

Handling Lameness Problems in Dairy Herds

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Lameness remains a major cause of disease and economic loss on dairies. Sole ulcer (pododermatitis circumscripta), white line disease, subsolar abscesses, and interdigital necrobacillosis (footrot) are common digital disorders that, if not treated promptly, can progress to create infection of bone, synovial structures, tendons, and ligaments of the digit. These deeper structures may also become infected from solar puncture wounds, lacerations, avulsion injuries of the hoof, and progression of subsolar abscesses deeper into the foot. Infection of these structures has been termed generalized digital sepsis, or, for the purposes of this discussion, deep sepsis of the digit.

Obviously, it is preferable for medical and/or surgical intervention for lame cattle to occur prior to the establishment of deep sepsis of the digit, simply because treatment options for deep sepsis are more radical and expensive. In cases of deep sepsis of the digit, antimicrobial therapy alone does not usually elicit a cure. It is possible that necrosis of infected tissue and the resultant loss of blood supply prevent effective concentrations of antimicrobials from reaching all areas of bacterial colonization. Thus, digital amputation or digital salvage procedures involving debridement, drainage, and lavage of infected structures is usually required for resolution of lameness. Amputation of the digit may not be the best treatment option if the animal is heavy, maintained on range, or intended for long-term (> 18-24 months) productivity.

Many livestock owners choose to make the initial diagnosis of digital disorders, with varying degrees of accuracy, and to initiate treatment on premises. Treatment often consists of antimicrobial therapy, either alone or combined with analgesic therapy, corrective trimming, and limited surgical intervention (e.g. paring out of sole abscesses). While some treatment failures are inevitable, the results from studies indicate that some problematic cases of lameness are treated for lengthy periods of time prior to the initiation of aggressive surgical treatment. Another question arises: What went wrong in these cases? Was the diagnosis inaccurate, resulting in ineffective treatment being applied? Was the diagnosis accurate, but was the affected animal identified too late in the disease course to head off deep sepsis?

In an effort to reduce the number of such problematic lameness cases, the authors recommend that protocols for diagnosis, treatment, and recording of common digital disorders in cattle be established on dairies. Treatment protocols allow the producer and veterinarian to track the incidence of specific digital disorders, perform periodic, evidence-based reviews of treatment response rates, and monitor the dosing and administration procedures for antibiotics and analgesics on the ranch or dairy. Cases that fail to respond to protocol-based treatments can be more readily identified for veterinary examination, thereby facilitating early decisions for treatment or marketing of the animal and potentially limiting application of futile treatments. Improvement in animal welfare, more judicious use of antimicrobials, and reduction in treatment costs are additional, potential benefits. Without treatment guidelines, lay personnel may simply attempt therapy with a variety of antimicrobials or topical remedies, often enabling progression of disease through inadequate or inappropriate therapy. Please see the accompanying insert for further discussion of diagnosis and treatment of dairy cow lameness protocols.