

# Texas Dairy Matters

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## **Treating Uterine Infections**

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Uterine infections postpartum continue to be a problem that reduces fertility in dairy cows. Although many different intrauterine treatments have been tried over the years, the success rate was poor. Subsequent reproductive performance was still subpar.

Recently, Canadian researchers have studied the effect of an intrauterine infusion with cephapirin benzathin on subsequent reproductive performance. This product is labeled in Canada for intrauterine infusion, but NOT in the U.S. Cows (2,259) from 28 different herd were diagnosed at 35 (+/- 7) days in milk for purulent vaginal discharge (PVD) and endometritis (ENDO). All herds selected used a synchronization protocol for first service around 70 days in milk. Reproductive performance was recorded through 200 days in milk.

Cows were examined for a PVD and ENDO. The Metrichick tool from New Zealand was used in conjunction with visual observation to diagnose PVD. Endometritis was diagnosed by two different methods, cytological (CYTO) and leukocyte esterase (LE). After diagnosis, cows were randomly assigned to receive an intrauterine infusion (500 mg cephapirin benzathin) or no treatment. The prevalence was 18.8 % for PVD, 35.1% ENDO-CYTO, and 49.2% ENDO-LE. Of the cows diagnosed as having PVD, 56.6% also were diagnosed with ENDO-CYTO.

To determine if cows were cycling or anestrous, blood samples were drawn at 35 (+/- 7) and 49 (+/- 7) days in milk for subsequent progesterone analysis. If both samples were low in progesterone, a cow was considered anovulatory. An elevated progesterone level at either sampling meant the cow was cycling. Based on these results, 26.9 % were categorized as having a prolonged anovulatory period.

As illustrated in Figure 1, intrauterine treatment did not alter the first service pregnancy risk for cows that were not diagnosed as having ENDO or PVD. Nor did treatment alter the pregnancy risk for anovular cows. Intrauterine treatment significantly improved the chance that a cow would become pregnant if she had been diagnosed with ENDO or PVD. In addition, cows that were cycling had an increased pregnancy risk following intrauterine infusion with cephapirin.

The sample size was insufficient to determine if ovulatory status influenced the pregnancy risk of ovulatory cows for the individual classifications of ENDO or PVD.

Based on the results of this study, there may be an effective intrauterine treatment for PVD and ENDO in the future. Until that time continue working with your veterinarian using the products currently legal in the U.S. to treat cows that have ENDO or PVD.

**Figure 1.** The impact of treatment with cephalosporin on first service pregnancy risk for cows with purulent vaginal discharge (PVD), cytological endometritis (ENDO-CYTO), or leukocyte esterase endometritis (ENDO-LE). The same cows were also evaluated based on ovulatory status. (Adapted from Denis-Robichaud and Dubuc, 2015).

