

Claw Amputation . . . It's a Wrap!

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Claw amputation in the bovine provides quick relief of pain in the case of an infected coffin joint. Compared to facilitated ankylosis, claw amputation has the advantage of quicker return to potential production. Except for intramuscular antibiotics, the postoperative care can be eliminated with the use of a pine tar wrap.

My practice began using a pine tar wrap on claw amputations in an effort to avoid the costly follow-up visits every three days to re-wrap. We also wanted an impervious bandage to protect the wound when the cow stood in several inches of liquid manure.

The procedure for claw amputation is well described in veterinary literature.^{1,2,3} Our technique has generally removed the digit through the distal portion of the first phalanx. In the event the wire transects the pastern joint, the small portion of the proximal end of the second phalanx and the cartilage of the first phalanx can be removed with a "Ranch Rongeur", also known as a Barn's Dehorner. The medial digital artery requires ligation to prevent blood loss after the leg straps are removed. The smaller arteries and veins can be ligated if the dehorning iron fails to provide hemostasis. Tetracycline powder is generously applied and covered with cast padding. Sterile cotton is wrapped with the dewclaws exposed to prevent pressure necrosis. Gauze is used to secure the cotton, which is then covered with a pint of pine tar. Two additional rolls of gauze are applied, followed by three rolls of Vetrap.

Post surgically, ampicillin or amoxicillin is administered for seven days. The bandage is removed 21 days after surgery.

We certainly want to avoid a high incidence of coffin joint infections. We encourage our dairy clients to treat footrot cases promptly, trim hooves aggressively (2X/year), and maintain adequate forage NDF. In spite of these efforts, the occasional cow with footrot begins treatment much too late or the cow has a severe sole ulcer with an open tract into the coffin joint. We can turn our head when we see the three-legged lame cow in the hospital pen or we can promote our veterinary service and provide an opportunity for the affected cow to stay off the cull list, at least temporarily.

Our clinic has performed 41 claw amputations over the past four years. Efforts to document post-surgical

herd longevity on each of these cows proved to be difficult because the Dairy Comp 305 records are stored in the archive file after 12 months and many dairies do not keep backup disks. But by reviewing hand-written dairy records in combination with Dairy Comp 305 records and personal interviews, 1-year survival was calculated. Of the 35 cows with available records, 17 (48.5%) achieved 1-year survival. Two of 35 cows (6%) died within 30 days of the surgery, but both also had LDA surgery.

The customary veterinary fee, drugs and supplies for claw amputation are listed below:

Office Call	\$ 21.50
Veterinary Service	
1.33 hr @ \$75-90 per hour	\$ 100.00 - 120.00
SERVICES	<hr/>
	\$ 121.50 - 141.50
60cc Lidocaine	\$ 1.20
3cc Torbugesic	19.29
2 m OB wire	2.22
1 pint pine tar	5.92
1/4 # sterile cotton	5.00
1 roll cast padding	2.97
3 rolls army gauze	2.85
3 rolls Vetrap	6.87
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Pharmaceuticals & Supplies	\$ 46.32
TOTAL FEES	<hr/>
	\$ 167.82 - 187.82

If we set a target of 50% 1-year survival on claw amputations in herds with a 33% cull rate, the risk of being culled is 1.5 times as high as the herd average. If we start with a cow worth 50% of the normal cull cow, we have the opportunity to recover the full cull value (1,300# x .37 = \$480 vs 1,200# x .2 = \$240) in addition to producing milk from 50% of the cases. If the dairy's net profit per cow is \$500, we can expect (.5 x \$500 =) \$250 in addition to \$240 added cull value. Our list of 35 cases included nine cows (or 26%) surviving 2 years. So there is another potential \$130 income per cow (.26 x \$500).

Possibly the greatest incentive for a dairyman to choose claw amputation as his option is the cow with antibiotics already administered when the slaughter withdrawal is greater than 21 days. At that point he may recover full salvage and have 50% odds of milk production for 12 months ($1,300\# \times .37 + \$500 \times .5 = \730).

After reviewing these 35 cases, I believe the veterinarian should expect the culling pressure on claw amputations to be about 1.5 times the herd average. Present cull value compared to full cull value needs to be considered in addition to potential milk production. Pine tar wraps allow the veterinarian to charge for all

of his or her time. Just remember, a few claw amputations will pay your registration and plane ticket to the next AABP meeting!

References

1. Textbook of Large Animal Surgery, Second Edition Frederick W. Oehme 1988 pp 202-205.
2. Bovine Medicine and Surgery, Second Edition H.E. Amstutz 1980 p 1232.
3. Veterinary Clinics of North America Food Animal Practice, Advances in Ruminant Orthopedics Guy St. Jean, D.M.V. Vol 12 No 1 March 1996 pp 277-287.