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## TECHNICAL RELEASE



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## **TECH TALK . . .with Dr. Tom**

### **Management and Prevention of Metritis: Part Two**

R. Tom Bass, II, DVM, PhD, & John F. Currin, DVM, ACVP-Dairy

*This article is the second in a two-part series discussing metritis in dairy cows. The first article dealt with diagnosis, treatment, and management strategies. This article focuses on preventative measures.*

While successful treatment of metritis will improve fresh cow health and performance, prevention of the disease should be the dairy producer's ultimate goal. Prevention starts with identification of risk factors for the disease. Bretzlöff and co-workers reported that 76% of cows with assisted calvings, retained placentas, or both developed metritis. Other risk factors for metritis include a dirty calving environment, twinning, induced labor, decreased immune function, and inadequate dry cow nutrition. Address these issues through the strategies suggested below when formulating a plan to reduce the occurrence of metritis on your farm.

#### **Specific Prevention Strategies**

*The recommendations listed below all focus on the same objective: decreasing the occurrence of metritis by minimizing a dairy herd's exposure to risk factors and maximizing its immune function.*

- 1. Keep the furnace fueled.** Strong immune function is a luxury facilitated by good nutrition. For cows on a suboptimal plane of nutrition, immunity is one of the first systems to suffer. This is one of the reasons why maximizing dry matter intake in pre-fresh and fresh cows is so critical. Protein, energy, trace minerals (particularly selenium, zinc, and copper) and fat-soluble vitamins (vitamins A and E) all contribute significantly to a cow's immune function. The less cows eat around the time of calving, the greater the chance of lowered immunity, which could manifest itself in fresh cows as an increased occurrence of metritis. Maximize dry matter intake before and after calving by eliminating limiting factors. Reducing heat stress, preventing excessive body condition and lameness, minimizing negative social interactions (heifers versus cows), and maintaining good feed bunk and water trough management are just several of the many important management considerations during the dry and transition periods.
- 2. Reduce the occurrence of retained placentas.** Retained placentas have been identified as the greatest risk factor for the development of metritis in several studies. Factors such as dystocia (difficult calving), twinning, and cows calving early all increase the risk of placental retention but are sometimes a challenge to change through management. Consider using proven calving ease sires and preventing animals from calving in excessive body condition. These recommendations are particularly important for first-calf heifers, as is ensuring that they are adequately developed (have sufficient frame growth) when they calve. Recent Iowa research has shown decreased immune function can also contribute significantly to the occurrence of retained placenta. Try to maintain optimal immune function by utilizing the strategies on dry matter intake, nutrition, and herd health listed here.
- 3. Maintain a clean calving area.** Replace bedding in calving areas on a frequent basis instead of just adding new bedding on top of old. As an alternative when conditions permit, allowing cows to calve on a grassy lot or paddock is an excellent choice **as long as** the cows can be closely supervised and labor availability can support this type of management. Do not allow cows to calve outside during wet, cold, and/or muddy conditions. Dirt lots are not recommended either because of an increased risk of dust and dirt contamination of the birth canal and uterus.
- 4. Biosecurity and herd health need to become priorities.** Although it may only be a coincidence, it has been the authors'

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observation that many of the herds that experience a high prevalence of metritis are expansion herds with substandard herd health and/or biosecurity programs. Herds undergoing expansion sometimes buy problems they do not want. In situations where cows from numerous sources are commingled, a variety of new infectious diseases may be introduced and begin occurring on the farm. These diseases can challenge a herd's immunity, possibly resulting in more illness, particularly in fresh cows. A cow with decreased immunity may get a uterine infection that a healthier, less stressed cow might be able to fight off. Sound vaccination programs and biosecurity protocols are well worth the extra time, effort, and money needed to implement them successfully, particularly in herds undergoing expansion.

**5. Clean up before going in!** If you need to manually examine a cow during or after calving, be sure that your arm and the back end of the cow are both very clean. The objective is to prevent introduction of any bacteria into the cow's reproductive tract. Wearing a clean palpation sleeve is preferred over a bare arm, even if your arm is washed thoroughly. The cow's vulva and perineal area should be cleaned using a mild soap solution (liquid soaps, iodine scrub, and chlorhexidine scrub are three good examples) and then rinsed. This rule applies any time your arm enters a cow's reproductive tract-- no exceptions!

**6. Give calcium some consideration.** In certain cases, inadequate calcium metabolism in fresh cows may contribute to metritis. Calcium is needed for muscle contraction and cows with a low calcium status may experience poor uterine tone and decreased involution after calving. This could result in a poorly evacuated uterus containing undesirably high levels of organic debris and bacteria, increasing the cow's risk of metritis. Make sure calcium metabolism in fresh cows is adequate by maximizing dry matter intake during the transition period and by formulating for a proper dietary cation-anion difference (DCAD) and high magnesium concentrations in the pre-fresh ration.

Successfully addressing these considerations should reduce the occurrence of metritis. Remember that there is often more than one contributing factor in any given herd, so be sure to consider all the possibilities. Also remember that reducing the number of cows that suffer from metritis should decrease the incidence of other fresh cow diseases (such as ketosis and abomasal displacement). This will result in better fresh cow performance, improved production, and increased profitability.

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