

DAIRY VETERINARY NEWSLETTER

March 2021

A Possible Way to Save Some “Dummy” Calves - the Madigan Squeeze Technique

Most dairy veterinarians have experienced “dummy” or maladjusted calves. After the gratifying work of a successful delivery of a calf (or multiple birth calves) following dystocia, some calves do not thrive. They may not get up, are weak, and most importantly they show little interest in their surroundings and have little to no suckling reflex. I have certainly seen many of these calves following difficult vaginal deliveries, and I have also found it common among calves delivered by cesarean surgery. Is there a simple and inexpensive procedure that can save some of these calves, rapidly helping them thrive?

The Madigan Squeeze Technique was developed by John Madigan, “a veterinary professor and equine neonatal health expert at the University of California-Davis. Madigan developed the technique as a part of his research to assist ‘dummy’ foals”, according to an article by M. Hanson in *Bovine Veterinarian*, March/April 2021.

I can find no refereed journal publications and no numerical data such as number of calves treated and percentage of successful outcomes; if any of our readers know of such a publication, please let me know. Nevertheless, the technique as described for use with dairy calves is inexpensive, convenient, and has anecdotal and some photographic evidence of being effective in stimulating normal behavior in dummy calves.

Hanson’s article explains: “Madigan’s theory is that when animals travel through the birth canal, it causes a surge of hormones that shut down sedative neurosteroids that keep them calm in the womb. Because both cattle and horses are prey species, it is important that they make a quick switch to consciousness so they could theoretically run to safety within a few hours of birth. The squeeze through the birth canal is thought to help flip a biochemical ‘on switch’ that helps newborns transition quickly from a sleep-like state in the womb to active engagement outside of it. If, for some reason, this transition [compression] does not occur, the animal remains quiet, depressed and detached.”

The Madigan Squeeze Technique as described in the article:

- Wrap a long, soft rope in three concentric loops around the calf’s chest. [Most videos show using a lariat-like loop with the rope through it, making the first loop in front of one front leg and behind the other leg.]
- Gently pull the rope to create pressure around the ribs. [Making two half hitches along the dorsal top line of the calf and pulling caudally on the rope similar to casting, but not with much force, is commonly used.] The calf should lie down and will enter a sleep-like state with eyes closed, slowed breathing and lowered heart rate.
- Maintain this position for 20 minutes.

- Remove the rope and assist the calf in standing.

I found a series of still photos illustrating the Madigan Squeeze on dairy calves, but no videos. However, YouTube has many videos of its use on foals. [A video that illustrates the stages pretty well is:](#)

[Madigan Squeeze on Neonatal Mal-Adjusted Red Bag Foal - Bing video](#)

It is the one where the initial photo has one person in orange sleeves, lasts 3:14 and features Dr. Sabrina Jacobs.

Most testimonials and non-refereed publications describing the technique on calves indicate:

- The Madigan Squeeze works best when first applied to calves a few hours to one day old.
- It sometimes has to be performed two or three times during the first one to two days of life.
- Of course it will not save all poorly responsive calves, but is worth attempting.

Here is a series of images of a dairy calf taken from a publication by Cassie Faul, DVM, Old Dominion Veterinary Services, September 2020:

Photos 1 and 2: The method involves threading a rope in fixed loops around the neck and chest of the calf.

Photo 3: With the calf laying down, apply gentle tension on the rope and then squeeze the calf for 20 minutes.

Photo 4: When released, the calf may spring to life, having more energy and motivation to stand and nurse. The calf pictured here stood and began to nurse immediately after the procedure.



The U.S. Foot and Mouth Disease Vaccine Supply Gets an Increase

During the last 8 years, with some major revisions in late 2020, the U.S. national response plan should an outbreak of foot and mouth disease (FMD) strike here has increasingly emphasized a vaccination and containment strategy. However, it has long been evident that the North American Foot and Mouth Disease Vaccine Bank, a shared venture between Canada, Mexico and the U.S., would not provide enough FMD vaccine doses, especially in a timely way, to contain an outbreak. There are many facts and numbers to illustrate this, but here are a few of them:

- There are 95 million cattle and 75 million pigs in the U.S.
- 1 million cattle and 1 million pigs are in transit each day in the U.S.
- 250 million doses of FMD vaccine are estimated to be needed to contain an outbreak
- *If the U.S. requests FMD vaccine before both Canada and Mexico, 250,000 doses will be available within 14 days from the North American Foot and Mouth Disease Vaccine Bank*
- 2.25 million more doses will be available, but how soon is not certain; likely to be many months or more
- There is little to no cross-protection from vaccination for each of the 7 different serotypes of FMD virus (some subtypes have strains within the subtypes as well; many outbreaks include multiple FMD serotypes)

In addition, the experiences of the last year with the COVID-19 outbreak have pointed out how deficient and slow the U.S. response was to a worldwide human pandemic with sizable mortality. Among the many concerns this raised, this prompted the federal government to ask some specific questions about the North American Foot and Mouth Disease Vaccine Bank's true ability to provide what number of FMD vaccine doses and in what time intervals. The answers revealed that previous estimates were not realistic.

Therefore, beginning the attempt to secure an adequate supply of FMD vaccine that is committed to usage in the U.S., the USDA Animal and Plant Health Inspection Service (APHIS) has made the initial purchase of \$27.1 million to obtain FMD vaccine for the National Animal Vaccine and Veterinary Countermeasures Bank (NAVVCB). In keeping with virtually all of my experience with federal government programs, which I venture to speculate that most of us can relate to, I find no information explaining how many doses of vaccine, for which serotypes of FMD, have actually been purchased, how long they will last before expiration, and how many additional doses for which serotypes are yet to be purchased. The APHIS does state, "This is the first step toward the goal of acquiring 10-25 million doses of each of the 10-12 highest risk strains of FMD for the NAVVCB."

All members of livestock industries, including the dairy industry and dairy veterinarians, should contact their congressional senators and representatives, and also directly urge the USDA to continue to increase the stockpile of U.S. FMD vaccine and to keep stocks replenished after expiration.

Some Hybrid Continuing Education Events Coming Up

AABP 2021 Conference coming to Salt Lake City

It may seem well into the future, but start thinking now about attending the American Association of Bovine Practitioners (AABP) conference. This will be a hybrid meeting of online virtual options and an in-person meeting taking place in Salt Lake City. Registration - and hotel information for those who will travel to the in-person meeting - will be coming "after May 1st, 2021", according to the AABP website. You can find it by searching for "AABP 2021" and then going to the conference website. This is always a great continuing education event for veterinarians in many aspects of food animal practice as well as dairy.

The American Dairy Science Association (ADSA) annual meeting from July 11-14, 2021 will be "the first-ever hybrid meeting for ADSA. We will have an in-person meeting, held in Louisville, Kentucky, along with a

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concurrent virtual meeting.”, says their website. You can find it by searching for “ADSA 2021 annual meeting”. More details regarding all contents of the program, registration - and hotel information for those who will travel to the in-person meeting - will be coming later. I have always found this a very informative meeting, despite the fact that most veterinarian attendees are not from private dairy practice. Consider checking out the program both now and as the details of presentations within each subject area emerge.

Please let us know your comments and suggestions for future topics. I can be reached at (435) 760-3731 (Cell), or David.Wilson@usu.edu.



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