



Reference guide for mastitis-causing bacteria

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(Information obtained from NMC Laboratory Handbook on Bovine Mastitis and veterinary consultation for treatment recommendations)

| Classification | Bacteria | Contagious or Environmental | Source | Spread | Control | Treatment* |
|--|--|------------------------------|--|--|--|--|
| Staphylococcus spp. | <i>Staph. aureus</i> | Contagious | Infected udders, hands of milkers | Milking time | Post dip, DCT ¹ , segregation and cull if necessary | Early lactation – 8 days pirlimycin, do not treat chronic infections |
| | Coagulase (-) staph. & <i>S. hyicus</i> | Neither | Skin flora & occasionally environment | Infect teat canal from skin sources | Post dip, DCT | Treat clinical cases (broad spectrum), DCT |
| Streptococcus spp. and Enterococcus spp. | <i>Strep. agalactiae</i> | Contagious | Infected udders | Milking time | Milking time hygiene, post dip, DCT | Label recommendations for beta lactam antibiotics |
| | <i>Strep. dysgalactiae</i> | Contagious and Environmental | Infected udders and environment | Milking time & environmental contact | Milking time hygiene, pre & post dip, DCT, teat seal | Label recommendations for broad spectrum antibiotics |
| | <i>Strep. uberis</i> | Environmental | Environment – early dry period | New IMI ² during early dry period | Milking time hygiene, pre & post dip, DCT, teat seal | IMM ³ Therapy or 4-5d penicillin systemically (5cc/100lbs body weight)** or 5-8 days pirlimycin |
| | Environmental strep & Enterococcus spp. | Environmental | Environment | Environmental contact | Milking time hygiene, pre & post dip, DCT, teat seal | |
| Coliform | <i>Escherichia coli</i> | Environmental | Bedding, manure, soil | Environmental contact | Cows clean & dry, use of sand bedding, pre dip, a J5 vaccine | Do not treat local/mild cases. Systemic cases – 2-3L hypertonic saline IV, followed by oral fluid therapy, NSAID ^{***} , injectable antibiotics and IMM ceftiofur |
| | <i>Klebsiella</i> spp. | Environmental | Organic bedding | Environmental contact | Avoid sawdust & recycled manure, pre dip, J5 vaccine | |
| | <i>Enterobacter</i> spp. | Environmental | Bedding, manure, soil | Environmental contact | Cows clean & dry, use of sand bedding, pre dip, a J5 vaccine | |
| | <i>Serratia</i> spp. | Environmental | Soil and plants | Environmental contact | Cows clean & dry, pre dip (no chlorhexidine products) | Do not respond to IMM treatment |
| | <i>Pseudomonas</i> spp. | Environmental | Water & wet bedding | Environmental contact | No water use in parlor, no cooling ponds, sand bedding, a J5 vaccine | |
| | <i>Proteus</i> spp. | Environmental | Bedding, feed & water | Environmental contact | Not much known, use of sand bedding, a J5 vaccine | |
| | <i>Pasteurella</i> spp. | Probably contagious | Upper respiratory tract of mammals and birds | Unknown – likely cow to cow | Prevent teat injuries, remove affected cows from herd | |
| Other | Yeast & mold | Environmental | Soil, plants, water | Dirty infusions | Aseptic infusions | No treatment |
| | <i>Corynebacterium bovis</i> & other coryneforms | Contagious | Infected udders | Cow to cow | Post dip | Treat clinical cases and DCT |
| | Prototheca | Environmental | Soil, plants, water | Dirty infusions, infected udders | Aseptic infusions, eliminate infected cow | No treatment – cull cow |
| | <i>Bacillus</i> spp. | Environmental | Soil, water, air | Dirty infusions | Aseptic infusions | Broad spectrum antibiotic |
| | <i>Trueperella pyogenes</i> | Environmental | Teat injuries | Flies | Fly control | Kill affected quarter or remove from herd |
| | <i>Mycoplasma</i> spp. | Contagious | Infected udders | Milking time | Milking time hygiene, segregation and culling | Remove from the herd |

***These are general treatment recommendations – actual recommendations may vary from herd to herd. Please consult your veterinarian.**

**Extra label usage; Please consult your veterinarian before starting this protocol and for appropriate milk and meat withdrawal times

***Nonsteroidal anti-inflammatory drugs

¹ – DCT, dry cow therapy; ² – IMI, intramammary infection; ³ – IMM, intramammary