

Reference Guide for Mastitis-Causing Bacteria¹

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Classification	Bacteria	Contagious or Environmental	Source	Spread	Control	Treatment ²
Staphylococcus spp.	<i>Staph. aureus</i>	Contagious	Infected udders, hands of milkers	Milking time	Postdip, DCT ³ , segregate and cull if necessary	Early lactation: 5-7 days pirlimycin, do not treat chronic infections
	Coagulase (-) staph. and <i>S. hyicus</i>	Neither	Skin flora and occasionally environment	Infect teat canal from skin sources	Postdip, DCT	Treat clinical cases (broad spectrum), DCT
Streptococcus spp. and Enterococcus spp.	<i>Strep. agalactiae</i>	Contagious	Infected udders	Milking time	Milking-time hygiene, postdip, DCT	Label recommendations for broad spectrum antibiotics
	<i>Strep. dysgalactiae</i>	Contagious and environmental	Infected udders and environment	Milking time and environmental contact	Milking-time hygiene, predip and postdip, DCT, teat seal	Label recommendations for broad spectrum antibiotics
	<i>Strep. uberis</i>	Environmental	Environment: early dry period	New IMI ⁴ during early dry period	Milking-time hygiene, predip and postdip, DCT, teat seal	IMM ⁵ therapy or 4-5 days penicillin systemically (3.5 cc/100 lb body weight) ⁶
	Environmental strep and Enterococcus spp.	Environmental	Environment	Environmental contact	Milking-time hygiene, predip and postdip, DCT, teat seal	
Coliform	<i>Escherichia coli</i>	Environmental	Bedding, manure, soil	Environmental contact	Cows clean and dry, use of sand bedding, predip, J5 vaccine	Do not treat local cases. Systemic cases: 2-3 L hypertonic saline IV, followed by oral fluid therapy, NSAID ⁷ , and injectable antibiotics
	<i>Klebsiella</i> spp.	Environmental	Organic bedding	Environmental contact	Avoid sawdust and recycled manure, predip, J5 vaccine	
	<i>Enterobacter</i> spp.	Environmental	Bedding, manure, soil	Environmental contact	Cows clean and dry, use of sand bedding, predip, J5 vaccine	
	<i>Serratia</i> spp.	Environmental	Soil and plants	Environmental contact	Cows clean and dry, predip (no chlorhexidine products)	180-300 ml hypertonic saline IMM infusion
	<i>Pseudomonas</i> spp.	Environmental	Water and wet bedding	Environmental contact	No water use in parlor, no cooling ponds, sand bedding, J5 vaccine	
	<i>Proteus</i> spp.	Environmental	Bedding, feed, water	Environmental contact	Not much known, use of sand bedding, 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	Do not respond to IMM treatment
Other	Yeast and mold	Environmental	Soil, plants, water	Dirty infusions	Aseptic infusions	No treatment
	<i>Corynebacterium bovis</i> and other coryneforms	Contagious	Infected udders	Cow to cow	Postdip	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>Arcanobacterium pyogenes</i>	Environmental	Teat injuries	Flies	Fly control	Kill affected quarter or remove from herd

1. Information obtained from NMC Laboratory Handbook on Bovine Mastitis and veterinary consultation for treatment recommendations.
 2. These are general treatment recommendations: actual recommendations may vary from herd to herd. Please consult your veterinarian.
 3. DCT = dry cow therapy
 4. IMI = intramammary infection
 5. IMM = intramammary
 6. Extra label usage; please consult your veterinarian before starting this protocol.
 7. NSAID = Nonsteroidal anti-inflammatory drugs