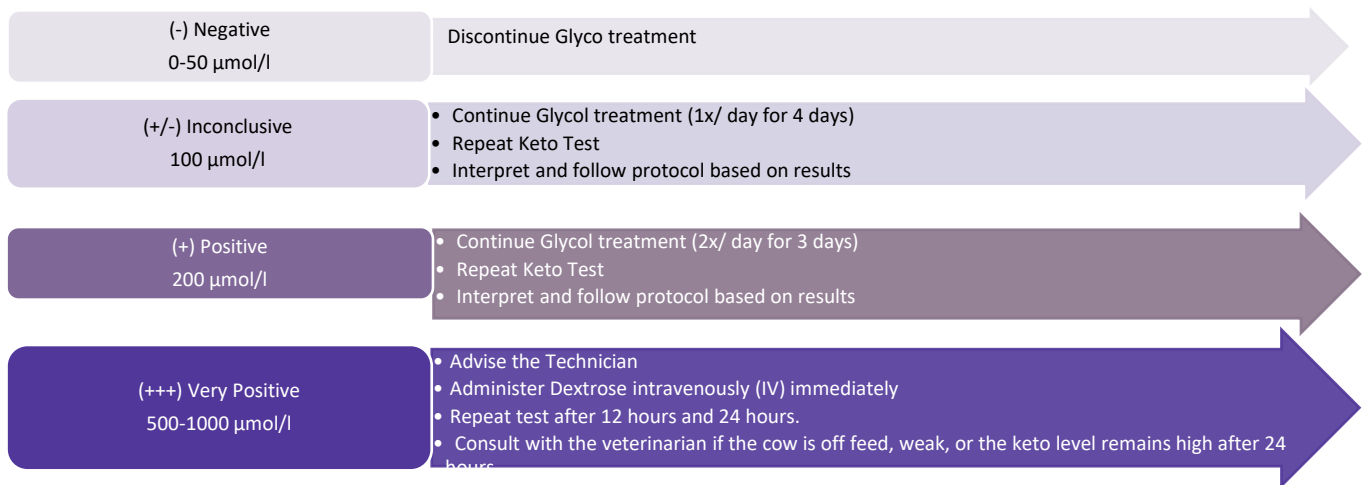
- 4.1 A "fresh cow" ration balanced by the herd nutritionist is necessary for the dam's maintenance and production. A ration balanced for energy, protein, fiber, vitamins, and minerals is important to maintain health and promote an early return to a positive energy balance.
- 4.2 After calving, the cow's reproductive tract needs to recover both physically and physiologically, in order to resume cycling and become ready for the next pregnancy.
- 4.3 During this period, dairy cows are at risk of developing calving-related diseases, such as hypocalcemia, metritis (uterine infection), ketosis, and displaced abomasum.
- 4.4 Cows with abnormal parturition (dystocia with or without retained fetal membranes) should be monitored carefully because they are at greater risk of developing metritis, fever, and hypocalcemia.
- 4.5 Health monitoring of postpartum cows during the first few weeks after calving is crucial. Sound management, thorough preventative protocols, and treatment of post-partum disorders associated with calving such as ketosis, milk fever, uterine infections, retained fetal membranes, displaced abomasum, and udder edema, is required to reduce the unnecessary use of antibiotics and hormones. These health disorders are evaluated by monitoring rectal temperature, appetite, rumen function, ketones, and milk production. Cows should be treated promptly according to the farm's protocol and/or veterinarian's recommendations.

5. PROCEDURE

- 5.1 Record the calving under the "Début de lactation" section of the treatment log.

- 5.2 Monitor for the expulsion of the placenta (usually within 8 hours after birth).
- 5.3 If the dam is not standing after calving:
 - 5.3.1 Encourage her to get up to clean her calf. If not, move the calf closer to her and give her some time.
 - 5.3.2 If the dam refuses to get up after 1 hour of rest and more encouragement, notify the lead technician or dairy manager. Difficult calving may require the application of an anti-inflammatory drug. Consult with the Lead technician or Herd Veterinarian for further instruction.
 - 5.3.3 Monitor for cold ears and lethargy (indicative of milk fever). A cow with milk fever will have cold ears, will be unable to stand, and will require calcium treatments and hydration therapy.
- 5.4 Prepare Fresh Cow Alpha:
 - 5.4.1 Pour 1 package of Alpha electrolyte and 250 ml Glycol into a rubber pail. Add lukewarm water and mix.
- 5.5 Offer the cow/ heifer some Fresh Cow Alpha supplement as she is cleaning the calf. Continue replenishing the pail with lukewarm water until the cow stops drinking.
- 5.6 When the dam has stopped cleaning her calf, offer Group 1 (G1) ration and 2nd cut hay.
- 5.7 POST-PARTUM TREATMENT PROTOCOL:
 - 5.7.1 Restrain the cow using a halter.
 - 5.7.2 CALCIUM:
 - 5.7.2.1 Administer 1 Calcium bolus, orally if the cow is eating/drinking. Injectable calcium (ex. 50cc Theracalcium®, 25cc IM/ 25cc SQ) can be given if the cow is not eating or is too difficult to bolus.
 - 5.7.2.2 Place blue leg bands on hind legs to indicate milking instructions. Refer to appendix [DC-A-4D: Leg Band Color Index](#).
 - 5.7.2.3 Administer a second calcium bolus (or injectable calcium) after 12 hours to cows. In primiparous cows, review for symptoms of milk fever and administer calcium if needed.
 - 5.7.2.4 Review every 12 hours for 24 hours. If symptoms of milk fever (ex. cold ears) are observed, give additional calcium treatments and inform a technician.
 - 5.7.3 GLYCOL:
 - 5.7.3.1 Administer 250 ml Glycol-P orally using the glycol dosing applicator:
 - 5.7.3.1.1 For first calf heifers: 1 dose.
 - 5.7.3.1.2 Cows with 2 lactations or more: up to 3 doses.
 - 5.7.3.2 After the last dose, test for ketosis by placing one drop of milk on a Keto Test strip.
 - 5.7.3.3 Repeat Keto Test 1 week later.
 - 5.7.3.4 Refer to Table 1 for Keto Test Results Protocol.
 - 5.7.4 Record treatment protocols for Glycol and Calcium Bolus for fresh cows in the blue treatment binder.
 - 5.7.5 Record all administered substances in the Treatment Log.

TABLE 1: Keto Test Results Protocol



5.8 Record the cow's number and name to the Milker Action Sheet and to the list of "Blue Band" cows.

5.9 Milk cow according to the appropriate SOP:

- [DC-608: Milking Fresh Cows](#)
- [DC-609: Milking Pail Cows in Tie Stall](#)
- [DC-610: Milking Pail Cows in Box Stall](#)

5.10 POST-PARTUM MONITORING:

5.10.1 Regularly monitor cows after calving for clinical signs of post-partum disease or illness:

- 5.10.1.1 Decreased appetite (poor rumen fill)/weight loss
- 5.10.1.2 Reduction in milk yield
- 5.10.1.3 Fever
- 5.10.1.4 Depression
- 5.10.1.5 Dehydration
- 5.10.1.6 Cold ears
- 5.10.1.7 Foul-smelling vaginal discharge
- 5.10.1.8 Swollen mammary gland(s)

5.10.2 If clinical sign (s) are present:

- 5.10.2.1 Take rectal temperature and record it in the dairy Treatment Log.
- 5.10.2.2 Refer to [Table 2: Post-Partum Conditions in Cattle](#).

5.10.3 Cows must be examined by the herd veterinarian 14-28 days after calving.

5.10.4 Refer to SOP [DC-310: Cow Health Monitoring](#) for other diseases (infections, enteric, metabolic, etc.) which can be secondary to post-partum illnesses.

TABLE 2: Postpartum Conditions of Dairy Cattle

	Description	Cause	Symptoms	Treatment
Ketosis	<ul style="list-style-type: none"> The inability of the liver to keep up with the glucose demand during early lactation Occurs in early lactation (1st 6 weeks) 	<ul style="list-style-type: none"> Concurrent with other peripartum diseases (abomasum, retained fetal membranes, metritis, mastitis) Excess Body condition prior to calving (BCS ≥3.75) 	<ul style="list-style-type: none"> Reduced appetite, weight loss Reduced milk production Lethargy Dull coat Fever Sweet, fruity smell of breath/ or milk Empty appearing abdomen Some develop nervous signs including excess salivation, licking, aggression etc. 	<ol style="list-style-type: none"> Test for the presence of ketone bodies in urine or milk Propylene glycol administered orally (250-400ml (8-14 oz) twice daily for 3 to 5 days If decreased DMI, milk production (<30%) and keto test over 200, administer bolus IV administration of 500 ml of 50% dextrose solution. Additional treatments ONLY per veterinarian's instructions: <ol style="list-style-type: none"> Administration of 5-20 mg/ dose glucocorticoids I.M. (Dexamethasone)
Uterine Prolapse	<ul style="list-style-type: none"> Inversion of the uterus Within 7 days of calving 	<ul style="list-style-type: none"> Dystocia Excessive pressure when pulling a calf Severe straining Retained placenta 		MUST BE TREATED AS AN EMERGENCY. IMMEDIATELY CONTACT THE VETERINARIAN
Retention of fetal membranes	<ul style="list-style-type: none"> Failure to expel fetal membranes within 24 hr after parturition. Normally, expulsion occurs within 3–8 hr after calf delivery. 	<ul style="list-style-type: none"> Dystocia Milk fever Twin births 	<ul style="list-style-type: none"> Fever Depression Reduction in milk yield Fetal membranes hanging from the vulva. Foul-smelling vaginal discharge 	<ol style="list-style-type: none"> If the placenta has not been expelled within 12 hours, consult with the Technician for further treatment. Hormone or antibiotic treatment may be required. Manual removal is NOT recommended. Consult with a veterinarian. Record all observations and/or treatments in the Dairy Treatment Log. Closely monitor the animal for signs of illness (refer to section 5.11.1)
Metritis	<ul style="list-style-type: none"> Inflammation of the uterus Within 10 days of calving 	<ul style="list-style-type: none"> Excessive bacterial challenge Dystocia Ketosis Retained fetal membranes 	<ul style="list-style-type: none"> Dull appearance Fever or sub-normal temperature Anorexia Endometritis Dehydration Foul smelling vaginal discharge 	Consult with the herd manager or Technician Contact the Herd veterinarian
Endometritis	<ul style="list-style-type: none"> Inflammation of endometrium 3 weeks to 3 months post partum 	<ul style="list-style-type: none"> Retained fetal membranes Poor calving hygiene Dystocia Stillborn Calves Overweight cow BCS <2.75 at calving 	<ul style="list-style-type: none"> Foul smeling vaginal discharge Purulent or mucous vaginal discharge 	Consult with the herd manager or Lead Technician Contact the Herd veterinarian
	Description	Cause	Symptoms	Treatment

Pyometra	<ul style="list-style-type: none"> Accumulation of pus in the uterus 	<ul style="list-style-type: none"> Chronic endometritis 	<ul style="list-style-type: none"> Affected cows do not appear ill but may be presented as not seen in heat. Enlarged, doughy uterus – may be mistaken as a pregnancy 	<p>Consult with the herd manager or Technician Contact the Herd veterinarian</p>
Udder Edema	<ul style="list-style-type: none"> Mammary swelling (edema) 	<ul style="list-style-type: none"> Excessive accumulation of fluid in extravascular spaces of the udder and surrounding tissues Impaired blood and lymph circulation from the lower abdomen because of fetal pressure in the pelvic area. 	<ul style="list-style-type: none"> Mammary swelling (edema) 	<ol style="list-style-type: none"> Treat with cold water therapy and cooling lotion (i.e. Udder Delux). Gently spray the udder with cold water for 15 minutes for at least 2 consecutive days. Apply cooling lotion 1-2x/day until swelling is reduced. For severe cases; <ol style="list-style-type: none"> Notify dairy manager or lead technician. Anti-inflammatory treatments are administered in severe cases and under the consultation of the Dairy Herd manager, Lead Technician, and/or Herd Veterinarian. Record all observations and/or treatments in the Dairy Treatment Log
Displaced Abomasum	<ul style="list-style-type: none"> Displacement of the abomasum 	<ul style="list-style-type: none"> Calving Twins Decreased feed consumption or lack of rumen fill post-partum Lack of muscle tone of the abomasum 	<ul style="list-style-type: none"> Inappetance Reduced milk yield Reduced rumination Ketones may be present in blood, milk, and urine. 	<p>Consult with the herd manager or Technician Contact the Herd veterinarian.</p>
Milk Fever	<ul style="list-style-type: none"> Milk and colostrum drain calcium from the blood and cow is not able to replace the calcium quick enough. High producers are more susceptible. 	<ul style="list-style-type: none"> Low blood calcium levels 	<p>STAGE 1: (<1 hour)</p> <ul style="list-style-type: none"> Loss of appetite Excitability, nervousness Hypersensitivity Weakness, weight shifting and shuffling of hind feet. Protrusion of tongue <p>STAGE 2: (1-12 hours)</p> <ul style="list-style-type: none"> Dull appearance and listlessness Cold ears, dry nose. Muscle tremors Constipation Low body temperature, rapid heart rate <p>STAGE 3:</p> <ul style="list-style-type: none"> Inability to stand Loss of consciousness leading to coma and death. 	<ol style="list-style-type: none"> Consult with the Technician Calcium treatment Hydration therapy Contact the veterinarian when required.

1. REFERENCES

- 1.1 Risco, Carlos. (October 26, 2006). Managing the postpartum cow to maximize pregnancy rates. Retrieved from <http://www.milkproduction.com/Library/Scientific-articles/Nutrition/Managing-the-postpartum/>
- 1.2 Gilbert, Robert. O. (Dec.2014). Retained Fetal Membranes in Cows. *Merck Veterinary Manual*. <https://www.merckvetmanual.com/reproductive-system/retained-fetal-membranes-in-large-animals/retained-fetal-membranes-in-cows>
- 1.3 <http://agrifecdn.tamu.edu/victoriacountyagmr/files/2010/07/Recognizing-Handling-Calving-Problems.pdf> Spratt, L.R. (July 2010). Recognizing and Handling Calving Problems. *The Texas A&M University System*.
- 1.4 Cattle Diseases. "Post-Partum Conditions in Cattle". Retrieved from <https://www.farmhealthonline.com/US/disease-management/cattle-diseases/post-partum-conditions/>

Document Status and Revision History

DATE	NEW VERSION
13-Sept-2020	Version 01: Macdonald Campus FACC approved
1-Jun-2023	Version 02: Macdonald Campus FACC approved