

Post-Foaling Care of the Mare and Foal

Most horse owners who have decided to raise a foal from their mare often miss the actual birth of the foal. The average pregnancy length in the mare is 336 to 340 days, but horses have a wide variation in pregnancy lengths (normal foals have been produced from pregnancies as short as 305 days and as long as 400 days), making it difficult for the horse owner to predict the actual date of birth. Also, most mares foal during the night or very early morning, making the birth difficult for the average horse owner to monitor. Fortunately, mares seldom experience foaling difficulties and usually require no assistance during foaling. However, there are several steps the owner should take after the foal is born to assure the health of the mare and foal.

Care of the Foal

If you are present during the birth of the foal, your first step after the delivery is to make sure the foal is breathing. Quietly approach the foaling area and remove the birth sack (amnion) from the foal's head. If the foal is breathing, your job is complete and you should leave the foaling area and observe the mare and foal from a distance. This allows the mare and foal time alone to recover from the delivery and bond to each other socially. If the foal does not begin breathing on its own, tickle its nostril with a piece of grass or straw or blow into the foal's mouth to stimulate the respiratory reflex. If the foal still does not breathe, try rubbing the foal vigorously, squeezing its ribs or lifting it about one foot off the ground and dropping it. These procedures usually shock the foal slightly and initiate respiration.

A normal, healthy foal lifts its head and neck and rolls onto its chest within several seconds after delivery. Then the foal begins to make creeping movements away from its dam. If the mare has not stood up yet, the foal's movements usually break the naval (umbilical) cord. You should wait for either the mare or foal to break the umbilical cord.

Do not cut the umbilical cord immediately after birth, because it is thought the foal receives blood from the placenta after birth. Cutting the cord before this blood transfer may result in circulatory

problems in the foal. Foals with circulatory problems typically seem dumb and may have convulsions, leading to the common terms of "dummy" or "wanderer" foals for this condition.

Once the umbilical cord breaks, the stump should be dipped in a mild, 1 to 2 percent iodine solution. The iodine dries the umbilical stump and prevents bacteria from traveling up the stump and entering the foal's body. Bacteria that enter the foal through the umbilical stump cause a systemic infection known by various names, such as shigellosis, naval ill, joint ill, or polyarthritis. This infection causes severe illness or death in foals and causes swelling and deformities in the foal's joints.

You should examine the naval stump for several days after birth to make sure that it remains dry. Urine dripping from the stump indicates that the fetal urine passage from the bladder to the umbilical (the urachus) has not closed. Normally the urachus closes at birth. If it fails to close, in a condition called "persistent urachus," the foal should be treated by a veterinarian.

Usually, foals stand within 1 hour after birth. During the first standing attempts, the foal is unsteady and constantly shifting its head, neck, and feet in an attempt to remain balanced. This unsteadiness is normal, and you should let the foal stand by itself. Lifting the foal onto its feet before its legs are strong enough to support it may strain tendons and ligaments, and it interferes with the bonding process between the mare and foal.

Nursing. When it stands, the foal should begin nursing attempts. The foal instinctively searches at the junction of the mare's legs (both front and back) and body for the udder. The exploratory process involved with finding the udder is normal, and, again, you should resist the desire to "help" the foal. Human interference during initial nursing attempts actually may slow the foal's progress in finding the udder, and it interferes with the mare-foal bond. However, if the foal has not nursed by 2 hours after birth or if the mare aggressively rejects the foal's attempts to nurse, then it is time to interfere. Help the foal stand up and gently guide it to the mare's udder. Hand milk a few drops of colostrum (the mare's first milk) from the mare and

coat your fingers and the mare's teats with it. Get the foal to suck your finger coated with colostrum and gradually move your finger beside the mare's teat. Then, slowly pull your finger out of the foal's mouth so the foal will switch to the teat. This procedure may have to be repeated several times before the foal makes the switch to the teat.

Occasionally a young mare or a mare with a swollen, sensitive udder will have to be restrained for several nursing sessions before she willingly lets the foal nurse. If the mare does not accept the foal after a few nursing bouts, you should call your veterinarian to tranquilize the mare. Keeping the mare tranquilized for a day or two solves most foal rejection problems. Remember to use extreme caution whenever you are working with a foal. Normally gentle, well-mannered mares can become very protective and aggressive if they think you are threatening their foal.

Colostrum. It is important for the foal to receive colostrum soon after birth because it contains antibodies needed for disease protection during the first few months of the foal's life. These antibodies can be absorbed by the foal's intestinal tract for up to 36 hours after birth, but absorptive ability begins decreasing drastically at 12 hours after birth. Therefore it is important that the foal receive colostrum before this time has passed. Your veterinarian can perform a simple test to determine if the foal has received adequate protection from colostrum. This test should be done about 6 hours after birth. This gives you an opportunity to correct potential deficiencies in immunity during the time the foal can absorb antibodies from its intestinal tract.

To ensure that the mare has high amounts of antibodies in her colostrum, vaccinate her approximately 30 days before foaling. If you miss this vaccination time, make sure the foal is protected against tetanus by giving it a tetanus antitoxin injection at birth. The tetanus antitoxin is less efficient than immunity from colostrum because it protects the foal for only 2 to 3 weeks while its umbilical stump heals. Because the foal's immune system is not mature enough to use a tetanus toxoid vaccination until it is 3 to 5 months old, the foal is unprotected for 2½ to 3 months if it does not receive protection from the colostrum.

Colostrum has a laxative effect on the foal, which helps it pass the fetal excrement (meconium). Most foals pass the meconium within 4 hours after birth. If the meconium is not passed, the foal can become constipated. A constipated foal frequently stops moving, squats, and raises its tail trying to defecate. Constipation can be relieved easily by giving the foal a warm, soapy water enema

(1 to 2 cups) or a prepackaged human mineral oil enema. You should observe the foal for several days for signs of constipation and correct any problems.

Foal Health Problems

Diarrhea in the newborn foal is not common and may indicate a serious illness in the foal. A squirting type of diarrhea can result in dehydration and death of a newborn foal in a few hours. Immediately consult your veterinarian if your newborn foal develops diarrhea. However, mild diarrhea is common in older foals (1 to 2 weeks of age). This diarrhea often occurs during the mare's foal heat (a fertile heat beginning approximately 7 to 9 days after foaling) and is commonly termed "foal heat scours." In the past, horse breeders thought hormonal changes in the mare's milk during foal heat caused diarrhea in the foal. Recent research has implicated an internal parasite (*Strongyloides westeri*) as the true cause of foal heat scours. This parasite is transmitted from the dam to the foal through the mammary gland. Foals begin to shed eggs in their feces 10 to 14 days after birth, resulting in scours that coincidentally occur with foal heat in the mare. If the foal is alert and nursing regularly, mild foal heat scours usually do not harm it. However if the foal stops nursing and becomes weak or dehydrated, consult your veterinarian immediately. You should keep the scoured areas around the foal's buttocks clean to prevent scalding of the skin. Wash the area with mild soap and water and coat it with petroleum jelly to prevent scalding.

Many foals have limb weaknesses or angular deformities at birth. These include knuckling over at the fetlock joint, weak pasterns in which the back of the fetlock touches the ground, knock knees, and crooked legs. Many of these conditions correct themselves with exercise. If your foal is born with less than straight legs, your veterinarian can assess the situation and recommend a treatment.

Some foals may be born with hernias (defects in the body wall that allow part of the intestines to protrude under the skin). Hernias occur most frequently at the naval and scrotal areas. Small hernias often correct themselves with time, and larger hernias may require surgical correction. Again, this is a situation that your veterinarian should assess and treat.

Occasionally the newborn foal's eyelids and lashes are turned in toward the eye rather than turned out as normal. This is a condition called "entropion" and causes tearing and irritation of the eye. If your foal has entropion, gently roll the eyelid out and consult your veterinarian for the proper eye ointment or treatment that you can perform.

Another infrequent problem in newborn foals is caused by an incompatibility between blood groups of the mare and foal. This condition is known as “neonatal isoerythrolysis” or “jaundice foal.” Antibodies to the foal’s red blood cells are formed by the mare and secreted in her colostrum. When the foal nurses and absorbs these antibodies, its red blood cells are destroyed. Without prompt veterinary treatment, the foal becomes anemic and dies. If you suspect neonatal isoerythrolysis, prevent the foal from consuming colostrum until you can get a veterinarian to test for the condition.

Care of the Mare

After foaling, allow the mare to lie quietly as long as possible. This allows the mare a rest period after birth and prevents premature breaking of the umbilical cord. Most mares will stand within 15 minutes after birth. After standing, the mare begins licking the foal vigorously. The mare is attracted to the birth fluids on the foal and she bonds to the foal when licking off these fluids. You should not interrupt the mare or dry the foal (unless it is cold enough to threaten the foal’s health), because it might interfere with the bonding process.

Most mares expel the afterbirth within 1 hour after delivery. If the afterbirth has not been expelled after 3 hours, get your veterinarian to treat the mare. Retained afterbirths can cause colic, founder (laminitis), or septicemia in the mare. You should never pull on the afterbirth, because this can tear it and leave small pieces in the mare. Never cut off the expelled portion of the afterbirth or tie it up to the mare’s tail, because its weight helps gradually to pull it away from the mare’s uterus. If the mare is bothered by the afterbirth swinging around her hind legs, tie the afterbirth in a ball with a piece of twine until she delivers it.

Spread the afterbirth on the ground after delivery and examine it carefully to make sure no small pieces have been retained. A normal afterbirth consists of a large sack (allantochorion) that is a shiny grey-white color on the outside and a velvety red color in the inside, a sack that immediately surrounds the foal (amnion), and the remains of the umbilical cord. Piece together any broken pieces to make sure the complete afterbirth was expelled. Then, weigh the afterbirth. A normal afterbirth should weigh about 11 percent of the foal’s birth weight (about 10 to 14 pounds for most riding horse breeds). A heavy placenta (around 20 pounds) or one that is bloody in appearance may indicate a uterine infection, and the mare should be checked by your veterinarian.

Check the mare for several days after the delivery for any signs of reproductive tract infections. A slight, watery, blood-tinged discharge is fairly common, but a thick, whitish discharge usually indicates a problem that may require veterinary care.

Care of Orphan Foals

Orphan foals can result from death of the mare, inability of the mare to produce milk, or maternal rejection of the foal. Orphan foals can be raised successfully with some extra care. As with mothered foals, you should make sure the orphan receives colostrum soon after birth. If the foal cannot receive its mother’s colostrum, try to locate frozen colostrum (large breeding farms and your veterinarian are good sources). Thaw the frozen colostrum at room temperature. Microwaving or heating the colostrum can destroy the protective antibodies in it. In the absence of any colostrum, your veterinarian can give the foal a plasma transfusion or an oral colostrum replacer to get antibodies into its system.

The best and easiest solution for an orphan is to transfer it to a nurse mare. To transfer the foal, disguise its odor by rubbing whiskey, linseed oil, the foster mother’s milk, urine or feces, or any other liquid with a strong odor on the foal. Rub the same odor around the mare’s nose. The nurse mare usually must be restrained or tranquilized for several days until she willingly lets the orphan nurse. Another solution is to let the foal nurse a milk goat. This is a good temporary solution, but most goats cannot produce enough milk daily to meet an older foal’s nutritional needs. You will need an elevated area for the goat to stand on during nursing (a few bales of hay make a good temporary platform), and you should pad the goat’s horns to prevent it from hurting the foal. If these options do not work you will have to bottle-feed or bucket-feed the foal with a mare’s milk replacer. There are several recipes for mare’s milk replacer; however, the commercially available formulas are nutritionally balanced for the foal and easy to mix and use. Whenever possible, teach the foal to drink from a bucket. This will save you many hours of lost sleep and time away from work. To teach the foal to drink from a bucket, coat your finger with milk and allow the foal to suck your finger. Gradually immerse your finger in the bucket of milk. Waiting several hours between feedings so the foal is hungry often speeds up the learning process. If the foal does have to be bottle-fed, hold the bottle at the approximate height of a mare’s udder so that the foal nurses in a natural position. If possible, use a bottle holder so that the foal does not assume you are its mother. You want

the foal to learn it is a horse and to respect humans. You should quickly and consistently discipline the foal for inappropriate behavior (biting, kicking, shoving, rearing) directed toward you. Orphans that are bucket-fed or bottle-fed and those nursing a milk goat should be introduced to other horses as soon as possible so they will develop normal equine social behavior. Putting an old, quiet mare or gelding in the pen or stall next to the orphan promotes normal social behavior. If your older horse can be trusted not to hurt the foal, turn them out together as soon as possible.

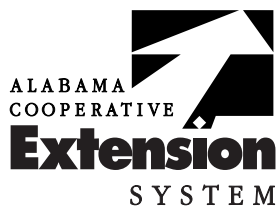
A healthy foal nurses from its mother up to seven times an hour for 60 to 90 seconds each time. A newborn orphan should be fed at least every 1 to 2 hours during their first week of life. Free-choice milk intake is recommended for healthy foals. During the first 2 days of life, a foal should drink about 10 to 15 percent of its body weight daily. For the next 5 days the foal's intake should increase to 25 percent of its body weight daily. When either bottle-feeding or bucket feeding foals, make sure that your feeding equipment is clean and that milk does not sour between feedings. Orphan foals always should have access to water and salt. Orphans should be offered grain, milk replacer pellets, and hay after a few days of life. However, the foal may not consume much solid food until it is about 1 month old.

A New Foal Checklist

Several simple post-foaling management practices will help ensure the health of your mare and foal. A checklist follows.

- ✓ Make sure the foal is breathing.
- ✓ Put iodine on the foal's umbilical stump.
- ✓ Make sure the foal (including orphan foals) receives colostrum soon after birth.
- ✓ Make sure the foal is protected against tetanus, either through the colostrum or by a tetanus antitoxin injection.
- ✓ Make sure the foal passes the meconium and treat constipation or diarrhea promptly.
- ✓ Check the umbilical stump for several days for the presence of urine.
- ✓ Check that the foal's eyelids and lashes are turned outward.
- ✓ Follow your veterinarian's advice about any limb deformities and hernias.
- ✓ Make sure the mare expels the afterbirth and check it for completeness.
- ✓ Check the mare for several days after foaling for any sign of reproductive tract infection.

To horse owners unfamiliar with raising foals, this post-foaling checklist may seem like a large amount of work. However, it only takes a few minutes to perform these management procedures, and then you can relax and enjoy your new foal knowing that you have done your best to ensure its well-being.



ANR-922

Cynthia A. McCall, *Extension Animal Scientist*, Professor, Animal and Dairy Sciences, Auburn University

For more information, call your county Extension office. Look in your telephone directory under your county's name to find the number.

Issued in furtherance of Cooperative Extension work in agriculture and home economics, Acts of May 8 and June 30, 1914, and other related acts, in cooperation with the U.S. Department of Agriculture. The Alabama Cooperative Extension System (Alabama A&M University and Auburn University) offers educational programs, materials, and equal opportunity employment to all people without regard to race, color, national origin, religion, sex, age, veteran status, or disability.

ECP, 4M08, **Reprinted April 2002**, ANR-922