

# Endometritis in Cows: Causes, Diagnosis, and Management

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Endometritis is a common postpartum uterine infection in cows, leading to reduced fertility. It is characterized by inflammation of the endometrium (uterine inner lining) and is often associated with bacterial infections. It affects fertility and reproductive performance, leading to economic losses to the dairy farmers. Proper management is essential to ensure quick recovery and prevent complications.

Several factors contribute to the development of endometritis in cows, including:

- **Difficult calving (Dystocia)** – Increased trauma to the uterus
- **Retained placenta** – Provides an environment for bacterial growth
- **Abortion or stillbirth** – Can introduce infection
- **Poor hygiene during calving or artificial insemination (AI)**
- **Nutritional deficiencies** – Low levels of Vitamin A, E, Selenium affect immune response

- **Metabolic disorders** – Ketosis, hypocalcemia
- **Delayed uterine involution**
- **Metabolic disorders like ketosis**
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## Types of Endometritis

1. **Clinical Endometritis** – Clinical endometritis is a postpartum uterine infection in cows characterized by the presence of purulent or mucopurulent vaginal discharge. It negatively affects reproductive performance, leading to decreased fertility and prolonged calving intervals.
2. **Subclinical Endometritis** – Subclinical endometritis is a postpartum uterine condition in cows characterized by inflammation of the endometrium **without visible clinical signs** such as purulent vaginal discharge. It is a major cause of **reduced fertility, leading to delayed conception and increased calving intervals.**



Photo 1: Mucopurulent Vaginal discharge in a cow



Photo 2: Cloudy Vaginal discharge in a cow



**Photo 3: Clean Vaginal discharge  
in a cow during heat**



**Photo 3: White Side test (light  
yellow, endometritis)**

## Diagnosis

- **Clinical Signs:**
- **Rectal Palpation & Ultrasound:**
  - ✓ Thickened uterine wall
  - ✓ Fluid accumulation in the uterus
- **Metrichheck Device or Vaginoscopy:**
  - ✓ Helps assess the type and consistency of uterine discharge
- **Endometrial Cytology & Bacterial Culture:**
  - ✓ Confirms infection and identifies causative bacteria (e.g., *E. coli*, *Trueperella pyogenes*, *Fusobacterium necrophorum*)

- ✓ Mucopurulent or purulent discharge from the vulva
- ✓ Irregular estrous cycles
- ✓ Reduced conception rates
- ✓ **Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)** – E.g., **Flunixin meglumine** to reduce inflammation
- ✓ **Nutritional Supplements** – Correct vitamin and mineral imbalances

## Prevention Strategies

- ✓ **Proper Calving Management** – Reduce dystocia and ensure clean calving environments
- ✓ **Balanced Nutrition** – Provide adequate vitamins (A, E) and minerals (Selenium, Calcium)
- ✓ **Hygienic Artificial Insemination (AI)**
- ✓ **Early Treatment of Retained Placenta & Metritis**
- ✓ **Regular Reproductive Health Monitoring** in postpartum cows

## Conclusion

Early diagnosis and appropriate treatment of endometritis are crucial for improving reproductive performance in cows. Implementing good management practices can significantly reduce its incidence and economic impact.

## Treatment Strategies

### A. Antibiotic Therapy

- **Intrauterine Infusions:**
  - ✓ **Cefapirin** (Preferred for intrauterine use)
  - ✓ **Tetracyclines, Penicillin, or Gentamicin** (Based on bacterial culture)
- **Systemic Antibiotics:**
  - ✓ Used in severe infections
  - ✓ **Ceftiofur or Oxytetracycline** are commonly recommended

### B. Hormonal Therapy

- ✓ **Prostaglandins (PGF<sub>2α</sub>):**
  - ✓ Induces estrus, which enhances natural uterine clearance
  - ✓ Effective in cows with a functional corpus luteum
  - ✓ Examples: **Cloprostenol, Dinoprost**

### C. Supportive Therapy

- ✓ **Uterine flushing** (using diluted antiseptic solutions like povidone-iodine)