

did say that it prevented cardiac necrosis and some of the other complications with it. So since that time we have used this on approximately 12 cows. We do use, however, subsequent fluid therapy if necessary with this technique but I do feel if used properly it is something to try. I don't want a lot of lawsuits on my hands if it doesn't work or you manage to kill the cow, but I have found out that it is best when you use nitroglycerin tablets to leave the cow and don't get her up right away. Because if you get her up right away with the nitroglycerin there is a rapid fall in blood pressure and she becomes almost to the point of being unconscious and you swear that you killed her. But the nitroglycerin is rapidly excreted from the bloodstream after it is absorbed. I have used it two and three times consecutively within the same approximately half-hour treatment and in my hands we felt that it has been of some benefit to us. We also feel that it is very hard earlier to determine if there is any metabolic acidosis, but we do feel that with the IV fluid therapy, being Ringer's solution and bicarbonate given at the rate of about 30-60 grams or more of just bicarbonate solution in sterile distilled water, we seemed to have a better response. Now I realize that this is not a proven technique and maybe because of the other techniques employed with IV fluids and the bicarbonate therapy we have been getting better results. I was impressed by these little tablets and so we carried them in our bags and I think it would be interesting for you to try them. I'll repeat the dosage again. We use nitrostat tablets. They are available in any local pharmacy. They retail for \$2.65 for a hundred. Our pharmacist gives us a discount on them. So it is about \$1.30 per hundred. They are 0.4 mg per tablet which is 1/150th of a grain and I have been giving between 15 and 20 tablets vaginally. You put them on your hand and you work them in the mucosa and they are absorbed rapidly. If you monitor the heart before and after you give them, I think you will see the difference. Thank you very much.

Elevating the Bovine Foot

Gary Kramer, D.V.M.
Lima, Illinois

Tonight I would like to discuss with you the problem of elevating the bovine front foot. This has always been something that I have never looked forward to and upon graduation from college the first farm that I arrived at that I had to attempt to trim a foot my first question was where is the tilt table? The farmer looked a little puzzled about that and so I became baptized in a hurry as to the real world and the way it actually is. Oftentimes as bovine practitioners we are called upon to examine feet for various reasons. Maybe a complaint of lameness for an unknown reason. Perhaps an obvious injury to the foot or to do a corrective trimming in the hope that in the future we will be able to prevent a problem from developing. The problem is to elevate the foot with the proper restraint so as to not injure the cow or more importantly not to injure yourself, and to do it quickly with a minimum of time and equipment. When it comes to front feet we have the advantage that in some cases we can use Rompun on the animal and we can go ahead and cast her and put her down in this manner. But the unfortunate thing is, as I am sure many of you are aware that when you do this, unfortunately many times we don't have an ideal spot to drop a cow; maybe all the calf pens are full of calves and the alleyway is narrow and slippery! It's 10 below zero and the snow is coming down outside and that is not ideal either so what do you do with a cow? Well, if you are like me, most of the time you end up getting in beside her and you snuggle up to her and you pick the foot up and about that time she thinks maybe this isn't too bad—"You know this foot has been hurting me all day and I've been standing on the other one"—and suddenly you have the lame foot and she decides to kind of lean on you a little bit and the next thing you know you have about 900 lbs. on you or it seems like that much! And so you go ahead and try to do your best but you are never really totally satisfied. Sometimes you try to tie the foot to a stanchion divider or things like this but there again this is something that is very prone to causing possible injury to the cow and this is something we want to avoid at all costs. So anyhow with this particular technique, it really doesn't take much effort to hold the foot up. I am essentially holding the foot with just one hand.

I'm not holding the weight of the cow, I am simply holding the weight of the leg and I think anybody can tolerate that quite easily. The apparatus that I devised to accomplish this basically is a wire structure that I bought at the local hardware store. There is a chain that comes with this that normally wraps around the post. That would normally go on the bottom. I simply removed that and that's an 18-inch OB chain hanging down there. There are two hooks there. On the other end that's a log chain hook that I bought also at the hardware store and I simply removed the little fastener that normally hooks on to the barb wire in the fence stretching procedure. The way I go ahead and set this up here I more or less play it by ear with whatever is available as far as hooking this up. I have a beam hook that I hook into a beam above the cow and I try to position this immediately above the shoulder of the animal. Sometimes you have a closed in feeling, you don't have anything available that way. So I go ahead and I just hook it right into the stanchion. And there is really no difficulty with that either. I hook an OB chain just around her shoulder and this is all I've really done. I go ahead and I put tension on and simply what it does is, it just more or less relieves the weight of that cow that you would normally have to incur yourself if you were trying to pick up the foot. Surprisingly enough I was quite surprised the first time I tried it. The cows really don't fight it. I put it around there and with no difficulty at all you can tighten it up. Essentially you tighten it enough so that their toes are just barely tapping on the floor. That basically is sufficient to accomplish what you want to do. Dr. Herrick talked about putting on the wooden shoe tonight. We do quite a few of these in our practice and we really like them. It's quite easy to apply one of these to a cow, standing. She'll stand there for 20 minutes and she is perfectly content with very little struggling generally speaking. You can go ahead and apply one of these wooden shoes without any difficulty at all. Sometimes you can also apply a cast if it is necessary.

Apparent Anestrus

Merrill M. Townley, D.V.M.
Chamois, Missouri

The subject that I would like to talk about is the same one that many have talked about earlier, the apparent anestrus. We have had the teaser bulls and testosterone and all of these things. But back in Missouri, where I come from, we have relatively small dairies, under 100 cows. They are mostly family operated, so catching these cows in heat is still pretty important to us and I suspect that in all size dairies the medical part of our job would be a lot easier and a lot more effective if every cow was caught in heat and recorded. Many times we spend extra time dealing with the anestrus cow when if they just had simply caught her in heat and bred her that's all that there would have been to it. Of course when you go to shooting for a twelve-month interval, if that cow is either missed in heat or if she is bred and she has a first heat after the first breeding and you miss her, you end up checking for an open cow that you would have known was open in three weeks if they had used the proper detection. Now we use head detector tabs and they are important but I don't think that anything will replace the good record keeping system and the good management of watching the cows and finding them in heat. The record system that I use is nothing different from what most of you use but we use a barn record and we make it up and mimeograph it and put a piece of carbon in it. I keep a copy and he keeps it in the barn and I take a copy home, the day that I'm there. We do these on monthly visits and then I do the same thing with an examination record. I used to record these on cards and kept a set of cards too but then I found that became pretty time consuming and we now have the family actually keep their own barn record. I mean they record them on their own herd cards and they are the standard cards. It works well because they get used to doing all these things themselves. But the thing that I really came to talk about is the one method that we use in the families. It is a reward system. Our dairies have mostly large families and of course my favorite expression is, "If we only had the fertility in the dairy barn that we have at the house we would be a lot better off!" We have families of five

and ten children in our practice on a routine basis. So one of my clients devised it and found that it worked real well and I have used it and have several of them using it now—this reward system. If he has two or three boys he gives fifty cents for every cow that is caught in heat and recorded. That is their allowance, so then they also get a bonus. If that cow is bred and she settles on that service, they get another fifty cents. They have got to get out pretty early and watch pretty close or their brother will get it! So that is something that has worked well for me. And then to make it a little more interesting with the dairy men I kind of play games with them too and I'll try to predict the day the cow will come in heat whenever I examine her. I have noticed in the summertime that the kids will be sneaking out there the day that I'm examining the cows and when I predict that old No. 98 will be in heat on Saturday the kids mark that down in their mind and they go to the card box and say "let's see, who ought to be in heat today." This is something fairly small but it is important in my practice anyway.

A Surgical Stitch

Joseph Wright, D.V.M.
Castonville, Texas

After I got out of veterinary school at Texas A&M I went to the Mecca up in Ithaca, New York, and tried to learn how to be a little bit better cow doctor and was contaminated by the likes of Dr. Francis Fox and when I came back to the big state I came with the big idea I am a theriogenologist. I had a client size me up pretty well last week as to what I actually do for a living when he called me a common "cow armer." I didn't come with any special techniques or anything to do with cow arming but that pretty well classifies what I do for a living. In fact I came with a surgical stitch and the last thing that I ever wanted to be was a surgeon and I'm sure that as far as the good surgeons are concerned it is probably not a good practice but I've found that it has speeded up a tremendous number of my procedures. For example I think a lot of us consider how many times we have been out on an obstetrics call and faced with the emphysematous fetus. You have to go midline or open it up and then you've got what you thought was the smallest incision you could make and it seemed that it is about 3 feet long. You have to suture it up and you start taking vest over pants sutures, vertical mattresses or horizontal mattresses and you think, well, I spent 20 minutes trying to get the calf out and now I'm going to spend an hour sewing her back up! This particular stitch I found under any kind of pressure situation, particularly on the linea alba or the flank or a dehorning, it works well. This stitch was probably originated by reproductive physiology graduate students in North Carolina. It is used pretty extensively by most of the larger embryo transplant stations that are still doing surgical transfers and putting in the embryos. Once you do a laparotomy and transfer the embryo you have got to sew her back up and I am sure that a number of you are acquainted with a few of the transplant stations that have surgeons that can open up and transfer an embryo and put it back, put the cow back together and send her out of the surgery room in less than 10 or 15 minutes. This stitch is probably the main reason and I have found that it plays a major part in any kind of pressure situation or any kind of a large stitching or pressure incision that you have to close up. I tried this on the linea alba and it never shows up so I picked a Texas Holstein to dehorn. I call it a double lockstitch. It is a continuous stitch so you don't have to stop and tie a knot several times but it is something that you could put into the tension area and as we put in several of them along a line they will share the tension and you won't get the tearing out. You come up with a loop, you go through the skin and the loop before you pull it through as if you were just making a regular lockstitch. You make a complete two twist in that suture so that you've got a loop and then you actually have two twists. Now on a midline incision I'm using extra heavy vetafil, extra heavy suture material and even burying it on the midline. I have buried this on three or four thousand cows. Forty-five to sixty days later you find that there is a lot less reaction to the heavy suture material than to chromic cat gut. But using the former you get too much friction but make a double twist and then pass your needle through the loop and then start your tightening down

process so that when you get done you've got your eye there and then you've got that double twist and then in order to tighten it down, the most complicated point. The first couple of times you do it you need to pull back one direction and then come back and put pressure back the opposite direction. This ties that double loop down real tight and you don't have the tension problem. It will hold in that position and even when you're doing a flank incision and those times when you are trying to pull all of that tissue together you have got to stop and tie a mattress suture or something in there. This thing will hold. Then you can continue, if you don't have a lot of pressure, with a lockstitch or continue to put these double lockstitches in there and it will hold in all of these situations. We'll dehorn anywhere from four to six an hour. The main thing is get it done and get out. We don't do as good a job as we would like to—we left tissue at the top and the bottom but we found that they healed and that flap of tissue goes away and we come out with a pretty good cosmetic job and that is what we were looking for.

Question: Do you ever get sinusitis?

Answer: The only time you should get a sinusitis is if you don't close just like in any closed dehorning. If you leave it open, air gets into the sinus but if you pull the skin edges together, and I've dehorned quite a large number of cows with large horns, some of them will go out that evening and they will have their heads on the ground and maybe miss one meal the next day but then they are back in the feed barn and they never miss another meal. When I'm pushing them for reproductive efficiency I like to get them in within a 30-day quarantine period and build their nutrition status and they'll do it with that type of procedure but they won't if you lop them off and leave them open.

The Use of Prostaglandins

Larry Donovan, D.V.M.
Sussex, New Brunswick, Canada

I noticed on the sheet that I had three different topics. I usually don't need that much room except from a vertical position. Especially in those barns that have put in new pipelines I need a little bit of room. I learned that a long while ago, when I was a student. I was doing some blood testing and I came in for lunch and this fellow looked at me and he had to go way down in the cellar to get the potatoes up and he had to go down a ladder. So he thought I could easily do that by just reaching up and after dinner he said, "You know, I think I have a good job for you." I said, "What's that?" He said, "You could light the northern lights."

My topic is prostaglandins, mainly vs. the silent heat cow. For the past 18 months we have had an opportunity in our practice to use prostaglandins for numerous conditions affecting the dairy cow. Both the naturally occurring F-2 alpha and the synthetic prostaglandins were used to treat metritis, mummified fetus, mating, cystic ovaries, inducing heat in heifers, anestrous, sub-estrous or silent heat cows as well as initiating parturition. It seems that every herd has a few cows that will not show heat that can be detected by a good herdsman. Many of these cows had post-partum checks which often stimulates estrus in a few days. You also find those signs of metritis, and these cows usually have a functional corpus luteum. These cows are usually high producers, eating a balanced ration and even with an increased intake of minerals, mainly phosphorus and vitamins, they may not be seen in heat for three to four months after calving. We have taken the approach that these cows are actually physiologically cycling. So by palpating the ovary for a CL, we inject prostaglandin into these cows and artificially breed them in 72 and 96 hours regardless of the physical signs of heat. The inseminator will breed the cows and they often say, "well, that cow just doesn't feel like she is in heat," but many of these cows get with calves. There are other methods to do this. I think on a real good cow that you want to use special semen, maybe you should wait until she has a natural standing heat and then breed her. Now the conception rate on a limited