

Lameness in Beef Cattle

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Lameness is one of the most common problems seen in beef cattle of all ages. It results in economic losses due to decreased weight gain and weight loss, decreased fertility, cost of treatment, and early culling and decreased time in the herd. Lameness is also viewed as an animal welfare concern.

The vast majority (90%) of lameness in adult cattle is due to problems in the foot with the lateral or outside claw of a hind foot being most commonly affected. Foot rot is one of the most common causes of lameness in cattle and is usually treated on the farm or ranch by the producer. If not treated or if cases do not respond to the appropriate treatments, other vital structures of the foot, such as the coffin joint, tendon sheath or coffin bone, can become infected resulting in deep digital sepsis. Other causes of lameness originating in the foot include sole ulcers, subsolar or toe abscesses, hairy heel wart, white line disease, wall cracks, penetrating foreign bodies, lacerations, heritable claw abnormalities, septic arthritis and other injuries to the digits.

The remaining 10% of lameness originates in the upper limb or the spine. It is important to differentiate upper limb causes of lameness from foot problems because examining the foot, whether by lifting the leg or the use of a trimming table, can cause further injury to the upper limb. The most common causes of upper limb lameness include stifle or knee injuries, fractures, spinal and nerve injuries, lymphoma, spastic paresis/syndrome, and trauma. Upper limb issues often result in muscle wasting of the affected limb.

Following lameness originating in the foot, stifle injuries are the second most common cause of lameness. Stifle injuries are almost always due to trauma and vary in severity. Depending on how severe the injury is and the economic value of the animal your veterinarian may offer different treatment options including stall rest, surgery, or slaughter/euthanasia. It is important that if an animal is suspected of having a stifle injury, it be moved to an area that is clean and dry with good footing, and isolated away from other animals in the herd until it can be examined.

Many cattle are treated for “foot rot” when they do not have the disease and in fact have a more severe disorder of the foot. Cattle with simple foot rot can be severely lame. It is important to look at the foot when treating an animal that is suspected of having foot rot. If one claw or toe is swollen, this indicates that deeper tissues are infected, such as the joint or tendon sheath, and the animal needs to be seen by a veterinarian. With common or uncomplicated foot rot cases the entire foot is symmetrically swollen from the dewclaws down to the coronary band. There will also be a foul odor associated with the foot and the skin between the toes will be ulcerated. These animals will respond to one dose of antibiotics, most commonly oxytetracycline (LA200®)

or Noromycin®), and be almost sound in 2-3 days. If the animal does not respond to antibiotics it should be reevaluated to determine the underlying cause of the lameness.

In neonatal calves and young animals joint and growth plate infections (often secondary to inadequate colostrum ingestion at birth) and fractures are more common than foot issues. Calves with infected joints or growth plates (physis) can be slightly lame, but this worsens in severity over time and the animal will bear little to no weight on the affected limb. These calves will spend the majority of their time lying down and will have decreased weight gain. Both fractures and infected joints/growth plates should be treated as an emergency and a veterinarian contacted immediately.

Lameness in stocker and feeder cattle can be caused by joint infections similar to pre-weaned calves, but is more commonly associated with foot rot, toe abscesses, and hairy heel warts. Foot rot and hairy heel warts are treated similarly with systemic antibiotics and topical antiseptics. Both of these conditions are infectious and can cause similar issues in other cattle. Toe abscesses are due to calves traumatizing their feet on flooring with poor footing and cattle handling procedures. Toe abscesses do not cause swelling in the foot and calves are extremely lame. When treating a toe abscess, it is important to tip the toe to allow drainage while avoiding the sensitive tissues of the claw which bleed. These cases need to be kept in an area which is as clean and dry as possible.

There are many more processes which can cause lameness in adult cattle when compared to calves and stocker/feeder cattle. Some of the most common problems seen include subsolar abscesses, sole ulcers, and deep digital sepsis. Subsolar abscesses are most commonly due to white line disease or trauma/penetration of the hoof. Cattle with subsolar abscesses can be non-weight bearing lame and not have any swelling in the leg or foot. These must be pared and drained for resolution. Depending on the severity of the case the foot may be bandaged, a wooden block applied to the healthy claw, and the animal given systemic antibiotics and a non-steroidal anti-inflammatory (NSAID) such as flunixin meglumine (Banamine®).

Sole ulcers are commonly found in animals with corkscrew claw. This is a hereditary condition in which the hoof wall curves under with rotation of the toe secondary to abnormal structure of the coffin bone. Lameness is associated with abnormal weight bearing on the digit leading to other issues such as sole ulcers and sole bruising. Cattle with corkscrew claw require routine hoof maintenance and should be trimmed 2-3 times yearly. Due to the fact that it is a hereditary condition affected cattle should be used only in terminal programs and should not be kept to produce replacement animals.

Deep digital sepsis is a severe condition which commonly results in salvage of the animal. It is most commonly characterized by swelling around the coronary band of one claw which indicates infection of the coffin joint and coffin bone, and possibly the tendon or tendon sheath. Occasionally there is a draining tract associated with the swelling. Cattle will be extremely

lame, spend the majority of their time recumbent and will lose weight. If caught early the joint can be flushed and regional perfusion with antibiotics performed. Most commonly the animal is salvaged or undergoes surgery to treat the condition. Surgical options include amputation of the affected digit or ankylosis of the coffin joint. It is important that your animal be examined by a veterinarian immediately upon noticing that a single digit is swollen.

With all causes of lameness in cattle it is important to remember that if they do not respond to treatment within 2-3 days or get worse it is best to contact your veterinarian as it is important to treat sooner rather than later. It is also important to provide pain management to lame animals through the use of NSAIDs. Steroids should be used with caution, especially in the case of infectious causes of lameness and joint infections, as they can mask severity of lameness while allowing the infection to worsen. With any lameness if you have questions or are unsure how to treat the animal please contact your regular herd veterinarian or the MSU Food Animal Clinic.

