immunofluorescence procedures, to assess the possible predilection of the virus for the kidney.

Results indicated that PI calves remained infected during the 6 month study period and consistently shed infective virus, predominantly in the nasal secretions. However, certain PI calves that received passive immunity in the colostrum at birth did not have circulating virus in the serum for a short period of time after birth. PI calves appeared to have specific but consistent concentrations of virus in their serum, possibly reflecting an equilibrium between the replication of virus and the individual host response.

Calves that were not PI were routinely screened for loss of protective immunity and for infection by the BVD virus present in the environment. An age matched naive calf with no previous exposure and no detectable passive antibody to the BVD virus was introduced into the study group to determine the time frame of potential virus infection and immune response. A summary of these findings will be presented.



# Evaluation of Four Therapies of Papillomatous Digital Dermatitis in Dairy Cattle

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One hundred and forty-seven Holstein cows in three Central California dairy herds, housed in open corrals with shades, with active Papillomatous Digital Dermatitis (hairy footwart) lesions were randomly assigned to one of five treatment groups. Treatments were a) 37% formaldehyde (F), applied topically once with no bandage (n=38); b) systemic ceftiofur (Naxcel, The Upjohn Company) (N), 1gm SID IM for 3 days (n=31); c) topical lincomycin/spectinomycin (LS 50, The Upjohn Company) (L), 33.4 mg/ml lincomycin and 66 mg/ml spectinomycin on cotton balls under a duct tape bandage (n=33); d) topical oxytetracycline, 100 mg/ml in a propylene glycol base (T) on cotton balls under a duct tape bandage (n=31); e) control (C), dry cotton balls with a duct tape bandage (n=32).

Cows were recruited for the study by checking the whole lactating herd in the milking parlor by aiming a jet of water at the rear feet. Cows that responded by indicating pain, or cows with visible footwart lesions were examined on a tilt table, as well as cows that were suspected by dairy management of having footwarts. Cows with footwarts that were found to be painful on digital pressure were randomly assigned to one of the treatment groups using cards in sealed envelopes. Personnel did not know which treatment would be used on a given cow before she was enrolled.

Lesions were measured and described at enrollment and again at d7, d14, and, if not yet fully recovered, at d28 after treatment. Cows were evaluated for lameness at d1, d3, or d4, d7, d10 or d11, d14, d21, and d28 after treatment. Bandages were removed at d7, so that at subsequent evaluations personnel were blinded to treatment group. Fully Recovered Lesions (FRL) were those where no sign of the lesion persisted (lesion was indistinguishable from surrounding tissue). Lesions that could not be identified but which were dry, pale, or pink and not bloody or painful, and where the cow was not lame, were considered Healed Lesions (HL). Cows that did not have HL or FRL at d14 were considered treatment failures and were retreated with L or T. Final determination of success or failure of treatment was made at d28 on those cows not called treatment failures at d14. Measurements of lesions, especially of depth, proved to be too variable and inconsistent and were not analyzed.

Failure rates at d14 were significantly different between treatments ($p<.01$). Group C had 53% failures, compared to 18% for F, 13% for N, 9% for L, and 3% for T. FRL rates at d28 were 16% for C, 24% for F, 35% for N, 33% for L, and 26% for T. Overall treatment success rates through d28 (FRL + HL) were 34% for C, 71% for F, 74% for N, 91% for L, and 94% for T. The F and N groups were significantly different from untreated controls ($p<.005$). The L and T groups differed significantly from the controls ($p<.001$). Differences among treatments were not significant.

# Computer Practice Tips

*Coordinator* - Patty Scharko

## The Interactive Video Network: Delivery of Continuing Education Programs Through A Videoconferencing System

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**Abstract**

Continuing education programs for veterinarians must overcome many obstacles to succeed. These obstacles include program accessibility concerns (e.g., time away from practice, travel distance and cost of attending), and program caliber issues (e.g., relevancy, utility, and quality of the information presented). The Interactive Video Network (IVN) in Maryland provides a means for delivering continuing education programs that breaks through program accessibility barriers. In addition, effective use of the interactive capabilities of IVN enhances the value of a program. IVN is a land based, computer videoconferencing system that links multiple locations statewide into a single sight and sound network. Video, audio and any computer-based data signal are interactively shared between participating locations through special telephone network connections. Equipment at each site compresses (or decompresses) the signals into a single, digital signal that is sent (or received) across the network. There are no limits to the number of sites that can be connected for a program, although two to six sites work best for most situations.

IVN provides all the same presentation choices and information exchange capabilities that are available in a meeting held at a single, centrally-located site. Two-way, real-time communication and interaction are possible among all linked sites. Multimedia presentations, term-teaching, and small group interactions within a larger group setting are handled easily by IVN. The use of videoconferencing for continuing education programs offers many advantages over traditional formats. The IVN system 1) increases the accessibility of experts or specialists to veterinarians living in remote locations, 2) encourages the delivery of short (e.g., two-hours during a weekday evening), focused, cost-conscious programs to multiple sites simultaneously, 3) stimulates the development and use of innovative approaches for information and technology transfer and 4) breaks down geographic barriers so people from different regions of the state can interact face-to-face easily. After attending a series of continuing education programs on IVN, one private practitioner from Maryland wrote that "It was great! This technology is the wave of the future. It puts veterinary medicine on the cutting edge."