Practice Tips Session

Chairman: Dr. Robert Harris, Turlock, California

Practice Tips Session

DR. ROBERT HARRIS, *Turlock, California*
Presiding

DR. ROBERT HARRIS: We have several practice tips on the agenda. It is a little hard to know how these are going to fit into our two-hour period, so we will present them rather rapidly.

DR. SAMUEL HUTCHINS: There is one advantage to being the representative from District 1; you're first! Maybe that's not so good either!

My practice tip was given originally at the first AABP meeting in Chicago, namely the peri-vaginal suture technique. It was proposed for use in a prolapsed uterus, and there are a couple of other things I would like to show about it. Special needles are available from two sources. The first source is Dr. Jorgensen's and the other one is Haver-Lockhart Laboratories. The needles are long and can be threaded with half-inch wide tape. The technique is to insert the needle lateral to the base of the vulva and come out between the vulva and the rectum. Thread the needle with tape, reinsert and draw the tape back down, then go up the other side and through the same hole. Pull the other half of the tape back down and then tie it. You should leave about a half-inch from the bottom of the vulva, and then these two ends are tied tight enough so that you can insert two, three, or four fingers, depending on how tight you want to close the vaginal opening. After a prolapsed uterus is replaced, this is a very quick way to suture the vulva. The advantage is that it can be untied at any time. You have to tie this with a bow knot and then tie the ends of the bow knot. This is a very fast operation. Personally, I never had very good luck sewing and suturing these cases in the past. Then somebody always had to open them up when the cow was ready to calve. If you take this tape and saturate it with a mixture of neomycin and furacin, you can leave it there for three to five months, until the cow is confirmed pregnant. In those cows where the vulva is sunken toward the rectum, a lot of fecal material is apt to cause infection. Good antibacterial medication will control this problem.

I use this technique in cows and especially heifers following the birth of a big calf, resulting in a lacerated vulva. This animal is going to suck a lot of air and dirt into the vagina. In these cases the suture can

be left in for a couple of days, thus cutting down a lot of calving infection. This can be inserted in almost all cows right after freshening, without anesthesia. I use the tail press for restraint. There is a write-up on this by Haver-Lockhart and Dr. Jorgenson.

DR. JIM LEAHEY: This is strictly to help you out a little bit faster when you have multiple cows to check during a herd examination which might consist of pregnancy examinations, thirty-day checks, no heats, etc.

I take Haver-Lockhart pipettes and cover the bottom end of the plastic bag with thick adhesive tape. I carry that in my left boot, and then I fill four to five disposable 40 cc syringes with either one or two different types of uterine infusions, carrying them with the plunger down in my left rear pocket, covered loosely with a paper towel. When I examine a cow that has been fresh thirty days, for instance, and I feel the uterus should be infused, I do not even have to take my hand out of the rectum; I grasp a pipette, a paper towel, a cleaner and an infuser and I insert the uterine infusion. Then I am ready to go to the next cow. Likewise, by using Haver-Lockhart plastic sleeves, clipped to my coveralls with a rat-toothed forceps, if I find a cow with a cystic ovary, I can peel down the sleeves and thus I can give the injections. Afterwards I pull the sleeve back up. If I am doing many animals and I am using a rubber sleeve, I pull a disposable plastic sleeve up over it so that I can do a vaginal examination or something else where I want a clean hand. I always do rectal examinations right-handed.

CHAIRMAN HARRIS: Thank you. I am sure those of you that do it left-handed, like I do, can figure some way to work the other way around.

DR. PAUL GOETCHENS: Very briefly, my tip has to do with the treatment of acute *E. coli* infections in the dairy herd. I usually see these in three forms; either acute calf scours or coliform mastitis, or occasionally in the form of metritis. I have found that dihydrostreptomycin sulfate is more effective than neomycin and it can be used intravenously with excellent results. In calf scours the main therapy is to provide fluids as well as the antibacterial agents. Five ccs of a 500-milligram per cc dihydrostreptomycin solution will mix with such fluids without precipitation. In acute mastitis, where *E. coli* infection is suspected, dihydrostreptomycin is inexpensive enough so that 20 ccs intravenously are very effective and economical. I have found that some of the broad spectrum antibiotics are ineffective in some of these resistant *E. coli* forms, but streptomycin, intravenously, will produce good results. Of course, with mastitis, in using other treatments such as steroids, I also usually use oxytetracycline in case I am dealing with a gram$^+$ organism. DHS alone would be useless. I administer 20 ccs undiluted, intravenously. If I use oxytetracycline, I give it first. I have found that dihydrostreptomycin will sensitize some of these cows so that if I follow this with oxytetracycline, especially with a 60 cc dose, I might get some reactions, temporary convulsions or respiratory difficulties. I have never had any permanent problems with any of

these, and I have used them by the gallon! So, give oxytetracycline before dihydrostreptomycin, if you are going to use them together.

DR. JOHN METTLER: One of the most non-professional things that a veterinarian can do is to run around behind a group of cows rubbing their vulvas for urine! We started a good many years ago to draw urine the same way that Dr. Frost showed us from a mare, without a catheter. I refuse to use a bladder catheter because of the dangers of spreading infection. We simply wash the cow as though we are going to do a vaginal exam, and this, I think, we can certainly take time to do! To show that we are professional in our approach, I put on a plastic sleeve, go into the vagina with whichever hand I usually use to do rectal examinations; I "cup" the bladder, and unless it is absolutely empty (if that is the case, you will feel the bladder about the size of a flat pear, and just as hard) I squeeze it slowly. I think the whole trick is to be slow and steady and not try to squeeze too hard. Have a cup at the apex of the vulva and catch urine.

DR. TOM SMITHLING: I "stole" this practice tip, so it should be a good one! It works well for sore teats. The medication is made up by mixing 2 ounces of Nolvasan with 4 ounces glycerine.

DR. JOHN OFFUTT: I want to tell you about something this afternoon that works well for me and I hope that it will work for you. My practice is primarily a dairy practice, and some of the problems I encounter are retained placentas. It seems it is always just before, or right after, a meal that I have to clean a cow! So I tried to figure out some way to do so without having to manually remove the placenta! After considering the possibilities, I decided that if oxytocin were given at the proper time, many cows might clean. I found that by giving 100 units of oxytocin within the first six hours after calving, the majority of cows would clean in about thirty minutes. Now, if it is given later, or if there are extenuating circumstances, such as difficult labor, or an abortion, it may not work. Many of these cows will clean anyway in the next 72 hours. If oxytocin has been given, I find that most of the cows that still require manual removal are easier to clean. Sometimes you don't even have to enter the vagina. You just take hold of the placenta and with a steady pull, the afterbirth can be removed. Oxytocin will not work unless you have good management, and you have to pick your people to know who will use it properly. My purpose for trying to work this out is because I believe you must keep your hands out of the cow and **you've got to keep the dairyman's hands out of her also!** If you do this, you will have better reproductive performance.

DR. JAMES CROUCH: In our area we feel that one of the most neglected phases of nutrition is that of the dry cow if she is a dairy cow or a beef cow on pasture. We have numerous cases of grass tetany that result from no mineral supplementation. We have been using a mixture of protein, minerals and vitamins to prevent this problem. We have employed professional nutritionists to devise the supplement and I would like to give you the formula that we use very successfully. In cases where it failed, we usually found that there was a

very high level of nitrates in the drinking water. The mixture contains 1,000 pounds of old-process cottonseed meal, 370 pounds of salt, 150 pounds of magnesium oxide, 200 pounds of dicalcium phosphate, 200 pounds of calcium carbonate, and 80 pounds of a vitamin pre-mix. This can be mixed at most mills and supplied free choice. It should be kept under cover out in the pasture or it should be kept in the barn where the cows have access to it at all times. The reason for using old-process cottonseed meal is because the oil content keeps it from being too dusty.

Primarily, farmers use this through the winter and spring months; however, those who use it through the summer months find that they do not need a very great amount. Where it has been placed before the animal on a continuous basis, it has virtually eliminated the problem of magnesium tetany.

We have another item or two that might be new to some of you. We noted that a number of veterinarians were saying they were having trouble in keeping the cows' teats from leaking after they had been sutured following barbed wire cuts. To solve this problem, we use a Larson teat tube and leave the tip open. Once a day we infuse the quarter with some type of antibiotic ointment. We allow this to float up into the udder, then drain it out in about 15 minutes. They heal up without any trouble and they do not break open.

QUESTION FROM THE FLOOR: How long do you leave them in?

DR. JAMES CROUCH: One week.

DR. ROBERT KEITH: Problems arise in our practice every day. We have a four-man practice, and one of the problems in Southern Wisconsin is communication between the four partners; so the tip that I'd like to give is that we have instigated a weekly noon meal, for an hour or an hour and a half, when we make sure that we can all get together. At this time we talk over cases, treatment, or any personal problems, schedule our time off for attending meetings, etc. We just have a sandwich and discuss these problems. In a dairy practice we found that there are some days that we never get to see each other, and then we would have problems — these little problems would become big problems, but if we talked them over, they would be little problems. So, the one tip, that I would like to give, is to try having a noon meeting and have all of your partners get together. I think that you will find things will iron out in your practice.

Another problem occurs in two or three-day old dairy calves that apparently were normal the night before. They were drinking. There were no signs of illness at all, but the next morning the dairyman called and said that one calf was down. We tried almost everything, but the one thing that I have tried successfully on these is to use *clostridium perfringens* antitoxin, type B, C, and D. The dosage is 10 ccs i.v., given slowly. In these herds, we found that it became quite a problem; then we used this as a preventative measure on the day of birth or the following day, ten ccs subcutaneously. I realize that there has been

very little work on *clostridium perfringens* infection in calves but we have had good results.

The last little tip concerns cases of pyometra. Some cases go for 50, 60 or 70 days before we see them. We use 8-10 ccs estradiol, and then come back in about four or five days and use a solution made up of 100 ccs glycerol, 30 to 40 ccs weladol, and we add about 50 grams of stilbestrol, with water to a pint. We infuse 250 to 500 ccs intrauterine, depending upon the severity of the case. The solution should be made up the day you are going to use it.

DR. JAMES WELCH: One of the problems in my practice is keeping teat instruments sterile, and to be able to open a stricture of the teat sphincter without mastitis developing. I came upon the idea of using a small jar, about 2-1/2 inches in diameter and about six inches deep, as a container for the teat instruments. I found that an olive jar was just about the right size. I also found that I broke the bottom of the bottle with the teat instruments! So, I put a plastic cup inside this olive jar and filled it with cotton. I put the instruments in the plastic cup, on the outside of the cotton and filled it up with formaldehyde disinfectant. When I get through using the teat instrument, I wash it well and put it back in the disinfectant solution and use it again in just about three to five minutes without any trouble. The formaldehyde solution will sterilize the opening of the teat. You do not have to worry about sterilizing the teat orifice.

DR. LELAND ALLENSTEIN: My practice tips are concerned with the relationship between the pituitary gland, its hormones, and the ovaries, the uterus and the mammary gland. The first tip deals with the "letdown" of milk in relation to ovarian conditions. I am speaking mainly of the cow that has been fresh for one or two months, when all of a sudden her udder starts to feel thick and heavy and not milking out completely. An injection of oxytocin proves this to be correct. However, we know that continuous treatment with oxytoxin is habit-forming, and is not the answer to the problem.

I usually see these conditions immediately following an estrus cycle, or maybe no heat was observed. On rectal examination one will often find a large, firm uterus. The ovary has a large follicle that has not ovulated, or if it has persisted for several days, it means you actually find follicular cysts. The response to pituitary-gonadotrophins is often quite dramatic, with a regular "let-down" of milk. I know success is not 100%, but it is high enough to feel that there is a relationship between cystic ovaries and milk "let-down."

The next condition is closely related to the above and concerns the "dropping" of the udder due to the relaxation or breakdown of the medial suspensory ligament. No doubt there is a hereditary factor involved, but I also feel there are other factors. This often occurs when follicular cysts develop and again, if diagnosed early, the udder can be saved. Recently I saw a 92-score excellent Holstein cow which suddenly developed a pocket of edema right between her fore udder, with a slight

tilting of the teats to the outside. She had been in estrus three days previously. A rectal examination revealed a follicular cyst on one ovary. She was treated with pituitary gonadotropin, i.v., and the edema disappeared in two days. The tilting of the teats definitely improved within about four days. However, there was some damage to the medial ligament. I feel that the relaxation of the suspensory ligament often occurs at the same time as the sacral ligament in the pelvic area. Be sure to check for follicular cysts when you observe medial suspensory ligament failure.

The next tip deals with the use of the indwelling catheter in the treatment of pyometra, hydrametra, or the noncycling cow. I am sure that you are all familiar with this device. Here I feel, when this is inserted into the uterine horn corresponding to the ovary which has a retained corpus luteum, and is often impossible to remove (usually in cases of hydrametra and pyometra), it definitely has some effect, intrinsic no doubt, on the endometrium. It causes a resorption of the luteal tissue and an estrus cycle results in three to seven days. This is not always an observed estrus cycle, but you will know that the cow goes through a cycle because she will actually throw out the indwelling catheter. I usually instill about 30 to 40 ccs of an antibiotic solution twice a day while the catheter is in the uterus. If this does not work, I resort to a large amount, very similar to what Dr. Keith has just previously related to you. I have used this indwelling catheter also in a non-cycling female without pyometra but with only fair results.

Another condition occurs in this same field which I think of as pneumo-vagina, commonly called the "windsucker." It is readily diagnosed when there is severe involvement but often missed when only mildly involved. These individuals fail to settle. I often diagnose them when I am infusing the uterus, post-breeding. One will notice a slight discharge of air from the vagina on rectal palpation or maybe one will only see bubbles in the mucus. In most of these you will find, on a normal 21-day heat cycle, normal heat, but generally an enlarged follicle that can be palpated readily and which has failed to rupture, or one may even find multiple follicular cysts.

I treat these pneumo-vaginas with pituitary gonadotropin or chorionic gonadotropin immediately. If they return to heat in 20 days, I usually treat immediately at the onset of estrus, giving them 2500 units of pituitary gonadotropin or chorionic gonadotropin. They are bred 12 hours later.

DR. A. J. KUNKEL: My first practice tip will be useful for practitioners interested in the dispensing aspects of practice.

This practice tip is limited to remedies for calf scours that we have found to be exclusive, effective, economical and easy for the client to use since they are soluble and can be added to the milk or milk replacer.

The mixtures are packed in 12 oz. plastic containers with snap-on lids. They are prepared by using Vitamin A.D.E. soluble powder to

which we add various antibiotics or antibacterial agents so that the dosage level of the different preparations will remain the same. We use a prevention level of one teaspoon twice daily or a treatment level of three teaspoons twice daily.

We use the following mixtures prepared as listed. I am sure you could add to this list any other antibiotic or combination of antibiotics that have proven to be effective for you:

1.	1:1	Furacin Water Mix, AD&E Mix	$4.00/11 oz.
2.	5:1	5 AD&E, 1 Neomycin Powder	$5.00/11 oz.
3.	32-240 mg.	Chloromycetin Capsules in 8 oz. AD&E	$5.00/11 oz.
4.	5:1	5 AD&E, 1 Sulmet	$4.00/11 oz.

My second practice tip will not be as useful but it could be important in that it concerns emergency treatment for an emergency situation. The condition, which I am sure most of you have seen, is the cow that develops a tear type of wound that penetrates the milk vein and leads to profuse bleeding, reminding one very much of water running out of a faucet! We feel this type of wound is caused by catching the milk vein between the dewclaws and the concrete while the animal is getting up.

In this instance, advice to the owner on emergency procedures may mean the difference between the life and death of the animal. If veterinary help is available when the call comes in, we will have the owner stop the bleeding by manually compressing the torn skin edges together over the wound. If help is not readily available it is possible to do the same thing with a vice-grip clamp wrench which is left on until veterinary help arrives.

In most instances the repair of these wounds is quite simple, requiring only a few simple interrupted sutures in the skin over the wound. I have lost animals from hemorrhage, and in one instance, I saved one with a blood transfusion of two gallons of whole blood. She was down following the first gallon, but the second gallon got her back on her feet. This particular cow left a blood trail for about a quarter of a mile in the pasture before she went down from loss of blood!

FROM THE FLOOR: Do you have any trouble with the first water mix from overdosage?

DR. KUNKEL: No, and it is pretty good, too. I don't know if this is a high level or not. We have not used it nearly as much as the chloromycetin mixture.

FROM THE FLOOR: What is the concentration of the sulfamethyldiazine solution?

DR. KUNKEL: Five to one.

FROM THE FLOOR: What is the dosage rate?

DR. KUNKEL: Three teaspoons twice daily—treatment, and one teaspoon twice daily—prevention.

DR. BARRON: Most of the tips so far are related to dairy practice and I have an observation or two primarily in beef calves, feedlot calves,

particularly feedlots or "concentration camps." I think one of the most important factors with the calf that has just arrived at the feedlot is not to interfere in any way with that calf's ability to eat, to take food or water. Nourishment is the key to management in the newly-arrived calf. Having studied some of the reasons for the calf not eating on arrival, it is amazing that this is simply because they have a sore throat.

Why do they have a sore throat? Because when they arrive they are processed. They are drenched, then given a balling gun application of worm medicine or sulfonamide. In the process of handling so many of these calves, minor injuries, such as mechanical injuries to the pharynx, larynx, or the upper part of the esophagus, are instrumental in keeping these calves from eating for the first few days in the feedlot. When they do not eat, you have very sick calves!

So, one thing that I wanted to show you is a very simple nozzle for use on a standard drenching gun or perhaps on a sort of alternative drinking device. The pipe has a ball on the end. It is a polished stainless steel ball, one and one-quarter inches in diameter. The ball is large enough so that it will not enter the glottis or the larynx of a calf up to about 400 pounds body weight. Instead of using the simple little nozzle with a sharp end that may stick in the wall of the calf's pharynx if he lunges forward while being drenched, this can be inserted into the calf's esophagus for a distance of three or four inches and the ball will prevent a back flow, allowing fluids to be administered. There would be no danger then of foreign body or inhalation pneumonia. If you are feeding larger calves, then you simply need an esophageal drenching device with a larger ball on the end of it. I think that this would go a long way toward alleviating some of those man-made injuries that cause a lot of problems.

If you are giving pills with a balling gun, you will notice that most pills have almost a razor edge all the way around two sides. I think that this could be improved upon by making molds that do not permit this. As long as we are using this type, however, you could tack a little piece of sandpaper to your working shoes and make a swipe at these edges at least on the front side of the boluses before dosing the animal.

Everyone here would agree that these boluses should be given one at a time with a good round polished edge. They are often given in feedlots two or three at a time in a multiple-containing balling gun. If one of these turns sideways, the sharp edges will scratch the pharynx of the calf and maybe rupture the esophagus. It does not have to be a very big scratch! Most of the respiratory infectious agents are present in the throats of these calves, and a little injury puts them away from the feed or water trough during the most critical time of their lives — their life in the feedlot at any rate.

I have another tip that I hesitated to come to town with! This is strictly a homemade chicken catcher, you might say! Several years ago I encountered a case where a cow had choked on a piece of tin can. The obstruction was in the lower part of the cervical region, so I picked up a piece of aluminum Thomas splint rod, bent it in the middle, left the end

open, put a hook on it, and used it as a probang. I pushed it down the esophagus and then pulled it back and hooked this piece of tin can. It hooked very nicely and came right up. I thought, "Well, if it works so good on one, I might use it on several others." I have tried it, and removed range cubes, apples and almost everything else with a piece of Thomas splint wire. I thought some of you might have been frustrated in an attempt to handle a lower cervical choke at some time and might find such a device useful. It is simple but it sure does work.

FROM THE FLOOR: Is this drenching apparatus custom-made?

DR. BARRON: This one is not. It is just a machine-shop made apparatus. I understand that a firm is considering marketing a nozzle with threads to fit the standard dose syringe, and perhaps also another type of lock to fit some of the automated dosing apparatuses that are on the market. I am not pushing any particular one, but there is one called the American Metercater which humps up like an old Hudson spray device and operates on air pressure. You put your milk replacer, your sulfonamide solution, or whatever medication you want to use in this container and pressurize it. Then there is a grip handle which delivers, I think, four ounces each time you squeeze the handle, and to that handle you may attach such a nozzle. It is my understanding that if this is not yet commercially available, it soon will be. It is being marketed, I think, by Dr. Joe McGraff of McCook, Nebraska. It is extremely simple and workable for giving calves milk replacer, and with the nozzle in the esophagus you could freely give a large volume without being too concerned about choking the calf or producing inhalation pneumonia.

FROM THE FLOOR: Any danger of getting this device into the larynx?

DR. BARRON: The ball is supposed to be of such size that, depending on the size calf you are feeding, it is just too big to go into the glottis. This is supposed to be adequately large for a calf up to 400 pounds. Even so, when putting this instrument down the esophagus, I would advocate a little skill. If you get it in the trachea, you can feel it right on past the tracheal range and it bounces around in there. In the esophagus you meet a little more resistance.

DR. OVERTON E. HUNDLEY, JR.: My practice tip concerns "homemade crumbles." You know as well as I do that cattle like soyabean oil meal and they also like corn. If they have ever had a taste of corn, they like it! I took 50% soyabean oil meal and 50% corn gluten meal, added Vitamin A.D.E. and tetracycline powder and made a crumble.

We'll vary these crumbles from one gram per pound up to five grams per pound. We are not selling aureomycin crumbles as such. We are using a different base, and we are varying the amount of tetracycline available per pound.

You might ask why we would do this. Well, I think the palatability is the main thing. Of course, we have an ulterior motive. We have feed companies there that charge so much for the protein feed that they sell

the crumbles at cost. If we are trying to make something on the sale of crumbles we can't compete with someone who is selling them at cost, which is the same or cheaper than we can buy them, so this product is a little different from the crumbles. We use it primarily for bovine respiratory disease and for foot rot outbreaks in the feedlots. We have had very good luck with this product, and recently we have gone as high as five grams per pound. Here then it becomes economical to make our own product because we can put five grams on a prescription basis into this crumble, and feed one pound per day if it is necessary to feed five grams antibiotic per head per day such as for an outbreak of hemophilus or similar type brain fever syndrome. When we give five grams per pound, all it costs us is a little less than three cents per gram to add this to the standard two-gram per pound product. You can have it made up so that it has four or five grams per pound, and all the feeder has to do is figure, if he has 200 head in this particular lot, to feed 200 pounds. He and I know what he is feeding, and we get along much better on this basis than we do by feeding two and one-half pounds of the two-gram product to get the five-gram level.

This has been very satisfactory. The original cost of our crumbles, that are made exactly like aureomycin—I mean the exact two-grams per pound of tetracycline and Vitamin A concentrate at their level, is $300.00 per ton, which we can readily put up in 50-pound bags ($7.50 a bag, which is more than you pay for crumbles). My only justification is that this product is a little more palatable, and it is not aureomycin crumbles; it is an antibiotic supplement, so if you do want to vary the dosage level in this product, it is very easily done. I realize it will cost more for soyabean oil and less for corn gluten meal in your area, but overall we found it to be a very valuable and palatable product.

DR. FRANK BLACK: I don't have any homemade crumbles! We have a procedure that the committee thought would interest you. It is the procedure we use in taking care of squamous cell carinoma of the cornea in both dairy and beef animals.

We take a needle holder and slip it behind the eyeball on the top side of the orbital cavity. By pressing this downward and outward, we can actually prolapse the eyeball completely out of the socket. The lesion is removed by using a beta ray applicator put out by Tracer Laboratories in Waltham, Massachusetts. This is applied to the precursor lesion, or to the cancer eye after we shave that lesion off the eyeball with a No. 21 or 22 Bard-Parker blade. Some will come off very well by just placing an Allis tissue forceps at the side of the lesion and peeling them off. Then we usually go ahead with the beta ray applicator applied to the area involved for a period of about three minutes.

Restraint is probably one of the most important things when working with the bovine eye. Keeping the head still is probably as important as anything. Occasionally you will find a cow in which the eye is hard to prolapse out with sponge forceps. By putting a little pressure underneath the eye socket or the eyeball, it will come out very

readily. We use xylocaine ointment for local anesthesia. It is a topical ointment, but it works very quickly on the eye (about 30 seconds).

Beta rays do not penetrate deeper than about the thickness of a piece of paper so it allows you to go a little deeper in the cornea than you can by peeling or pulling off the lesion. Many of you, I know, have used silver nitrate sticks after peeling off a lesion. The big difference here is we do not get any post-surgical inflammation, as with silver nitrate.

FROM THE FLOOR: Do you use procaine before you prolapse the eyeball?

DR. BLACK: No, we do not use any procaine.

FROM THE FLOOR: Do you have the source of the applicator?

DR. BLACK: Tracer Laboratories, 1601 Trapelo Road, Waltham, Massachusetts, 02154.

Now, with the use of the beta ray agitator you need to apply to the Atomic Energy Commission for a license which is nothing more than the red tape of filling out the application and then every six months you must send in what they call a leak test on strontium 90 source, just to make sure it is not leaking out of the applicator.

FROM THE FLOOR: What does the applicator cost?

DR. BLACK: Our machine is approximately seven years old and at that time it was about $600.00. If you can cut down on the irritation and keep these high-producing cows in a herd for a longer period, it is well worth it.

FROM THE FLOOR: How about the radiation hazard?

DR. BLACK: With beta ray there are very little, if any, radiation problems. As you well know, beta ray are so low in penetration that a sheet of paper will stop them. Now, if you take this applicator and put it on your hand and hold it there for three to five minutes, the following day you will see a little red spot on your skin, but that's all it will do.

FROM THE FLOOR: How about its use on the eyelid?

DR. BLACK: It is not going to penetrate deep enough so I don't think it would help us that much on the eyelid.

We have removed lesions that were covering the entire eyeball. We just kept trimming the lesions off and radiating all the way around.

FROM THE FLOOR: What is the source of the ointment?

DR. BLACK: Astra Laboratories. The ointment itself is not readily available always, but I think you can use any local anaesthetic.

DR. FRED KONING: The practice tip I have for you today concerns the treatment of tetanus. In our area of Southern California we have seen a lot of cases and in the past two years we have adjusted our treatment tremendously with better results. We used to get about 50% recovery; I'd say that now we are getting over 75% and maybe 90%.

The basis of my treatment consists in using an indwelling uterine catheter which I use more and more in my practice. I will immediately infuse the uterus with about 100 ccs penicillin/streptomycin and have

the owner follow up with 50 ccs per day, through the indwelling uterine catheter. At the same time I inject about 5550 units tetanus antitoxin, followed up with 1500 units each day. This, I think, is the secret of our success. I also give a tranquilizer and magnesium hydroxide pills—a mild laxative to keep the bowels moving since they get very constipated. Any questions?

FROM THE FLOOR: How do you treat a steer?

DR. KONING: I just work on dairy cows. In my practice I have never seen a tetanus animal, except one tetanus calf, without the uterus being the primary source of the infection.

FROM THE FLOOR: How much antitoxin do you give?

DR. KONING: I don't think it is too critical. I give about one-half dozen bottles of 1500 unit vials. I use a large amount to start with and I will maintain this for at least a week and sometimes two weeks, judging by the response which is usually not dramatic. I have found that I do not get the five-day setback that used to occur.

FROM THE FLOOR: Which route do you use for giving the antitoxin therapy?

DR. KONING: If it is a severe case, I give it subcutaneously and sometimes intramuscularly if I think it is a very critical case.

DR. HARRY REDDICK: In my feedlot work I have never been sold on mass treatment. I have to agree with the speaker who said that feedlots are like concentration camps! I have always compared them to army camps. I also do not like to pass the balling gun or the stomach tube on these calves.

I had a fantastic outbreak of Salmonellosis in one feedlot last year and it looked like it was contamination from the drinking water somewhere. We decided to add some "Clorox" to the drinking water. Cleaning the water troughs every hour would not do it, so we added 5 to 20 parts per million "Clorox" or "Purex" twice a day. Since then I have done some study on it. Sunlight does as much damage to chlorine as the heat, and if we just shade our water trough, put the chlorine in twice a day, or use a testing kit, we find out the correct amount. This, we feel, is very definitely helpful in our hospital program, and when we have an outbreak in any given pen, we immediately start to chlorinate the water, using big troughs. We do not have small troughs. We use swimming pool chlorine now (14% chlorine) and we add one ounce per 40 gallons of water. That gives about five parts per million.

FROM THE FLOOR: What about water consumption when it is chlorinated?

DR. REDDICK: The chlorine does not affect the water consumption. You can go up to as high as 150 parts per million with no effect. The cowboys like it and the "crews" like it, because the water troughs are a lot easier to clean out.

DR. ERICK STUDER: Not all cows clean right away. Some of them may take seven days or more and by that time you might have a stinking mess. The uterus is full of dark brownish fluid and some of

these cows can get pretty sick. My opinion is that a few uterine boluses are not going to do a lot of good. I see some of these cows with a temperature of 106°F. If you can siphon out the uterine fluid, the cow will feel better in four to five hours. You also need to use medication along with it. I siphon in a mild disinfectant solution and then siphon it away by taking the hose and letting the fluid run onto the floor. You may have a little bit of difficulty, so use the largest soft rubber hose that is available. Sometimes pieces of placenta plug the end of the hose, but this is the stuff you want to get out. Just by manipulating the hose, by giving it a few sharp jerks, a lot of these chunks will come through as they are just breaking apart. You can get a uterus like this to involute in seven to ten days. I do not like a lot of steroids in this type of case.

I like to infuse medication into the uterus by using jugs with one-ounce dispensers. You can put a one-ounce dispenser in each jug and hook a plastic tubing on to the nozzle, and on the end of the nozzle you can put one of the i.v. adaptors, hooking it into your intrauterine pipette. Now I am not advocating putting in lots of drugs. You insert the pipette in one uterine horn and whoever is helping you can hook up the little tubes into your pipette and squirt it in. I like to use two pumps, two 60 ccs, for each horn. The pump puts out an ounce per squirt. Then massage the uterus. I feel this is important. If you just inject it past the cervix, you are not getting it distributed through the entire uterus horn.

FROM THE FLOOR: What is your mild disinfectant?

DR. STUDER: For the irrigation of the uterus, I have been using some welladol in a bucket of water.

DR. BRACKEN: Dr. Warsinske was not able to come, so I thought I would fill in for him. Approximately two years ago a veterinarian in Northern Idaho, Dr. Upstan, brought to our attention at the Veterinary College the problem of prolapsed uteri in cattle. Since he described this method of therapy we have used it continuously, many times, and many of the other practitioners in the area have started using it too.

First of all, the downer cow with prolapsed uterus: by simply rolling her on to her brisket and getting her hind legs straight out behind her, it tips the pelvis upwards. You just push the uterus in and it makes it much easier; even to the extent that on a cow that may appear to be going to give us trouble, we just give an epidural, put her down, pull her hind legs out behind her, and replace the uterus.

My next tip was devised by Dr. Whitford of Pendleton, Oregon. It is nothing more than a disposable enema plastic container. This is put out by Bard-Parker. We use it a lot because of its size, especially for calves with scours. You can use it for giving milk, and, I think, it is equally effective for giving electrolytes, particularly when you want to follow up with electrolytes. As you know, the intraperitoneal route is not very satisfactory. The average rancher is not going to "hit" a vein. With this method, you simply place it in the stomach and give it very readily.

There is a cutoff valve on it which is foolproof (except some fool will do something with it!). This goes intranasally; it is simply mechanically a matter of measuring approximately the distance to the stomach and passing it that length. The valve is quite important because if you just shut it off and have the owner pass it (or you pass it) then it is a matter of just letting up on the valve and running your material in. We find that you have to have the animal on its brisket, otherwise you may get regurgitation. Once the material is in, then the cutoff valve is applied, and you can pull it out, and even though the tube will be filled with the milk or electrolytes, it will not leak into the lungs by inhalation. It has worked well for us and it is an item that can be used as a follow-up. It is not a replacer for i/v electrolytes.

CHAIRMAN HARRIS: I want to give one quick one to get my two bits in! I have found a practical aid to prevent me leaving dollars on the shelf at the back of the cow! If I use a bottle of salve, particularly when I am wrapping feet and using a salve, I leave the lid in my car trunk so that when I return to the trunk I find a lid without a bottle, then I go back and get it and save myself a dollar or two.

DR. DON BUCK: In a case of uterine or vaginal prolapse repair, we start about halfway from the rectum to the dorsal part of the vulva and insert a long needle pretty deep, right out to the side, and come right down about an inch below the ventral aspect of the vulva. Then we take the needle back out, then back to the top, go back in through the same hole again, and come right back down to the bottom. It is brought out through the same hole and then the suture is tied.

This works very well in vaginal prolapses prior to calving.

CHAIRMAN HARRIS: I have two practice tips which were handed to me. The first one involves a method for taking care of marking sticks by placing them in 50 ccs monoject plastic cases. This will prevent "marking up" your trousers or the inside of your car!

Secondly, hoof knives can be kept in 25-28 ccs mastitis syringes after cutting off the tips and removing the plungers.

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