

CALVING EASE

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Navel Dipping Advantages and Alternatives

Summary:

- The frequency of navel infections has been connected to (1) cleanliness of calving environment, (2) cleanliness of calf pen or hutch, (3) adequacy of colostrum management, (4) navel dipping.
- Consistent use of navel dip for newborn heifer calves using a recommended protocol results in fewer deaths and infections than not dipping navels.
- Calves with navel infections grow more slowly than those without infections.
- Where 7% tincture of iodine navel dip is not available, a chlorhexidine (Nolvasan) solution or tincture is an acceptable alternative.

Navel infections

The frequency of navel infections has been connected to (1) cleanliness of calving environment, (2) cleanliness of calf pen or hutch, (3) adequacy of colostrum management, (4) navel dipping.

National dairy studies in 1992, 1996, 2002 and 2007 have consistently shown that about 2% of preweaned calf deaths are due to navel infections. When farms that dip navels are compared to those that do not dip navels we can document a big decrease in mortality (See www.atticacows.com, in Calf Facts click on “Dipping Navels: Mortality Graph”).

On farms that do not dip navels estimates of frequency of infections vary from 20% to 28%. For farms that dip navels reported frequency of infections vary from less than 5% to as high as 14%. In both situations infections were defined as having either enlarged or painful navels or both conditions.

One study weighed calves with navel infections once a month for 3 months. These calves averaged about 20 pounds (9kg) less gain than their healthy herd mates. Their explanation mentioned the fact that these infections tend to be chronic. Calves are very slow in recovering from navel infections.

Navel dip preparations

The 7% iodine concentration in an alcohol tincture has been a standard for navel dipping for decades in the U.S. It is easy to identify by its strong alcohol odor. Further, it has the ability to create long-lasting brown stains. In addition to the disinfectant properties the alcohol base acts to dry the umbilical cord.

Recent rules set out by the U.S. Drug Enforcement Agency (DEA) increase the regulation and record keeping requirements for iodine and iodine mixtures greater than 2.2% concentration. This was done to control iodine use in the unlawful production of methamphetamine. This effectively limits the 7% iodine product to large veterinary clinics and/or the largest dairy farms.

Chlorohexidine (one brand is Nolvasan) has been suggested as an alternative dip. To date I have not seen a controlled study comparing no dipping, dipping with 7% iodine tincture and a chlorohexidine preparation.

It is possible to purchase chlorohexidine in a 2% concentration. Our vet clinic purchases it in gallon lots. Both the vet schools in Wisconsin and Minnesota recommend diluting the product for use as a navel disinfectant. They mix one part chlorohexidine with either 3 or 4 parts of clean water. In human medical research the effectiveness of an alcohol solution (tincture) one part chlorohexidine mixed with three parts of alcohol has been shown to be effective as a disinfectant.

There is no doubt that in the near future new products will be coming on the market that will do a good job in reducing the rates of navel infections. One promising product using chlorohexidine was evaluated at the University of Minnesota. The product, Navel Guard, was equally effective as 7% tincture of iodine in holding down navel infection in the 2 herds studied. Sodium hypochlorite (bleach) is definitely **not** recommended for navel dipping – bleach is likely to do more harm than good when used to disinfect navels.

Remember, however, that the effectiveness of navel dipping can be compromised. The success of this practice depends on other best management practices being in place as well.

References: M. Fowler, "How to feed and manage dairy calves" in Feed Management, February 2000 51:2. Virtala, A.M., Mechor, G.D. Grohn, Y.T. Erb, H.N. "The effect of calfhood diseases on growth of female dairy calves during the first 3 months of life." Journal of Dairy Science 79:1040-1049, 1996. Virtala, A. M. and Others, "Morbidity from nonrespiratory diseases and mortality in dairy heifers during the first 3 months of life." Journal of American Veterinary Medical Association 208:2043-2046, 1996. Joan Barenfanger and Others, "Comparison of chlorohexidine and tincture of iodine for skin antisepsis in preparation for blood sample collection." Journal of Clinical Microbiology 2004 May 42(5) 2216-2217. W.M. Grover, S. Godden, "Efficacy of a new navel dip to prevent umbilical infection in dairy calves." The Bovine Practitioner 45:1 70-77 2011.

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