



# Normal Foal Deliveries

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Foaling season is right around the corner, and nothing warms the corners of a cold and dreary winter like the birth of a foal. The excitement and anticipation never fade, no matter how many births you've attended, but knowing what to expect requires experience and preparation. If you are expecting a foal this year, be certain to familiarize yourself with the normal parturition (delivery) parameters of both the mare and newborn foal. Knowing what normal is will allow for rapid recognition of abnormal events should they occur.

The duration of pregnancy in mares on average ranges from 320-360 days. Many mares will foal at the same or very close to the same number of days every year, thus recording breeding dates and days of pregnancy each year can be useful. Predicting approaching parturition (birth) utilizes physical examination skills, observational skills, and, on some farms, the use of test strips on udder secretions and temperature monitoring. These aids are useful, but far from consistent. Many mares will exhibit relaxation of the sacrosciatic ligaments and sinking or softening of the muscles around the tail head as the pregnancy progresses in its final stages. The mammary gland develops noticeably 3 to 6 weeks prior to foaling in most mares. Maiden mares often have less udder development than mares that haven't foaled previously. Colostrum may distend the teats 2-3 days prior to foaling. "Waxing" is excretion of a small amount of colostrum from the teat, forming a yellowish, wax-like bead at the end of the teat. Approximately 95% of mares wax 6-48 hours prior to foaling. The dripping of colostrum for more than 4 hours without signs of labor may indicate a problem and warrants a call to your veterinarian. Colostrum is essential to the newborn foal's health, so collecting and freezing the dripping colostrum may be warranted. The mare's rectal temperature may decrease the day before foaling, but this is a very inconsistent indicator. Softening and lengthening of the vulva may occur 24-72 hours prior to parturition. Additionally, water hardness test strips have been used to test electrolyte levels in milk with varied success. Calcium increases in the mammary gland secretions as parturition approaches, and the strips sequentially change color accordingly. Familiarity with your mares' pre-foaling body changes and behaviors is helpful, as most mares show similar signs year after year. A keen owner is likely to detect subtle changes in the pregnant mare's attitude or demeanor.

Mares foal predominantly at night or in the very early morning hours, and predominantly in solitude. Disrupting a mare in the early stages of labor may cause delay of parturition, and lead to problems for the foal. Monitoring systems include shifts of personnel through the night, closed circuit cameras in foaling stalls, and use of Foal Alert systems. However, monitoring is performed, it should be discreet, as mares remain creatures of flight in the face of (perceived) danger.

Parturition is a more dramatic and rapid event in the horse than in other farm species. Therefore, knowing what to expect from your mare when she foals is of utmost importance. Recognizing signs of a problem early in the foaling process, and taking the appropriate and timely action may be critical to the outcome of both the mare and foal.

Labor is divided into 3 stages in the mare. The signs of first stage labor may be subtle or may be very obvious. In general, signs of discomfort, including pacing, restlessness, walking with a raised tail, sweating in the flanks or girth area, kicking at the abdomen, looking at the flanks, urinating small amounts frequently, and getting up and down comprise the visible signs of stage 1 labor. Some mares show virtually none of these signs while in the first stage of labor. Inside the uterus during stage 1, the fetus is moving into position. The head and forelimbs extend, and the fetus rotates its front half so that the top of its back is against the mare's pelvis. The cervix dilates and relaxes, and the uterus contracts, resulting in the signs of discomfort in the mare. This stage lasts 15-90 minutes, but is not always evident to the human eye.

Stage 2 of labor begins with the rupture of the placental membranes, otherwise known as "breaking water", and ends with delivery of the foal. Allantoic fluids are released as the membranes rupture, helping to lubricate the birth canal. The mare begins forcibly straining, which results in the appearance of one or two front feet at the vulva within 3 to 5 minutes. Normally one leg is slightly in front of the other to allow the shoulders to pass through the pelvic canal. The two forelimbs and the nose should be present at the vulva 5 minutes after the mare's water has broken. Most mares will lie on their sides with all four limbs extended during this phase, with each abdominal contraction advancing the foal further through the vulva. Rarely, a mare will

stand throughout stage 2, so deep bedding or strong arms are indicated to soften the foal's fall. The greatest straining is associated with emergence of the head and shoulders. The chest and hips typically present less difficulty. The entire process from the time the allantoic fluids are released until the foal is delivered should take 15-40 minutes. Advancement of the foal should occur with each contraction. If the front feet are present for more than 10 minutes of straining without advancement of the head and shoulders, call your veterinarian immediately. Your mare may need assistance at this time. The foal is usually delivered wrapped in the amnion (whitish, slippery part of placenta) with the umbilical cord intact. The cord should not be disturbed, as it will rupture on its own when the mare or foal stands.

Stage 3 of labor is defined by passage of the placenta. This should occur within 3 hours of foaling. Uterine contractions cause expulsion of the placenta from the uterus, and may cause continued signs of moderate abdominal discomfort after the foal is delivered. Retention of all or part of the placenta for longer than 3 hours warrants veterinary involvement since retained fetal membranes can lead to metritis (infection in uterus) and laminitis. The placenta should be collected, once passed, and stored in a covered bucket for your veterinarian to examine.

The foal should be able to sit up sternally within 2 minutes of delivery and respond to a clean finger in the mouth with a suckle response within 20 minutes. Standing should occur within 1 hour, and attempts to stand are often made minutes after delivery. Imprinting is fine at this stage, but restricting the foal's movements is not recommended. Nursing should occur in the first 2 hours of life. Confirmation of successful nursing requires close observation to be certain the foal is latching onto the teat and swallowing. Mares often remain recumbent, resting after delivery. It is normal for mares to position themselves so that they can nudge and lick the foal. Maiden mares should be watched carefully for appropriate maternal behavior. The foal's umbilicus should be dipped in a solution of 1:4 Nolvasan to water within the first 15 minutes and four times daily for the following three days. Vaccinating the foal immediately post-birth is not necessary if the mare was properly vaccinated throughout pregnancy.

Your veterinarian should examine the mare and foal

after birthing. If no problems are observed with either the mare or foal, the exam should be performed 10-16 hours after the foal was born. The best way to schedule this is often to leave a message with the answering service regarding the time of birth of the foal. When your veterinarian's office staff arrives in the morning, they can schedule your appointment according to the time of birth. During this initial examination the foal's blood can and should be tested for adequate colostrum absorption. Additionally, a thorough examination of the mare, foal and placenta can be performed at this time.

Being familiar with the stages involved in the birthing process in mares and knowing what is expected regarding the signs and timing can help with early recognition of problems and allow appropriate and timely intervention, which may improve the outcome of the mare and foal.

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