

# Are You My Mommy?



Laura Kotimäki-Hurd

## Raising the Orphan Foal

By Carolin Von Rosenberg, DVM

The loss of a mare during the birthing process is usually unexpected, always heartbreaking and often dramatic. The scene may involve a late night dystocia (difficult birth), a frantic call to your vet or a mare that simply collapses and dies after rupturing an artery. It's a scene that breeders hope and pray never happens, but one that they still need to prepare for, nonetheless.

In addition, there is an occasional mare that completely rejects her foal. This is rare, occurring in less than two percent of all births, but almost always involves a mare foaling for the first time. Or, in my experience, it can be a mare that is in excruciating pain.

In any case, you have just spent an emotional and exhausting night in your barn or at the referral hospital, and you are left with a tiny, beautiful, velvety-muzzled orphan staring at you from the depth of the straw-filled stall. She knickers and stands up on wobbly legs to greet you, "Are you my mommy?" Your first reaction, of course, is to respond with a resounding "Yes," gather up the tiny foal and rush it to your house to be raised via bottle among your kids and dogs. Your second, and more proper, reaction should be, "No, but I will help you get through this and allow you to grow up like a horse.

"If you have seen the documentary movie *Buck*, you may recall the horrible scene where a client brings Buck Brannaman, noted trainer and inspiration for the book *The Horse Whisperer*, a three-year-old colt that the client had raised as an orphan. The horse is unmanageable and extremely aggressive towards people. Despite Buck's crew's attempts at handling the horse, he is finally declared too dangerous and has to be euthanized. The Buck story appears to be an extreme, since after all the client did raise the horse in her house for a while, but it serves to demonstrate how proper socialization is just as important as proper nutrition in raising a young horse that can become a productive and well-adjusted member of the equine world.

### Important First Steps

No matter what path you choose to raise your orphan, the first few days will be spent assuring that the foal is healthy and has received adequate colostrum and general nutrition. (If the foal is older, over two months, it is probably already consuming sufficient feed and hay so that you will be able to skip the milk replacer step all together.) Newborns who did not receive colostrum from their dam require two liters of colostrum during the first eight hours of life. Breeding farms and referral hospitals often have colostrum saved and available. The colostrum is thawed to room temperature and fed to the foal with a bottle. We use human baby bottles from the grocery store and enlarge the size of the nipple opening.



Dr. Carolin Von Rosenberg

The difficulty of getting a newborn to accept the bottle varies with the foal and with the experience of the handler. Some foals are born starving and will attempt to suck down anything that comes close to their muzzle, while other foals are less enthusiastic or coordinated and will require some patience. A viable option is to allow your veterinarian to tube feed the foal the first colostrum to assure that it is ingested at the earliest possible time. Proper bottle feeding technique is also very important. The foal's head has to be upright and stretched towards the bottle to avoid inhaling any milk into the lungs.

If colostrum is not available, the foal may receive equine plasma intravenously in the first 24 hours of life to make up the deficiency in antibodies that the colostrum would have provided. In any case, a veterinarian should examine the foal within the first day of life to take blood and assure that the foal is not suffering from any life-threatening conditions

## *"With a little understanding of the need for proper socialization and of course proper nutrition, it is not difficult to raise an orphan."*

such as sepsis or dummy foal syndrome. All orphans should be categorized as "high risk" foals.

Unless a nurse mare is immediately available, the foal will require some form of milk replacer after the colostrum has been consumed. There are excellent foal milk replacers on the market. Two that I recommend are Mare's Milk Plus by Buckeye Nutrition and Land O'Lake's Mare's Match. I have found both to be easy to mix and well tolerated. I don't recommend multi-species milk replacers, since mare's milk is very different from other species' milk. Mare's milk is rich in lactose but relatively low in fat and protein. If no commercial milk replacer is immediately available, cow or goat milk can be used temporarily. Use two-percent milk supplemented with dextrose, a simple sugar. Dextrose can be found in the grocery store in the form of pectin (used to set jams and jellies). Add two ounces to three liters of milk. Alternatively, a teaspoon of white corn syrup can be added to every eight ounces of cow's milk, but this is not as well tolerated. All utensils, bottles and buckets must be kept clean and sanitary to avoid problems with diarrhea. Switch to a commercial product or a replacement mare as soon as possible.

### **Options for a Long-Term Milk Supply**

Once the colostrum has been consumed, it is time to consider where the rest of the foal's nutrition will be coming from. Foals ideally require milk for 16 to 20 weeks, but can be weaned as early as eight weeks if necessary. A newborn foal under normal circumstances will nurse up to six times an hour. The foal requires up to 25 percent of its own weight in milk every day. That's about three gallons for a 100 pound foal every day and it increases as the foal grows.

If this seems overwhelming, consider also that a foal does not only benefit from its mother because of the milk supply. The dam provides comfort and safety, plus the foal is constantly learning from her. By imitating its mother and responding to her cues, the foal learns a tremendous amount, such as how to get along with the other members of the herd, how to eat grass and feed, what is dangerous, where the water supply is and what role humans play.

Nurse mares are the ideal solution and are often available in "horse country" areas such as Ocala, Florida and Lexington, Kentucky. The leasing of a mare from a commercial nurse mare operation can be expensive, but, after considering the cost of milk replacer and the effort required to provide it for four months, it is actually a bargain. The first few days can be very labor intensive, but after acceptance is accomplished, the foal is raised like any other foal learning proper social skills. Be careful that the nurse mare is not in the later stages of lactation, as the nutritional value of her milk declines rapidly after the fourth month.

Occasionally there will also be a privately-owned mare available that has just lost her own foal. Referral equine

hospitals can connect the orphan foal owner with the mare owner. This option can work for both, as the mare owner will get free board and care and usually a re-breed out of the deal (where the foal's owner has to get the mare bred back at their expense). The drawback is that you will not have a professional nurse-mare handler to ease the acceptance of mare to foal, and will probably need to leave both mare and foal at the hospital or breeding facility for a while. Also, this mare may be fairly valuable and you are taking on the added responsibility of providing for her well being. As with any lease agreement, a quick contract should be drawn up that spells out who is responsible for what.

### **Creating Your Own Nurse Mare**

If a lactating mare is not available, the second best option is to create your own. The candidate mare has to be open (not pregnant), have no foal of her own at her side, but have



**A 2012 orphan colt with his nurse mare at the author's farm.**

Dr. Carolin Von Rosenberg

had at least one previous foal. Retired broodmares work well for this. I have mares on my farm that will take any foal at any time. They are the supermoms of the horse world and they are abundant. Even if you are not sure about your mare's attitude toward a strange foal, with a little work you will most likely still be able to get her to start lactating and accept the orphan.

To start the process, place the mare and foal in adjacent stalls where they can see each other and interact without fear of injury to the foal. The mare is started on a protocol of hormone injections and domperidone oral gel. The foal is fed with milk replacer. In three to five days, most mares will have developed a significant udder and will be vocalizing and showing anxiety when the foal is removed from her sight, a clear indication that she has already bonded with

## Creep Feed

CREEP FEED is the term given to the concentrated feed that is traditionally fed to young horses (and cows) in a special “creep” feeder—an area that only the young ones can access, while the mothers and any other full-size animals can’t.



The benefit is that it allows the young foals to eat a high protein diet (16-18 percent protein) basically free choice without the mares eating it. With time the foal will eat more and more of the concentrate and less and less milk.

Any high protein feed will do, although some feed companies make specific feed for this purpose. Once the foal is weaned from its mother, it no longer needs to be fed in this way, since at that time it will eat by itself anyway. ❖

the foal. The mare’s udder is then cleaned and her hind legs hobbled. Now the foal is introduced and gently moved towards the udder. Most mares have already decided that they want the foal at this point, but may need a little convincing to allow it to nurse. Vaginal-cervical stimulation (vigorous massage of the vaginal area for about five minutes) can be performed in more resistant mares. This allows for the central brain release of oxytocin and helps those “loving feelings” to surface.

Once the mare has accepted the foal, the domperidone is continued for another two weeks. The foal is still given the option of milk replacer in a bucket, but should consume less and less in the next two weeks as the milk of the replacement mare takes over.

Creating your own nurse mare offers many advantages. First, you can use a mare that is otherwise just hanging out and eating your food. She has just been given an important job. Second, the foal grows up normally socialized, a very important benefit.

## The Orphan Without a Nurse Mare

If a mare is absolutely not available, raising the foal on a bucket with milk replacer is also possible. All orphans should be drinking out of a bucket by the time they are two days old. Bucket feeding is much less labor intensive and foals learn the concept fast. It also helps remove the continual association of food with humans. Older foals become very aggressive when looking for their milk supply, and you don’t want to be the recipient of over-aggressive nudging, head slinging and even kicking.

To teach bucket drinking, use a clean, brightly colored small bucket that the foal can easily get its head into. Allow the foal to work up a little hunger, then mix up the commercial milk replacer according to instructions. Mix up a gallon at a time so that the foal does not have to lower its head into the bucket too far to nurse. Have one person hold the foal while the other person dips



her finger into the milk and allows the foal to suckle the finger. Slowly move the finger towards the bucket until the foal is suckling the finger underneath the milk. Most foals will learn to suck up the milk after a few tries. Once the foal is comfortable with the concept, you will be able to hang the bucket full of milk and leave the foal alone to continue your other chores. Commercial foal replacers can be left out for up to twelve hours, but I recommend removing any unused portion after four to six hours, cleaning the bucket thoroughly, and mixing up fresh product.

All efforts should be made to create a non-human companion for this foal. It could be a gentle gelding, a mini or even a goat. The foal needs to be turned out in a small paddock with this companion, but fed separately.

Solid food can be introduced at two weeks of age, and by two to four months of age a significant part of the diet should be a 16- to 18-percent creep feed and good quality hay. (See sidebar above for more information about creep feeding.) Once the foal is eating about one pound of creep feed per 100 pounds of body weight, weaning from milk can be easily achieved. As soon as possible, the foal should be turned out with other weaned foals of similar age. Take the time to teach manners and respect. Early ground training can be very helpful. Try not to feed the foal by hand and do not accept behavior that its dam would not tolerate, such as biting and kicking.

## Take Care!

There is no doubt that raising an orphan is time consuming and expensive and can be doubly heartbreaking if the foal



**Wonder, a 5-year-old, 18.2 hand Hanoverian x TB, was originally an orphan foal. His dam died shortly after birth and he was first raised on milk replacer and then with a “lactation-induced” mare. His rider is Zoe Hernandez and owner is Ingrid Rockefeller.**

Courtesy Ingrid Rockefeller



turns into an aggressive and dangerous adult. I have come across a few badly raised orphans, one of which would charge anyone who came into the pasture, running across the field at a full gallop as soon as she spied the intruder, only to come to a sliding stop in front of the person, peeing and wheeling around and kicking and squealing. She was unacceptable even as an embryo transfer recipient and had thus lost her last option as a productive equine.

This kind of developed behavior can be avoided if the orphan is managed properly. With a little understanding

of the need for proper socialization and of course proper nutrition, it is not difficult to raise an orphan that grows up to be indistinguishable from other horses, both in looks and in attitude. I believe that the ideal is to find your orphan a replacement mother, and if that fails, raise it as close to normal as possible. 

**ABOUT THE AUTHOR:** *Dr. Carolin Von Rosenberg was born in Hamburg, Germany but has lived in the United States since she was a teenager. She graduated from the North Carolina State University College of Veterinary Medicine in 1989 and has worked exclusively with horses since she moved to Ocala, Florida in 1991. Her own practice at Buena Vista Farm focuses on equine reproduction and specializes in providing the smaller horse breeder with professional breeding management services. Her farm receives on average one orphan foal per year to manage and care for. Dr. Von Rosenberg can be reached by email at [cavoro@aol.com](mailto:cavoro@aol.com).*

## A Breeder Struggles with a New Orphan

by Liz Cornell

A BREEDER FOR OVER THIRTY YEARS, Kathy St. Martin at Avalon Equine in Wynnewood, Oklahoma has had her share of orphans to raise. At the end of May this year, Espion d'Avalon was born—a fancy, leggy, bay colt by Edelweiss de Bonce out of her mare Aiyana (by Arrian). Espion, the largest foal she's ever bred, tragically lost his mother at about five weeks old.

"One morning Aiyana appeared to have had some kind of neurological injury. Her head was cocked funny and she was spinning in circles," Kathy describes. "We tried everything to save her, but after a week her condition worsened and she became just too dangerous to be around for both people and her foal." She was sadly euthanized on June thirtieth. Suddenly Espion needed a new mother.

"We fortunately had an older PMU mare, a Percheron, that we were using as a 'recip' mare (a.k.a. surrogate) for embryo transfer clients," she continues. "Since she wasn't pregnant and was just hanging out, we immediately moved her in with Espion to start the nurse mare adoption process." Unfortunately, due to the July Fourth holiday weekend, they could not get an order of domperidone to arrive quickly, which meant little Espion needed to live on milk replacer until her milk was producing at capacity. This is where the difficulties began.

"This guy just refused every type of milk replacer, no matter what we tried—and we tried everything—commercial products, homemade replacer, replacer pellets, combinations of them all. Other breeders speculated that due to his age he was too familiar with the taste of the real thing, and he likely would not adapt to the replacement. We resorted to using a syringe and catheter to try to get the milk replacer down his throat, but it left more of it on us rather than in him! Every feeding was leaving a mess, it was over 100 degrees and the flies were terrible. It was discouraging. But the worst part was that every day the pounds were melting off of him. I was scared for his health," she remarks.

Although Espion would eat a tiny bit of feed and hay, it was not nearly enough to sustain his system. In that first week without his mother, Espion lost an estimated 50 pounds. After three days of the nurse mare being with Espion, fortunately she began to produce a little bit of milk and allowed him to nurse. Kathy knew the quality of her milk wasn't up to par, however. A few days later the domperidone finally arrived. Starting July sixth, the mare began her ten day dosage of the drug.



As of this writing, Espion is almost four months old and is still by the side of his giant Percheron mother. It's fortunately a happy ending since she accepted him easily and he's growing up like a normal young horse. But given his size, it has taken months for him to get his weight back. "Not every orphan experience is 'text book perfect,'" Kathy notes. "But today Espion is a sweet, friendly colt, and will be a wonderful sport horse for someone some day." She also mentions that she is a big believer in NOT raising orphans by humans if at all possible and shares that the PMU mare turned nurse mare has a forever home at Avalon. ❖

Photos courtesy Kathy St. Martin

