strongly to the first vaccination and developed high titres that, according to the literature, should be protective.[6] The calves developed clinical signs at about 15 weeks of age or 3 weeks after their second vaccination.

The failure of the antibodies to be protective may mean that there are different strains of BVD with major antigenic differences but this has not been reported in the literature as all strains of BVD appear to cross react antigenically to some degree with one another. The diagnosis was confirmed by the pathology department at OVC on the basis of clinical signs, gross and histopathology that were all typical of BVD. The other explanation for the failure of the antibodies may be that a protective immune response to BVD is more complicated than just the development of neutralizing antibodies prior to a challenge with BVD virus.

This leads to the question whether one should vaccinate to prevent the enteric form of BVD. If the main concern is to prevent losses caused by the enteric form of BVD then it is important to remember that animals that die of BVD are *usually* immunoincompetent and unlikely to respond to BVD vaccine antigen if they are unable to respond to field virus. In addition to this, there are reports of outbreaks of BVD following vaccination for BVD and since, according to our work, the titres induced by vaccination are not always protective, one should be cautious using vaccines containing live BVD virus.

Conclusion

In conclusion, there was no benefit in weight gain in calves that were vaccinated for BVD over those left as controls, at least not in this particular study.

Calves were capable of responding to the vaccine once their passive antibody titres declined to levels less than 1/100. While over 90% of the vaccinated calves seroconverted, 40% of the control calves were able to actively produce BVD antibodies without being vaccinated.

Finally, BVD virus neutralizing antibodies are not always effective in protecting against disease. The vaccination program made no difference in the incidence of clinical BVD in both the vaccinated and control calves.

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Herd Health in Free Stalls:

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I practice in the Caslow valley. I have probably the same kinds of dairy clients that you have. Most of them came from Holland, they know how to grow grass really well. We grow very little cornsilage, we grow mostly grass and production on these fields is about eight to nine pounds dry matter to the acre that's well above 10% protein, probably in the neighborhood of fourteen or fifteen percent protein. We use mostly bunker silos. These barns are dirve-through barns and this particular barn holds about two hundred cows, a hundred cows on each side divided into groups of fifty. The cows are in one part, another part is the drive-through, the trucks can drive on both sides. There is a row of free stalls on one side and another row of free stalls on the other side. The hay storage is above the feeding alley. So the hay truck can drive through and put the hay off on either side. One barn has tie stalls or they have tie ups, so herd health is a piece of cake in this herd, they have about an eighty cow herd, I can go in twice a month. It takes us about fifteen or twenty minutes and the cows are tied up, any of you that particularly want plans for this type of thing I can probably get them, for many of you appreciate the tie up. For those who haven't seen them before, the cow puts her head in and ties herself. So about four-thirty or five o'clock in the evening this herd is finished except for the part they feed the hay, I arrive about fifteen minutes after that and we can do reproductive herd health in a matter of fifteen or twenty minutes. Piece of cake! IN this barn with these free stalls, I don't really need to show many pictures of free stalls for people to appreciate what free stalls are. But this particular herd, for example, has about four stalls where they tie up cows for AI and in order for me to adopt to my clients in the valley, in order for what I want to do, which is reproductive herd health, I adapted to their situation of not having restraint to do reproductive herd health. So I adapted to their situation of me wanting to do reproductive herd health in these free stalls. I've been driving around the valley for thw last month trying to figure out where I can get a picture of a barn with the cows all tied up, I couldn't find one, I haven't got one left, not one tie stall barn. I've got those tie ups, you know in the free stall barns, but I haven't got a tie stall barn left. And so I was trained to do reproductive herd health where I could put the carry-all down in the alley way between the stanchion barns and I could go to do rectals on the cows and decide what I wanted to treat them with and go back to the carry all, load things up and then go back and treat. But maybe you can appreciate the fact that if you're going to treat these cows in free stalls then it's a matter of chasing them up in the free stall the first time. And some of these cows don't appreciate being chased up a second time so that if in fact you get her in the free stall the first time your upmost is to treat the cow there while she's in the stall before

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