Diarrheic Beef Calf (<30 days old) – Antimicrobial Treatment Decision Tree

**Pasty soft manure, no dehydration, bright and alert, still nursing cow (belly full), can’t catch easily.**

**Mild diarrhea** (semi-liquid but still solids), mild depression, dull, belly not full, mild dehydration 6-8% (eyeball recession 2-4 mm skin tent 1-2s, CRT<2s), light pink gums (normal), ambulatory, nursing cow, good suckle reflex.

**Moderate diarrhea** (liquid, wet tail and hindquarters), depressed, moderate dehydration 8-10% (eyeball recession 4-6 mm, skin tent 2-5s), empty belly, not nursing cow (udder full), weak suckle reflex, general weakness but still ambulatory.

**Severe watery diarrhea** (fire-hose diarrhea, pure liquid) or diarrhea with blood or mucosal shreds, severe depression, severe dehydration ≥10% (eyeball recession ≥6 mm, skin tent ≥5s, CRT>2s), empty belly, not nursing cow (full udder), weak, no suckle reflex, cold, recumbent, red gums or toxic line.

**NO FEVER**

Leave on cow. Monitor for developing signs of systemic disease, such as depression, lethargy, weakness, reduced milk intake (full udder on cow), dehydration (↑skin tent, ↑CRT), fever (rectal temp ≥39.5°C), purple/red gums or toxic line.

**FEVER**

Leave on cow, supplement with appropriate oral electrolytes*, NSAIDs*, antimicrobial† if ≤3 days of age, monitor closely.

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Leave on cow, treat with appropriate oral electrolytes with dextrose*, bolus of IV fluidsβ, NSAIDs*, antimicrobial†, monitor closely.

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**FEVER**

Remove from cow, warm IV fluidsβ (bolus of IV fluidsβ initially followed by continuous slow IV dripβ); once sucking give appropriate oral electrolytes with dextrose*, milk‡, NSAIDs*, antimicrobial†, hot box, monitor very closely.


Note: Fecal bacterial culture and antimicrobial susceptibility testing is not recommended in calves with diarrhea because fecal bacterial populations do not accurately reflect small intestinal or blood bacterial populations and because the break points for susceptibility test results have not been validated. J Vet Intern Med 2004; 18:8–17. If herd problem, may consider fecal sampling to determine if problem E. coli (usually ≤3 days of age), cryptosporidia (5-14 days old), rota/corona virus (5-14 days old), bloody scour (DDX: Clostridial perfringens, Salmonella spp), coccidiosis ≥14 days old. Mixed infections common. If herd problem, investigate risk factors associated with diarrhea and adjust to prevent and control disease e.g. poor Colostrum immunity (Failure of Passive Transfer) overcrowding, environmental factors including poor hygiene...Vet Clin North Am Food Anim Pract. 2012 Nov; 28(3): 465–481.