Bovine Lameness

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This paper will cover the corrective procedures for some of the more common forms of lameness as found in the adult bovine male in the western Dakotas. The causes of these problems are fairly obvious to most veterinarians, and the treatment procedures have been established for a number of years. I realize that this is not a new disease, nor are any of the surgical or treatment procedures new, but I certainly feel that proper treatment and evaluation are important. The quick return of this animal to its intended use is paramount. I want to remind all of you that no breeding bull, regardless of confirmation, haircoat, color, size or breed is any better than the feet he travels on. For most of you here this afternoon, this will serve as a short refresher course–and I hope you will find it interesting and informative.

Tibial Fractures: This is a common problem occurring mainly in the younger animal from one to three years of age. The mid-shaft fracture is usually a result of fighting and is relatively easy to correct. Due to the increase of muscle-mass, the fracture situated above mid-shaft is much more difficult to handle as you progress up the rear limb.

Our splint is constructed from double-strength electrical conduit, and it is, therefore, lightweight and strong. The extension principle is applied by threaded rods firmly attached to a foot plate and allowed to slip into the vertical pipes so that the nuts on the threaded rods are turned, thus applying extension to the limb.

The foot plate is firmly attached to the foot by drilling holes through the hoof wall and passing a wire through the holes in the hoof wall and then through a hole in the foot plate. The wire is then twisted so that the plate becomes firmly attached to the hoof. I also use two rolls of one-inch adhesive tape which I wrap around the hoof and the foot plate. It is very important to attach this plate as straight as possible with the long axis of the limb, otherwise considerable rotation of the leg can occur.

The tubular ring and vertical rods are now slid over the limb and the end of the threaded rod is bolted to the foot plate. By the turning of the nuts on the threaded rods, extension is applied. When the desired extension is effected, the leg is further supported by a plaster cast around the fracture sight. It is cast laterally as far as possible. Cast removal is done at four to six weeks.

How much extension to apply is determined by constantly comparing the fractured limb to the normal limb and I try to extend at least two inches longer than the normal limb. I am certainly more concerned about under-extension than I am with over-extension. The first 24 hours following splint application are critical for this animal because he must learn that he cannot get up if the leg that is in a cast is underneath his body. And we know that if he remains in a lateral recumbency long enough, he is probably going to bloat. Most animals will learn in a very short time that in order for him to get on his feet, the sound limb must be under his body.

We allow 72 hours for the patient to become ambulatory. If at the end of this time he has not been up on his own, we will remove the cast and salvage the animal. Never attempt to cast an animal that is not ambulatory *before* casting. These casts are able to be used again, and we request that they be returned.

If fracture is below the hock, we use only plaster casting with wooden supporting splints. For fractures higher than mid-shaft tibial, we recommend salvage.

Interdigital Fibroma: This condition is commonly observed on our breeding bulls, and is seen occasionally on the female. The lameness caused appears to be proportional to the size of the connective tissue growth. If the fibroma is not infected, it probably is not the cause of the lameness; however, careful observation will determine the presence of any necrotic lesion at the junction of the fibroma and the medial aspect of the claw. The foot is scrubbed and disinfected, procaine is infiltrated dorsal to the fibroma, and the growth is surgically removed. A dressing is applied, and the two claws are wired together to promote faster healing.

Claw Amputation: The reasoning for the use of this procedure is obvious. Usually there is a hopeless lesion of long standing and one that is totally resistant to drug therapy. Since we started to use wooden blocks, we do not amputate nearly as often.

Following preparation of the surgical site, the claw is amputated using a wire saw. We usually do not use the flap technique. After the removal of the affected claw, all bleeders are tied off and the stump is tightly packed. This pack is removed in 24 hours and a dressing is applied. It will be necessary to change this dressing in about 5-7 days. Following claw amputation, we usually see an almost immediate return to normal locomotion.

Foot Trimming: Trimming is done to prevent and correct possible lameness. Conformation faults and too much weight will usually result in abnormal foot wear and subsequent abnormal foot growth. On the rear limb, lateral overgrowth of the hoof wall is the most common reason for trimming. The wall surface will grow over and around the sole. Sometimes this

overgrowth will be incorporated into the sole, but more commonly there will be a space between which is usually filled with debris. On the forefoot, in addition to lateral wall growth, we see most of the results of previous laminitis, with various types of wall cracks originating at the coronary band. Depending on size, we grind out the crack and may or may not fill it with acrylic. These cracks are due in most part to previous exposure to high-grain rations. Overheating in the young adults, such as fighting and riding, are other causes.

Many of our older and larger bulls will show one claw much larger than the other, but we do not attempt to equalize the size of the two. As I trim, I try to imagine what this foot *should* look like and then go accordingly.

Observation of the animal's locomotion before trimming will indicate to you corrective procedures that you might wish to apply. I think that the most common error in trimming is taking off too much. We recommend trimming at least 30 days before the breeding season to allow sufficient time to correct any lameness that may result from the trimming procedure. We always apply a hoof dressing oil to the trimmed foot.

Foot Blocks: The wooden foot block has been a real asset for the veterinarian working with large animals. Its use in our clinic has been almost eliminating claw amputation. We use them for all chronic foot rot and for those acute cases where return to pasture is paramount. Following a complete foot trim, we groove the sole of the sound claw with the edge of the grinder in a checkerboard fashion, mix the solution and the powder, spread this mixture on the sole and on the wooden block and than apply the block to the foot.

Sub-sole Infection: This condition is characterized by varying degrees of lameness, no swelling above the coronary band, and no wound. An old vertical crack will usually be found on the affected claw. By careful palpation, you will be able to detect a soft, sensitive area beneath the sole at the anterior aspect of the foot. On opening and draining this small abscess, you will observe a very foul-smelling, clear liquid. After drainage, we apply an iodine pack and the relief given will be manifested by a rapid return to normal locomotion.

Foot Rot: This term is commonly used to describe any lameness accompanied by infection. This is certainly our most common lameness and has a great variety of causes. Most of the affected animals will show swelling above the coronary band, at the bulb of the heel or between the claws. There may be a lesion present. Under range conditions, this is observed year around, but its greatest significance is during the breeding season. It is very important for the veterinarian to treat this animal and return him to breeding service as quickly as possible.

In the examination of the foot, you should look at all parts, palpate carefully, checking for heat and pain, clean out any wound present, check carefully for puncture sites and for foreign bodies between the claws and above the hoof. If a lesion is present, we wash thoroughly, apply iodine and apply a dressing. This dressing is usually changed before the patient is sent home.

In addition to caring for the wound, we give I.V. sulfonamides for three days and penicillin dihydrostreptomycin for three days, also. The acute type of infection will respond very favorably to this treatment. In some cases, a foot block will be used.

Chronic Foot Rot: Those animals with a lameness history of over two weeks are usually resistant to treatment. The use of foot block or claw amputation may be of benefit. On some chronics, we have used hot foot baths with salts; however, under most circumstances, time, effort and cost is prohibitive. We have found it more practical to try medication with a foot block, and if that does not help, salvage the animal before weight loss becomes extensive.