



Streptococcus uberis Mastitis

Streptococcus uberis is a Gram-positive bacterium that can be found gastrointestinal tracts and skin of cattle. It is also ubiquitous in the environment. It is the most common cause of udder health problems in Australian dairy herds.

Streptococcus uberis has been classified as an environmental mastitis pathogen. However, it does have the capability of acting as a cows associated mastitis pathogen (meaning spread from cow to cow generally at milking).

Soil, faeces, water and vegetable matter are the likely source of infection. These particular environmental conditions (high moisture conditions) can allow the bacteria to persist for a long time. Infection is usually transmitted between milkings (generally not transmitted in the milking shed), however wet teats and poor hygiene and poor milking machine maintenance can allow the bacteria to be spread during milking process. Cows of any stage of lactation (including dry cows) are at risk of *Streptococcus uberis* mastitis.

The *Streptococcus uberis* bacteria colonise the teat canal and ascends into the mammary gland. Once in the mammary gland it rapidly multiplies and spreads throughout the affected gland. A strong inflammatory response is initiated. In a small number of cases the bacteria can be walled off by scarring and this prevents the cow's immune system and antibiotics from reaching the bacteria to kill them.

Currently there is little antibiotic resistance by *Streptococcus uberis* bacteria. Prompt treatment of clinical mastitis results in a clinical (bacteriological) cure in 82-91% of cases. Therefore, only a small proportion of cows can become chronically infected with this type of mastitis. Some cows may have high SCC's for several weeks post treatment due to tissue damage in the infected quarter despite the bacteria not being present.

General treatment protocols for *Streptococcus uberis* mastitis infections include:

Mild mastitis -Clots or wateriness that persists for more than 3 squirts of milk

- Intramammary or intramuscular antibiotics
- +/- anti-inflammatories

Moderate mastitis- Changes in the milk and/or a swollen quarter that is hard and warm to the touch (often painful)

- Intramammary or intramuscular antibiotics
- Anti-inflammatories

Control

Environment:

- Herd environment should be dry and clean as possible- this includes yards, holding yards, laneways, tracks and areas around trough, feed pads and gateways.
- If cows camp in muddy/ faecally contaminated areas, fencing off these areas may be required.
- Calve cows down in clean and well-drained area.

Milking shed:

- Make sure milking machines are maintained and serviced regularly.
- Ensure teat liners are changed as per manufacturers recommendations.
- Milking dry and clean teats – if washing is required it is best to dry with paper towel before cups are put on.
- Post milking teat disinfection- cover all surfaces of all four teats with teat disinfection.

Other:

- Ensure cows diet had adequate selenium being offered- this is important for the cow's immune system.
- Using internal teat sealant and an intramammary antibiotic at dry off (important to reduce mastitis post dry off).
- If cows' drip/run colostrum before calving, consider milking them prior to calving.

Reference: Parkinson, T. J., Vermunt, J. J., & Malmo, J. (2019). Diseases of cattle in Australasia: a comprehensive textbook. New Zealand Veterinary Association Foundation for Continuing Education. Massey University Press, Auckland, 0745, New Zealand