Within Minutes of Birth, a foal struggles to his spindly legs, falling and standing again until he can make his way to his mother and begin nursing. Those first tentative steps lead him to an essential element in his health — the mare’s first milk, or colostrum.

Mother’s First Milk!

Experts support giving colostrum

To foals soon after birth

By Heather Smith Thomas
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Colostrum stimulates the gastrointestinal tract, to help the foal pass his first bowel movements and eliminate the meconium, and contains a creamy fat that is high in energy and easily digested. The antibodies in colostrum provide passive transfer from the dam to protect the foal until his own immune system can start producing antibodies. Thus it is important for the foal to nurse as soon as possible after birth.

Peter Sheerin, DVM, of Rood and Riddle Equine Hospital, Lexington, KY, said that the mare produces antibodies in response to pathogens she is exposed to in her environment. “That’s one reason many farms request that foaling mares come to the facility at least 30 days prior to foaling. This will allow the mare to develop antibodies to local pathogens, to help protect the newborn foal,” he said.

Pre-foaling vaccinations also stimulate production of antibodies that will hopefully appear in a mare’s colostrum. “Owners should vaccinate mares against diseases that might be a concern on their farm, four to six weeks ahead of the mare’s expected foaling date[in order to produce peak levels of antibodies in the colostrum],” Sheerin said.

More than Immunity

John Madigan, DVM from the University of California, Davis said that colostrum works in the gut to help the foal, in addition to providing the antibodies that can slip through the gut lining into the bloodstream and lymph system to stimulate systemic immune response.

“Colostrum is a natural Laxative. It also contains glucose and energy from fat that gives the foal more strength to stand and nurse or deal with inclement weather [without becoming chilled] or other stresses,” said Madigan.

Colostrum also contains IgA (immunoglobulin A), which does not cross through the gut lining. These antibodies stay in the tract to fight off pathogens that cause diarrhea. These can be helpful even after gut closure occurs and the foal can not longer absorb antibodies into the bloodstream.

In fact, Madigan recommends that horse owners hand feed the foal’s first meal before it even gets up. “This recommendation is based on evidence that foals, during the process of seeking the udder, can acquire bacteria that go into the intestinal tract and crosses what we call the open gut,” he said. “On a farm where we experienced a large Salmonella outbreak we began this process of getting colostrum into foals before they got up and nursed the mare, along with washing the mare and having a clean udder before the foal nurses.”
“After the mare passes her placenta there’s a lot of contamination because mares defecate during stage 2 labor; there is bacteria on her and on the afterbirth. After the udder is cleaned up, as soon as the mare gets up, we milk the mare [up to 8 ounces] and, while the foal is still lying down, feed him from a bottle,” he added.

Once the foal tries to stand, he is concentrating on trying to get up and may not be as cooperative, but the suckle reflex is strongest right after birth, and foals will readily suck a bottle if it’s offered. Then the foal will generally go ahead and get up and do more nursing on his own, but the owner is assured that the foal received sufficient antibodies in a timely fashion. Many breeders believe this process has helped reduce their incidence of disease in newborns.

The big advantage to this is knowing that the foal received the colostrum,” said Sheerin. “What happens occasionally is that mare owners have been up for several night in a row, and now they’re exhausted, and the foal gets up and heads toward the mare’s udder and may be playing around and sounds like he’s nursing, but no one actually checks to make sure he is nursing. Or, they watch the foal and it latches on and nurses a little bit then lies down and goes to sleep. The exhausted owners then go back to bed and don’t know how much the foal actually received or how much it nurses after that. So the advantage of bottle feeding the foal would be the assurance regarding how much the foal actually got, initially.”

“Keep the foals head and chest somewhat elevated while bottle feeding and make sure the nipple does not flow too fast, aspirating fluid into the lungs,” said Sheerin.

Leaking Liquid Gold

If a mare drips milk prior to foaling, the quality of colostrum could be affected.

“A lot of mares will drip a little bit the day before foaling, but if she leaks an excessive amount - such as for several days or a week or two - the likelihood of the colostrum being any good would be pretty slim. For a mare like that, you’d want to be prepared to supplement her foal with good colostrum,” said Peter Sheerin, DVM.

There is a way to help prevent leakage, with a special type of tape that can be put over the teat. This tape, available from the same company that makes the Udderly EZ™ Mare Milker. It adheres strongly to the teat without making it sore and can stop the dripping and draining away of precious colostrum. The tape can be removed when the mare foals.

“The Udderly EZ™ pump works quite well. It’s sort of a modification of how people used to draw milk from the teat by using a 60cc syringe with the end cut off (and placed over the teat), but it’s hooked up to a little vacuum pump, and it only takes one hand to operate it,” Sheerin said. “Most mares tolerate it fairly well”.

The pump doesn’t make the teats sore (there’s no friction, compared with milking by means of thumb and fingers), and one person can usually do this alone by standing alongside the mare. Holding the pump in one hand and the mare’s lead shank with the other. It’s safer for the person and easier on the mare, as she is less inclined to kick.
If you milk your mare and save the colostrum in a freezer, don’t use a microwave to heat it up; use warm water. “It should not be warmer than body temperature, or the antibodies will be cooked and won’t be any good,” said Sheerin. Additionally, he recommended storing it in a freezer that’s not a frost-free freezer in order to avoid temperature fluctuations. “It warms up so the frost will melt and then get cold again, decreasing the self life of the colostrum, it should be good for at least a year.” There is also an 8 oz colostrum bottle available from the Udderly EZ™ company that you can freeze the newly drawn colostrum in without cross contamination.

On occasion a mare gives birth to a foal with incompatible blood type. The foal inherits blood components from his sire that are not present in the mare. During gestation, the mare’s blood creates antibodies against the foal’s red blood cells. These antibodies circulating in her bloodstream do not harm the fetus, since the large IgG molecules can’t cross the placental barrier. The mare’s colostrum has a high level of these antibodies, however, and as soon as the foal nurses he ingests them. When they get into his bloodstream, they attack his red blood cells - a condition called neonatal isoerythrolysis (often called Rh foals being horsemen, since this is somewhat similar to Rh factor problems in human babies).

In this situation, the foal may die if he nurses his dam due to the destruction of his red blood cells. By the second or third day of life he becomes weak and lethargic, jaundiced, and all his body tissues are short on oxygen. The solution to this problem is to be aware there might be trouble (if that mare has produced an at-risk foal before) and to be present at the birth and not allow the foal to nurse his dam. He should be fed colostrum from another source. The mare must be milked out regularly for two to three days, until all colostrum is gone from her milk - and then it is safe to let her raise her foal.

Aside from the cost of producing a foal, and waiting a year for that baby, there’s an emotional attachment and great hopes for its future. “After the baby’s born you are relieved, thinking all the planning and worry is over. Mission accomplished. Then it gets sick and you start the heartache of trying to save the foal. Unless you get started with treatment awfully fast, you will lose most of them,” Miller said. “So if you can prevent 85 percent of those foal deaths (as was done in the UC Davis study) or even 30 to 50 percent, just by giving the foal a little colostrum immediately after birth, it would be well worth milking the mare and giving the foal a bottle, even before it gets up.”

Preventing Septic Foal Syndrome

Dr. Robert Miller, Thousand Oaks, Calif, who pioneered imprint training for the newborn foals, is now advising horse owners, “to administer colostrum to the foal via baby bottle during the imprinting session soon after birth. Dr. John Madigan of UC-Davis recommended that foals be given colostrum during imprinting; this is the ideal time to do it when you are handling the foal immediately after birth.” To help prevent Septic Foal Syndrome. This acute and deadly type of infection is caused by bacterial toxins in the bloodstream, where they start attacking all the organs of the body. The foal quickly goes into shock and its organs shut down, resulting in death. Foals can come into contact with these dangerous bacteria soon after birth. [some breeders have referred to this as navel ill.]

When Colostrum is Deadly
Miller said, “Buck Wheeler, the man who invented the Udderly EZ™ Milker sent one to me and I passed it on to my former partner who does most of the reproductive work in that veterinary practice. I think it will be popular and useful tool. I am surprised someone didn’t think of it sooner! I guess it’s like all great idea’s – it seems so simple and logical once someone else comes up with it.”

“There’s still the old school of thought that we should leave the mare and foal completely alone and not handle the foal,” Miller pointed out. “Usually, those horsemen are worried about three things: rejection, (the mare rejecting the foal because of the smell of a human on the foal); spoiling the foal; or that making it submissive to humans will break its spirit and hinder its competitive edge as an athlete. My imprint training (more than 40 years with countless foals) has proven all of these worries to be unfounded.”

Buck Wheeler, thoroughbred owner, breeder and inventor of the Udderly EZ™ Milker states that, “The three things to remember in using the Udderly EZ™ Mare Milker are, Always clean off the bag first, Make sure the wax plug is out of the teat and always Strip each teat to make sure you have a milk or colostrum flow before you draw the colostrum. This also helps to discharge any bacteria that may have collected on the end of the teats.”

For Live Video go to www.youtube.com/566241

**Solve and Treat Mastitis Issues**

I want to thank you so much for the UdderlyEZ™ and all of your help. I have worked with horses over 40 years and this year was my first experience with mastitis. A very nice mare was given to me because of her history of mastitis. As I understand the only foals to survive were placed on nurse mares. In searching on line I found the UdderlyEZ™ site, watched the videos and bought the device. I also contacted the company for any additional advice as this was a very overwhelming situation. I was very impressed with the fact that you took the time to help me and offered additional information about your experiences with this situation.

My staff and I watched the video two or three times, by the time the foal arrived we were totally prepared. We milked the mare out on the bad teat every 3 to 4 hours around the clock and now on day 4 the filly is so strong she is nursing both teats and our assistance is no longer necessary. I can’t thank you enough. The UdderlyEZ™ made my life so much easier— the time and the ease of the milking process was more than cut in half. It was so simple all of my assistants could perform the task by their self and the mare was extremely relaxed and comfortable during the entire process.

In addition, I was very appreciative and grateful for all of the customer support you gave me. It is so refreshing to find a company that genuinely cares about the animal and the customer.

Best regards,
Kim Hobson, President, Hawthorne Products, Inc.