

Foaling Fundamentals

By Dr. Dan Liebsch

Abraham's Equine Clinic

Although most birthing processes occur without incidence, there are many things that can go wrong during and after the birth of a foal. In order to give your mare and new foal the best chance, it is important to be prepared. Preparation should include being knowledgeable about the birthing process, as well as mare and foal after care. Following is a review of important information that may help you during foaling season.

Signs of Approaching Labor

During the last month, physical changes in the mare can include a more relaxed vulva, small amounts of discharge from the vulva, and udder enlargement. The udder will typically become engorged within the last few days before foaling. The formation of a waxy bead on the teat ends usually occurs 1-4 days before foaling, but sometimes as early as 2 weeks. Leaking of milk may also occur in the days before delivery. Behavioral changes may include increased restlessness in the hours preceding delivery.

Stages of Labor

Labor is a continuous process, but has been divided into three stages. If any stage is prolonged, then emergency veterinary attention is warranted.

Stage one usually requires 30 minutes to 4 hours. The mare is likely to show signs of colic as her uterus contracts in preparation for delivery. During this time the foal is changing positions and the cervix is dilating. This stage is considered complete once several gallons of fluid have escaped from the reproductive tract ("water breaks"). If there is no release of fluids and a bag-like, velvety-red membrane appears, then immediately tear the membrane. "Red bag" is evidence of premature placental separation from the uterus and is serious because the foal may not be able to get enough oxygen through the placenta.

Stage two is the actual expulsion of the foal. The cervix should now be open and stage two can begin with the fetus entering the birth canal. Abdominal contractions should begin. The mare usually lies on her side and periodically strains forcefully during this active labor. Within 5 minutes of the water breaking, a white glistening membrane should appear. As delivery progresses one front foot appears followed by the other front foot and the nose. The soles of the hooves should be directed downward. At this point it is not uncommon for the mare to rise and then lay down again before the most forceful contractions occur as the head and shoulders of the fetus pass through the mare's pelvis. Once the foal's hips exit the pelvis, the mare usually rests for 15 or 20 minutes. Stage two is usually explosive and short; usually occurring within 20 to 30 minutes. If the foal does not appear as described, or delivery is taking longer than expected, veterinary intervention is necessary.

Stage three encompasses passing of the placenta. The placenta is typically expelled within 30 minutes to three hours after foaling. If only part of the placenta is passed or if it has not passed within four hours a veterinarian needs to examine the mare immediately.

Foal's First Minutes

Mare/Foal Bonding: Unnecessary disturbances to the dam and foal during the immediate postnatal period should be avoided. Interference increases the chances of the mare rejecting her foal.

Breathing: Breathing should begin about 35-40 seconds after the front legs and chest leave the birth canal. The sac should have broken naturally at this point; if not, the sac may be broken and the airway cleared. If breathing does not begin immediately, vigorous rubbing with a clean towel may stimulate the foal to start breathing.

Umbilical Cord: Let the cord break naturally. If the stump of the umbilical

cord bleeds, apply pressure with fingers for 30-60 seconds. Should bleeding persist, the stump can be tied off with a clean piece of string or umbilical tape. The stump should be submerged in 0.5% Nolvasan (chlorhexidine) solution twice a day for three to four days (do not use betadine).

Foal's First Hours

Physical Evaluation: The normal temperature range is 99-102 F. The heart rate of the foal is 40-80 beats/minute. The rate can be over 100 beats/minute temporarily if excited or stressed. The respiratory rate decreases from 75 breaths/min at birth to 50 breaths/minute at 1 hour and to 34 breaths/minute at 12 hours. General demeanor should show strength and vigor.

Standing: Attempts to stand should begin within 30 minutes and the foal should be standing within an hour. If the foal has not stood within 2 hours, careful assistance is warranted. While assisting do not place pressure under the abdomen.

Nursing: Nursing from the udder should occur within 60-180 minutes. If possible observe that the foal is latching onto the teat effectively and is swallowing. A foal normally nurses about 7 times in an hour for a few minutes at a time.

Colostrum: Colostrum is the "first milk" a mare produces. It contains essential antibodies which protect the foal during the first several months. If a mare has been leaking milk or a foal has not suckled effectively in the first several hours, the foal may not receive enough antibodies. This will make it much more susceptible to infections.

Meconium: The meconium is the first manure that a foal passes. It is dark brown to black in color and can be pasty or firm pellets. This should pass, often as multiple bowel movements, within 4 hours. A delay may indicate a meconium impaction, which is a medical concern.

Foal's First Day

Umbilical Stump: The umbilicus should be evaluated daily for moistness, swelling and urine leakage. Continue treating with Nolvasan solution. Normally the stump is dry within 24 hours and will fall off in 1-2 weeks. If the stump dribbles urine at any time, is enlarged, painful or warm, the foal needs to be seen by a veterinarian.

Wellness Exam: It is a good idea to have a wellness exam performed during the first 12-24 hours of a foal's life. The veterinarian will evaluate the heart, lungs, temperature, limbs/joints, attitude, strength, and digestive system. The foal's blood IgG antibody levels may also be assessed with a simple stall-side test. This test will determine if the foal has gotten enough colostrum to offer adequate protection from infections.

The information just reviewed is general and will largely be true for the vast majority of births. Variations may or may not result in problems for the mare or foal, but are likely to warrant a conversation or visit with an equine veterinarian.

Specific signs of trouble include: Prolonged delivery, "red bag", trouble breathing, bleeding from the umbilical stump, urine dribbling from the umbilical stump, inability to stand, inability to nurse, failure to pass meconium, lameness, failure to pass placenta, increased temperature, sudden change in attitude, and signs of colic.



Dr. Daniel Liebsch received his Bachelor of Science and his Doctor of Veterinary Medicine from Iowa State University.

Upon graduating from veterinary school, he completed an internship at an equine referral hospital in San Antonio, Texas. Dr. Liebsch's particular interests include lameness, internal medicine, ophthalmology, neonatology, and soft tissue surgery.