she leaves because if you decide that you want to go to the truck and get something else to treat you can't usually convince her to go back in the free stall a second time! We carry some prostaglandins, syringes and needles, gloves, pipettes and a syringe to infuse with. And you need something to infuse with and in our practice we're infusing with Betadine solution, but, I usually leave the Betadine solution to the technician and she orders whatever as long as it's an iodine solution. We mix a little glycerine in, about 10% and I carry a lot of that around in the truck. So it was really a matter of trying to figure out if I could infuse cows without taking that gallon jug because my pockets aren't that big, so it took a while to arrive at how to get the iodine to the cow without me having to run to the truck when I decided to infuse the cow so we had lots of these bottles around because they were easy to come by and so we filled them with iodine. We cut off a pipette half way and stuck it in the bottle. We put in a rubber stopper and it's really important at this point to put in some kind of a needle because otherwise when you try to suck anything out of that bottle you can't get it out unless there is an air valve on the bottle. I carry that bottle now in my right front pocket and I carry the syringe in my back pocket so if I decide to infuse the cow I can instantly load it. We load it with iodine, or with betadine which is the one I've been using currently. So I carry the bottle in my front pocket and the syringe in my back pocket. I carry pipettes in my boots which actually becomes practical. I wanted to comment on the boots too, because as a sort of a brief practice tip, I used OB boots for years and about three or four clients were actually critical that they can hear me slopping around in the boots and the cows recognized me coming, so I adapted to another style of foot wear and the cows don't recognize me coming anymore and I find that these boots were about a third the price and when the tread starts to come off I don't fall down nearly as much as if I keep a good pair of boots and the treads good on the bottom so I haven't worn OB boots in the practice for about four or five years. So I've got the bottle in my front pocket, the syringe in the back pocket and pipette in my boot and that's it for that side. I've got dirty pipettes in the other boot, but it's really important that you flick them out first because if you do not give them a couple of swipes first they are still full of iodine and you get iodine all over your socks on the right foot! I have estramate in one pocket, gloves in the other back pocket and I carry lubricant in the front pocket on the other side. So we get down to arming cows, and arming cows is arming cows, and I have to credit Jack Cote with telling me it is a good idea to do rectals with your left hand because then you can be handy with your right hand on a syringe. And so we do rectals and examinations in free stalls, that's as simple as that. Some clients actually tie the odd one up. I load estramate with one hand, I can load the estramate because I can use my mouth. So I end up using the board on the side of the parlor to either put the bottle down to get the needle back in the syringe and just tip the bottle up on the syringe and pull in 2 cc. of prostaglandin or

estramate in the syringe in to my breast pocket or occasionally pull it off with my mouth.

At this point I want to make it clear that I'm using an inch and half 18 guage needle because I don't think the drug works all that well if you're using inch needles, you have to get the stuff deep in the muscle and even on these supposedly relatively thin dairy cows that haven't got that much meat on them you still really want the stuff deep. I inject on the front quadrant of the fluteal muscle. I stay really close up to the hook bone because I've found that the cows aren't nearly as sensitive up there as they are if you're half way between the hook and the pins and I find that with most of my producers and other people, I've seen needle marks all over cows all the time and they're far too far back and they're too close to the sciatic nerve and there is blood running down the cow's hip. I inject cross arms so that I've got my left hand on the cow and I'm injecting with my right arm in the left hip. That's for one reason only, that's if they are going to kick, they are going to kick with the left leg and they miss you. So that I cross arms that way and I can usually stand far enough to the right when I'm injecting a number of cows and don't get kicked.

Herd Health Management in a Central Alberta Practice:

Dr. Gordon Atkins,

Calgary, Alberta

It is a real privilege for me to participate in this conference and I was fortunate enough to be able to come down a few days before the convention and take in a few of the Holstein shows and sales and I certainly highly recommend the trip down to the Royal tomorrow. I think there are some excellent cattle to be seen and certainly well worth while. It is impossible to cover all our herd health programs in fifteen minutes, so I'll just try to hit the highlights and I'd certainly be happy to entertain any questions anytime over the next few days. First of all, I guess that when I joined the practice in Calgary, seven years ago, and started the herd health program, we started initially with strictly reproductive herd health and since then we've branched out and are now doing a fair bit of nutritional consultation and some mastitis control as well. I'd just like to orientate everybody to where Calgary is I'm sure most of you are familiar with the Calgary stampede we happen to be located right along the foothills. Our booming oil city of Calgary is undergoing very rapid growth at the present time, about eight percent increase per year. We're located, as I said, in the foothills primarily although we do have a fair bit of lush land where most of our dairy farms are located. Our clinic facility is unfortunately located within the city limits of Calgary, in close proximity to the Calgary stockyards. Unfortunately we have to drive through that city enroute to our calls and when we try to get through there at 5:00 in the afternoon, it can be kind of a

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nightmare. I think that this part of the country is traditionally looked upon as beef country and maybe we have a little of the unique practice in that situated in this area are practices about fifty percent bovine and fifty percent equine with the bovine portion being predominantly dairy cattle. They have a center pivot irrogation system and quite intensive farming operation. Most of the farms where our herd health programs are conducted are reasonably small farms, probably on an average of forty or fifty cows, probably a mixture of both stanchion, comfort stall and loose housing.

We have a lot of good quality pure bred Holsteins in Alberta, in fact, I think back a few years ago, 1976, Alberta was proud to be the breeders of both All-Candian and All-American aged cows. I didn't mention previously that I'm part of a five man large animal practice and one of the partners in that practice and myself pretty well concentrate our efforts in the dairy area. The largest stanchion barn set up we have milk about 140 cows. One of the newer, better comfort stalls sets up milk about 50 good quality Holstein cows, I think they own about six or seven excellent cows. Another commercial type operation in Hutaate Colony is very well managed and they are just putting in a new free stall set up, they milk about 140 cows and run about 16,000 pound average. A Jersey herd has recently been established and they milk somewhere in the vicinity of 80 cows. When we initially started these herd health programs, we had to come up with something that was going to make the dairymen money and something that he could be satisfied with that he was making progress and so I just drew up what I thought were four factors that certainly contributed toward a successful herd health program as far as the veterinarian was concerned: 1. A fast, competent job of rectal palpation from the reproductive and point is of ultimate importance, 2. we have to develop some sort of a simple record keeping system, 3. participating in continuing education programs for the dairymen so that he can realize what goals they should be striving for and 4. I think it's a necessity for the veterinarian to have an active interest in dairy cattle and the dairy industry. We find that the dairymen in our area are for the most part poor record keepers and the simplest type of record keeping that we can develop always proves to be the most efficient. We just have this divided into three catagories, the upper category noting information on that cow prebreeding, any sort of infusions or any other treatment that might be necessary. We record heat days even before they want to breed her, breeding dates and then pregnancy testing and a spot at the lower portion to designate any treatment that's administered to the cow through that lactation. Along the edge we have tabs which many dairymen like to use, they are just little metal tabs which clip on and they file these folders in a looseleaf book and they keep them up to date. When it comes herd health time, they can just flip through and pull all the cards which we need for that particular herd health check.

We haven't quite got as sophisticated as Dr. Abernathy in

gearing ourselves to doing herd health check-ups in free stall set ups, we've still done the rectal palpations in the milking parlor. We have made a few adaptations. We usually have the dairymen rig up some sort of a two-by-six, many of them have a very classy set up that they just bolt on the parlor so that the cow can't turn sideways and it certainly facilitates easy rectal palpation. Some farmers can't afford a fancy set up but they can all afford a little wood and some baling twine. At the end of each year or as it works out, most often prior to a seminar that we have to give, we try to correlate all the information on reproductive performance in these particular herds and the dairymen like to know where they stock up in these particular categories in relation to the rest of the dairymen in the area. So what we do is compile all the information on first service conception, calving interval, percent of cows in heat 60 days post-calving and percent of the herd called for reproductive reasons. When we started out in 1976 our first service conception rate was 56.9%, in 79 it was 63% and we've had a little bit of decline in this past year. I think that is probably due to the fact that we've had several IBR outbreaks in our partiuclar area and it certainly has been very detrimental to the first service conception rate.

Calving interval has maintained at about the same, our calving interval at 13.6 is probably undesirable by many standards but I think that we have to realize that in our area we have a lot of registered Holsteins breeders that are trying to make large records on these cows and a twelve month calving interval is not their goal, so we have to settle with something a little greater than that. The other area of estrus by 60 days post calving, I'm not happy with that particular figure, we certainly should have it much higher and we're concentrating more on the nutritional end of things and hoping to improve that in the future.

Now, there is one final point that I'd like to make and for many veterinarians they may feel that this is out of the scope of veterinary medicine but it's a real major part of our herd health program and our involvement in these registered and grade dairy herds. I think the thing that's of main importance to the dairyman is to make the most money and the way that he makes the most money is to get the most milk. If we look at an average of the milk production records in Canada in 1979, we can see the maximum production comes when a cow is seven years old, at 14,059 pounds, after that it begins to decline and it doesn't reach the peak until that particular time. At the present time in Alberta, average age per herd is about four years old, so if we look at that we are losing almost 1,000 pounds of milk per cow per year just because the average age of our herd is four instead of seven, so what we have to concentrate on is the conformaiton of these cows, what we like to call functional type. We like to see certainly a desirable udder and a desirable pelvic structure as well as desirable feet and legs. In our continuing education programs we try to encourage culling where they can in the cows that are never going to reach the seven year stage and try to encourage them to improve their breeding programs so they can get that seven year old cow and

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maximize their production by doing no other work what so ever. I'll just take one minute more to just briefly mention a couple of other, I gues you might call them mini research projects that we're undertaking in the practice right now, one of them is the milk progestrone assays. It has worked very successful to date, at the present time we're taking milk samples at day zero and day 21 following breeding and we find it a great asset in some of these high producing cows if we can determine that these cows are open somewhere between 20 and 30 days, we can certainly get going on some reproductive treatment and save those open days.

One other thing that we've tried doing and I'd certainly encourage any other people that come forward that have tried this partiuclar technique is, our evaluation is strictly clinical impression. A few years ago there was a research paper on work that had been done on a mare by using a product called tris EDTA which is a mixture of a compound called tris along with disodium EDTA and glacial acetic acid and infusing this solution four hours prior to an antibiotic infusion for chronic endometritis. The rational behind the treatment is that this particular product breaks down the mucous layer in the lining of the endometrium and then the antibiotic has a greater chance of doing its job. We're certainly very encouraged with the results we've had on a limited numbers in this particular program and I'd be interested to hear if anyone else has tried similar techniques.

Inventory Control and Application in a Mixed Practice and Clinic:

Dr. Ed Shacklady, Okotoks, Alberta

Okotoks, Alberta is about 20 miles south of where Gordon practices, I'm also involved in a five man practice and I'm basically the only one that does bovine medicine. The topic I'm going to speak upon is the inventory control system that we use. It is very simple and I hope it will help anyone who does not have one or maybe they can advise me to increase the benefits I can receive from mine. What we do is to have a woman, as you all know you pick out someone who likes to shop and who will shop with the drug travelers and shop with everyone to get the best price and this lady has worked out very well for us. She has been involved in the practice for quite a while and the system certainly has its dividends for us. The only thing you have to do is to be prepared to use whatever brands she'll buy for you. You give her a list of the type of drugs you want and she'll find out. Any new drug she always comes and asks us. What we use is a system with a large card, there is nothing mythical about it, it doesn't even have our name on it, it's printed up as cheaply as possible. It has the drug name, the description of the drug, the season it is used, the date in, the date out, how many are on order and the date it is ordered, who the supplier is, the alternate suppliers, cost price, selling price, and the amount on inventory. We calculate our cost price based on a single unit so if we make a deal as to our savings and there are certain clients on volume who get a discount, we also mark that on this card. We can utilize the cards to determine what our inventory is, what our suppliers are, what our costs are, what we have to sell to make the profit that we want, and it is also utilized by the individuals writing up their invoices to determine what the cost of the drugs are. The price we sell it for is also marked on the drugs and its just like a supermarket stamp. It is placed on the drug, they are all brand name drugs so there is no problem with that. If there is an argument concerning the price of the drug that a client is purchasing, then he can tell you then, and doesn't stew on it for 30 days or whenever he gets his statement and can come back and complain.

About a year ago I had the opportunity to talk with someone at the CVA convention in Toronto and I ran into a company from Quebec that wanted to collect some data. For that I have provided our sheets, purchase order sheets for them and they sent me a print out which has proved to be quite valuable. We've only received three of them so far at quarterly intervals and it tells us what we use from year to year. Right now it tells us what we use from season to season and checks our inventory and makes sure we don't get over stocked. We have three different folders and binders for drugs and two different ones for supplies and it's all split up. The supplies are listed in alphabetical order and they all have their price on them. We don't just utilize just one company, there is a lot of variation. The drug room has three main areas where we have the drugs, basically in the drug room, a refrigerator out of a supply house that supplies to restaurants, works quite well, it's quite reasonable. We have a hallway concept in the clinic, wide hallways with different dispensers around. There are three basic areas, the drug room, the dispensing cupboards, and also the basement, the bulk storage is in the basement. With our system we can predict how much we are going to use of a particular bandage material and syringes and buy it in bulk and store it that way. Our biggest difficulty is getting veterinarians and anyone who takes drugs out to write down what we take out and then the girl transfers that to the sheets, master sheets and once we keep this going, she checks her inventory about 35 to 60 days, just to double check the high selling items, she checks that more regularly. The clinic was constructured about two and half years ago. In the reception area, there is a little gadget that we use to put babies, small dogs and cats, while they pay their bills. We stop little kids from crawling around on the floor.

The bovine area has stocks, chute the back part comes out in a scissor method, it's right back out of the road. The bovine area is about 20 by 22. We set the room in there and then hired somebody to put the working area in, works very well. We don't have a table in there. There is an eight by eight stall, the lab area, office area, and five different cubicles. That isn't very profitable there, the area doesn't generate