

held in place by wetting the other ½ roll to wrap with, to accomplish this. A 3rd roll is often used to make sure that the cast is good and sturdy. It's wrapped all over the previous casting to reinforce it everywhere.

When it's dry, the final step is to cover the cast with Elastikon or duct tape to help it shed water and last longer. When Elastikon is used, a couple of wraps with adhesive tape or duct tape should be used when finished to keep the end of the Elastikon from contracting and peeling off. When duct tape alone is used, applying it in strips 8-10 inches long makes good coverage without having to wrinkle it up so much when smoothing it out to the shape of the cast.

We don't give any antibiotics unless complications arise later. Many cows walk much better just 2-3 days after treatment, even though it looks like there would be equal pressure on both claws with each step. It doesn't seem to work that way, as long as the block is the weight-bearing surface. If they continue to improve, we just let the cast wear until it is no longer serving any useful purpose, and then it's cut off, hopefully a week or 2 later.

If she's still lame 4-5 days later, or she's obviously getting worse before that time, we lay her down again. The cast is

removed and we look to see if there is something we missed. If there is, we redo it, put iodine and nitrofurazone salve up in there, and recast it.

If the coffin bone is affected so that it's gritty and crunchy when the abscess area is explored with your finger, or if the hoof is separated from the sensitive laminae, there is hardly anything that can be done except claw amputation or slaughter. Since she was given no antibiotics when the 1st cast was put on, she can be shipped anytime. If a 2nd cast is indicated, a shot of 25cc of Tylan 200 plus 10 cc of Predef 2x is given, and proves to be a handy adjunct in these cases that are stubborn. Most, however, respond well if the coffin bone is not involved, and if a good thorough job was done the 1st time.

By not giving antibiotics, the farmer can continue to sell the milk, and have a quicker option if the foot is totally unresponsive. This makes this veterinary call cost him that much less.

I'd like to leave you with one thought. When you get to the forks in the road, often you'll know which fork to choose if you'll follow this little bit of advice: "Ox in the Ditch Every Sunday? Sell the Ox or Fill Up the Ditch!"

Radiographic Evaluation of AI Technique

Dr. Charles Gardner
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Radiographic Evaluation of AI Technique

I'm going to be telling you about a little project we do in our practice which has been interesting for us and I think quite helpful to our dairymen who breed their own cows or who inseminate their own cows. It basically involves using our radiographic equipment to evaluate where we place the insemination rod and where they deposit the semen. I got the idea for this project at a meeting when some people at Penn State told us about doing a research project where they developed this technique and evaluated a lot of professional inseminators and a lot of herdsman breeders. They found that somewhere in the vicinity of 50 percent of these people placed the rod incorrectly at least some of the time. So they thought it was a significant problem.

The Penn State personnel devised and constructed a little platform where they place the radiographic effect. There's a piece of plexiglass about ¾ of an inch above that. Then they layed out a reproductive tract on top of the plexiglass. It is anchored on this end and on the other end is a rubber band and some clips to loosely attach it to the other end. It is quite loosely attached so the person who is working with it can move it about and hopefully to a certain extent imitate what is going on inside a cow. Now it is not perfect by any means, but we hope maybe it is reasonable. Above the reproductive tract is simply a nylon stocking or something like that

stretched out and that is designed to imitate the rectum. When we are ready to evaluate the individual we have him step up to this, put his arm into the nylon stocking, and place the breeding rod into where he thinks is the proper location. When he has done that he steps back away from this, totally away from the field so that he is not exposed to any radiation. Then the cassette is exposed. We then change the cassette or move it to the other half of the cassette and the individual comes back, checks where he's placed the breeding rod, and then he infuses a radio opaque dye. Then we expose the film again and then of course we develop it. Now this was Penn State's setup. I worked in cooperation with our local county agent. He did an awful lot of the leg work, and so on, for this. He built the actual device that we use. It doesn't look nearly as fancy as Penn State's and we did modify it a little bit. What we had imitating the rectum was too high. We had to lower it down some. But it essentially does the same thing. We had a Bowie portable x-ray unit and we found that with that we simply couldn't set it low enough to get the exposure right. We ended up moving into our main hospital and using our small animal machine and that did a better job for us. We place a piece of plastic so that the individual who's doing it can't look down and see where the cervix is and where his hand is located. Again, the

x-ray is not exposed with him standing there. He backs out of the picture totally before we expose the x-ray. Again we just slide the cassette over and get the other half of it. He comes back and infuses the radio opaque dye and we expose it again. It is not only educational but it is fun as well.

What we have to do with every track is infuse approximately 120 ccs of air into the reproductive tract before the dairyman goes to work on it. If we don't do that, we have no contrast to show him where the lumen of the track is located. Dairymen, if nothing else, are surprised because many of them have forgotten just how small the body of the uterus is and what a small area they have to work in!

When the rod has been placed perfectly, the tip of that insemination rod is right exactly at the internal ring of the cervix and if he can put the rod there and keep it there while he infuses the dye, there is no way that it can go anywhere but in the body of the uterus. Now we've found that with some people as they would infuse the dye they would pull the rod back and most of the dye would end up in the cervix or even back in the vagina. But if they keep the rod there as they do the infusion, the dye and presumably the semen will go where it is supposed to go.

We have seen the rod in the left horn. We've seen it half way through the cervix. We've seen it half way through the vagina. We've seen a number of people who really did not know what they were doing as they were doing this and we think we were able to help them through this project.

As I said before, our county agent worked closely with me on this project. He built the device and on the days that we do this he goes to the slaughter house, collects all the uteruses, brings them back, cleans them up, and gets them ready. And that involves usually on his part three to four hours worth of work. As far as fees, we charge enough that we think we have enough to pay for the uteruses. We have to

give \$2.00 a piece for the uteruses. To cover the cost of the x-ray film and to pay our technician for the time she spends developing them. We usually get together with about four dairymen in the evening and what we'll do is two of them will work with me. One of them will infuse a tract and we'll expose the film and while our technician develops it we'll have the other dairyman go up and try it. We'll alternate that until each of them has done it with four tracks. As the x-rays are developed we'll look at them with them and show them what they did right and what they did wrong and try to explain to them what is involved. While those two gentlemen are working with me the other two will spend some time with the county agent and he will sit down with them. They will go through their DHIA receipts, look at their calving interval, their services per conception, days to first service, and all that kind of stuff. So they get some education during that time, too. Then at the end, it usually takes us about an hour to go through four tracks with two dairymen, at the end of the hour we'll switch off and I'll work with the other two and the county agent will work with the other two who worked with me. Sometime during the course of the evening we'll just look at some reproductive tracts. We'll show them what a CL is and usually we'll get some early pregnancies in these tracks, even though we try not to. We'll review the structure of the reproductive tract and just try to educate them a little bit about it. The dairymen we've worked with so far have really been appreciative. They thought they learned some things they just didn't know. They were usually surprised, almost all of them were surprised at how small a body the uterus is, even though they've been through AI school. We certainly don't make any money on it but I think it is a good client relations tool and it shows them that we're interested in their overall reproductive program and it perhaps opens up some opportunities later on.

Miscellaneous Practice Tips

Dr. Julie Zdrojewski
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First, a point of technique: A newborn calf is an excellent source of blood for mastitis culture plates.

We pour our own plates because in our experience fresh plates show hemolysis better and have fewer problems with contamination. Most commonly we use a split plate with MacConkey's on one side and blood agar on the other. For a batch of 40 plates we make a 500 cc bottle of blood-agar base and add 20 cc of blood to it just before pouring. Blood from a precolostral calf will contain no antibodies to the common mastitis pathogens.

A brand-new syringe and needle are heparinized and taken along on a calving call at which assistance is required without too much internal manipulation. When the live calf hits the ground it will be soaked in sterile amniotic fluid. The jugular vein can be held off and 20 cc of blood obtained

easily. The point is that the site requires no prep whatever.

With plates being prepared within 24 hours of the blood being obtained, the occurrence of contamination is low. We routinely incubate a blank plate to test the batch, and have had no problems with contaminated blood. (Most problems result from errors in handling.)

Next, a few gadgets:

We like to keep hoof knives and dehorning instruments as sharp as possible, using a hand-held miniature grinder for which a variety of bits are available. A Weller tool, for example, or a Dremel tool (Dremel, Division of Emerson Electric, 4915 21st Street, Racine, Wisconsin 53406) can power a silicon carbide bit that fits nicely into the nooks and crannies of a hoof knife. Diamond bits last much longer than silicon carbide, and are also available from a variety of