 <b>University of British Columbia</b> <b>Centre for Dairy Education</b> <b>and Research</b>	<b>Document Number</b>	<b>SOP-Cow-021</b>
	<b>Revision Number</b>	<b>000</b>
	<b>Effective Date</b>	<b>October 26, 2020</b>
<b>METRITIS</b>		

## 1. PURPOSE

- 1.1. This Standard Operating Procedure (SOP) instructs farm workers and students at the UBC Dairy and Education Centre how to identify and treat an animal suffering from metritis.

## 2. SCOPE

- 2.1. This SOP will describe how to monitor for metritis and how to treat her if needed. It will also outline why it is important for the animal's welfare to do so.

## 3. RESPONSIBILITY


- 3.1. The Operations Manager is responsible for reviewing and updating this procedure as required.
- 3.2. The Operations Manager is responsible for ensuring staff are trained in recognizing the signs of metritis.
- 3.3. The Operations Manager is responsible for transferring entries made in the dairy day book to the herd management software.
- 3.4. Experienced farm workers will be responsible for treating any animals with metritis.

## 4. DEFINITIONS

- 4.1. **Metritis** is an inflammation of the uterine wall.
- 4.2. **DIM**: Days in Milk
- 4.3. **CL Corpus Luteum**: a transient body that forms in the ovary after ovulation occurs. It secretes progesterone in preparation for pregnancy.

## 5. TRAINING

- 5.1. Training will include animal handling, how to score metritis and how to administer injections.

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## **6. SAFETY PRECAUTIONS**


- 6.1. All personnel entering the cattle holding area will wear personal protective equipment -coveralls, disposable latex gloves and dedicated facility footwear.
- 6.1. Care will be taken when handling sharps. Needles and syringes will be disposed of in appropriate sharps container.
- 6.2. Always thoroughly wash hands with soap and hot water when leaving the barn.

## **7. GENERAL**

- 7.1. Metritis is only likely to be a significant health issue in fresh cows < 12 DIM.
- 7.2. Metritis can be mild to severe.
- 7.3. Animals that have had a difficult calving, including birthing twins and retained placenta are most at risk for metritis.
- 7.4. All animals have some level of bacterial contamination after calving, but a healthy cow's immune system will fight the infection off.
- 7.5. Animals with metritis have a pungent, reddish brown, pus-filled vaginal discharge (VD) and may also have a fever. Normal temperature of the cow is 38-39.1°C; the temperature of animals with metritis will be higher.
- 7.6. Animals that have had metritis have a lowered reproductive performance with a significantly lower success rate of conception at first insemination.
- 7.7. Record any observations and treatments in the dairy day book.

## **8. MATERIALS AND EQUIPMENT**


- 8.1. Disposable latex gloves
- 8.2. Rectal thermometer
- 8.3. Procillin (Penicillin g procaine) – an antibiotic

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- 8.4. GnRH – Gonadotropin Releasing Hormone
- 8.5. Estrumate (Prostaglandin)
- 8.6. Flunazine (Flunixin meglumine) – an anti inflammatory
- 8.7. Needles -1-2” in length, 14-18 gauge
- 8.8. Syringes - 3-30 CC
- 8.9. If injections are required, then 4x4” sterile gauze and 70% Isopropanol will be required to clean the injection site.

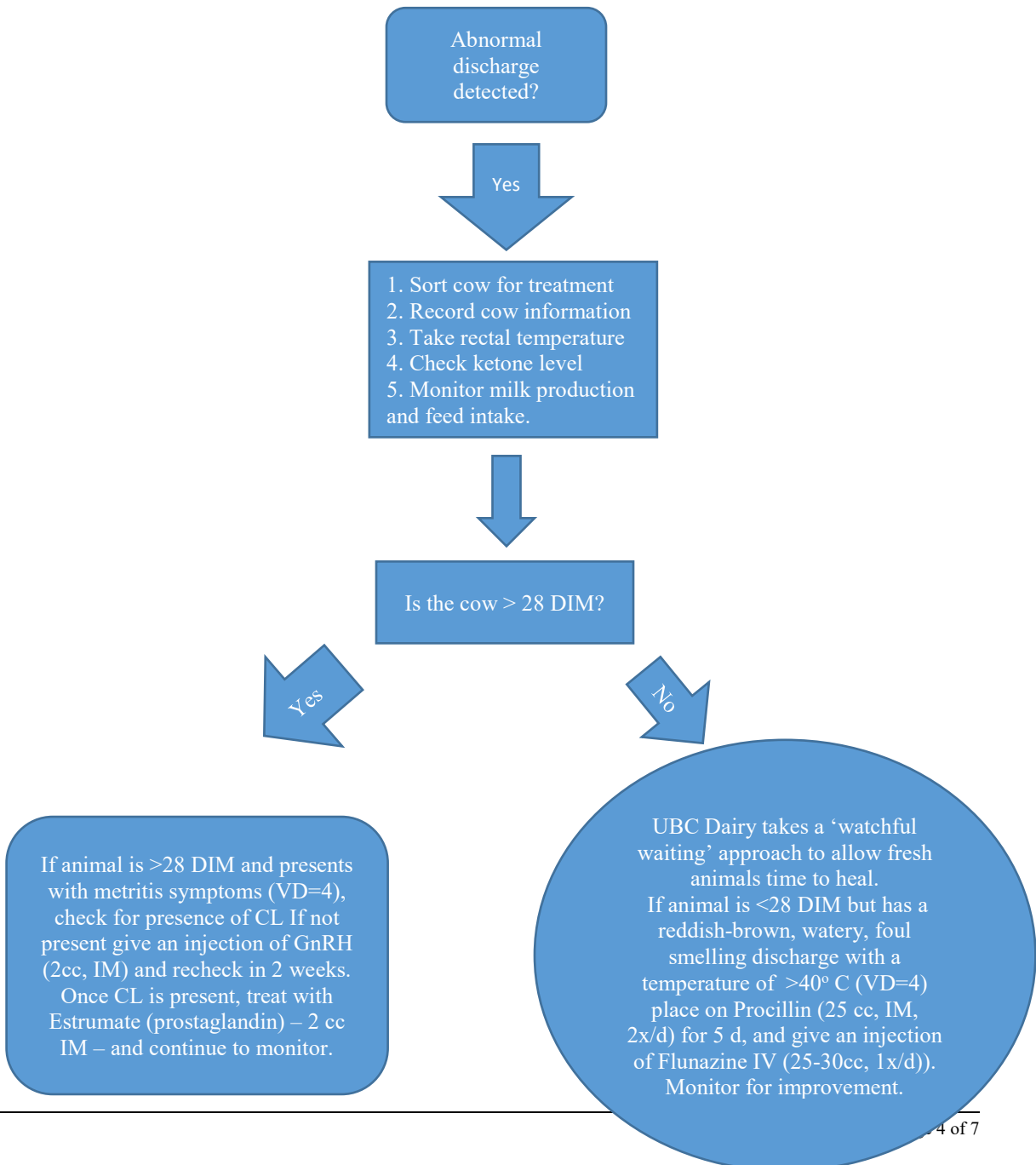
## **9. PROCEDURE**


- 9.1. Select animals with possible signs of metritis that may require treatment (see table 1).
- 9.2. If necessary, move them to a pen with headlocks and allow them time to lock up. See SOPs on Moving & Chasing Cattle, and Handling Cattle for procedures to follow when moving and restraining cattle.
- 9.3. Approach the cow and let her know you’re behind her by stroking and talking to her.
- 9.4. If metritis is suspected, take rectal temperature. Lift her tail up and insert digital thermometer into the rectum. Record temperature.
- 9.5. The appearance and smell of the VD can then be evaluated and scored. See Table 1 and Figure 1.
- 9.6. Treat cow according to its # of DIM, temperature, and the severity of the metritis. See Table 1. See SOP on giving injections for treating cows with penicillin, NSAIDs and/or Estrumate.
- 9.7. If animal presents with symptoms of ketosis, this can be checked using the Keto-Test. See SOP on Ketosis.
- 9.8. When finished, release cows from their headlocks. It is important to stand in the alley when releasing the headlocks so you aren’t in the way of the cows when they back up.

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- 9.9. If animals have been moved to a holding pen, move them back to their pen.
- 9.10. Continue to monitor the animal’s condition on a daily basis by observing feed intake, milk production, VD, and animal demeanor. Continue to treat as required.

Table 1. Flow chart to diagnose metritis



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## Classifying Metritis Severity

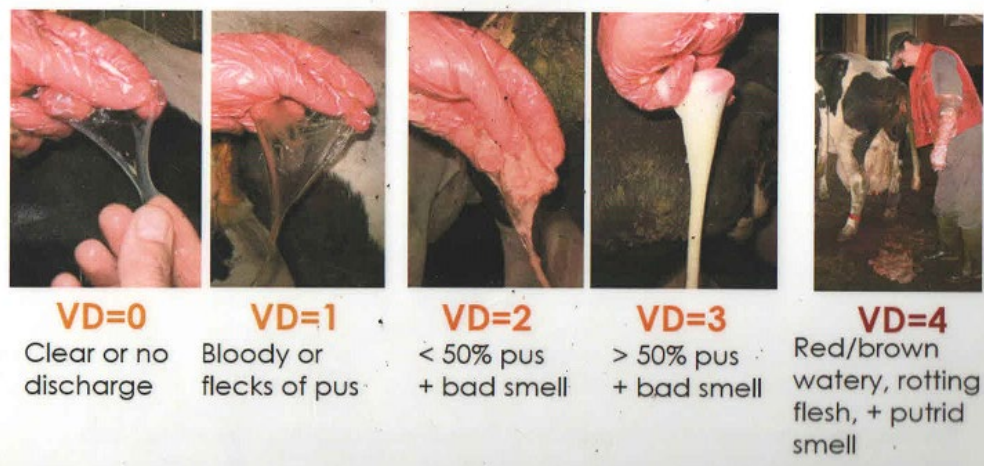



Figure 1. Visual guide to scoring metritis severity. VD 2 & 3 indicate metritis is present, but animal is healing itself. VD 4 indicates metritis that requires treatment.

- 9.11. If an animal with metritis does not respond to 2 rounds of treatment, she is culled from the herd and shipped. See SOP on Fit for Transport.
- 9.12. If the incidence of metritis appears to be increasing, report this to the Operations Manager who, in conjunction with the herd veterinarian and nutritionist will

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investigate and troubleshoot reasons why this may be occurring, and how best to treat.

## 10. REFERENCES

- 10.1. CCAC Guidelines on the Care and Use of Farm Animals in Research, Teaching and Testing. CCAC. 2009
- 10.2. Code of Practice for the Care and Use of Dairy Cattle. National Farm Animal Care Council. 2009.
- 10.3. DAIReXNET video. <https://www.youtube.com/watch?v=IH4vPuOTFyM>. Diagnosis and Treatment of Metritis in Dairy Cows. Stephen LeBlanc. Accessed Dec 12, 2019.

## 11. REFERENCED SOPS

- 11.1. SOP-Cow-005 Fit for Transport
- 11.2. SOP-Cow-006 Moving and Chasing Cattle
- 11.3. SOP-Cow-012 Giving Injections – Subcutaneous, Intramuscular and Intravenous
- 11.4. SOP-Cow-020 Ketosis
- 11.5. SOP-Cow-023 Handling Cattle

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**12. APPROVAL AND REVISION HISTORY**

<b>Author/Approver</b>	<b>Date</b>	<b>Signature</b>
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