



The Foaling Process: What is “Normal”?

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Time is crucial when a mare is having difficulty foaling. As the foaling attendant it is vital to be able to recognize immediately when a mare is having trouble during parturition. Prompt veterinary attention can most often allow both the mare and foal to survive a problematic birth. Thus, it is important to understand what is “normal” when it comes to the foaling process so that a problem can be recognized and dealt with promptly.

The normal gestation length in mares ranges from 335 to 345 days with an average of 340 days. It is often the case for pregnancy to be prolonged for up to ten days when foals are due in the early months of the year (January-March). Furthermore, it is common for colts to gestate for two or three days longer than fillies.

There are several preparations that need to be made prior to a mare’s expected foaling date (EFD). Six weeks to one month before the EFD a mare should be given a tetanus toxoid booster, in addition to boosters for diseases prevalent in your area. Two weeks prior to the EFD is the time to remove the caslicks (vulvar stitches) if the mare has one. It is essential to check for the presence of a caslicks when a mare has been purchased after she was confirmed in foal. If the caslicks is not removed, the mare can do tremendous damage to her perineal area during foaling. Since the stitches in the vulva drastically decrease the size of the vulvar opening, a mare will rip, as there is not a large enough opening to accommodate the foal.

One to two weeks before the EFD, a clean place for the mare to foal should be prepared. Once it is ready the mare should be moved there immediately so that she has time to become familiar and comfortable with her new surroundings. If the foaling area is to be a stall it is preferable for the measurements to be 16’X16’. The stall should be “baby proofed” by removing any objects that the foal can harm itself on. The bedding of choice is straw. Though most horse facilities have shavings on hand, they really are not appropriate for a foaling stall.



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Page 2 of 6, Written: January, 2002

In fact, shavings can be detrimental to the health of the neonatal foal. Shavings may cause corneal abrasions, as the newborn will spend a significant amount of time lying down. Additionally, shavings are much more apt to cling to the foal's navel stump and increase the chances of infection. Finally, especially just after birth when the foal's nostrils are still very wet from amniotic fluid, shavings are much more likely to be inhaled by the new foal and either block breathing all together or predispose the foal to pneumonia.

Good powers of observation will make predicting the exact day of foaling easier. There are numerous physiological changes that can be seen in the mare that happen just prior to foaling which provide clues that her time is near. The first of these noticeable physical changes is the mare's development of an udder, which is often called “bagging up.” A mare may start developing a bag as early as six weeks prior to foaling, conversely, other mares may not develop a bag until just a few days before they foal. In addition to udder growth, a mare's teats will often start to distend, as she gets closer to foaling. Still another sign that foaling is approaching is when the mare waxes or begins leaking milk. Usually this means that foaling is less than a day away.

There are other places on a mare's body that give hints that she is getting close to foaling. One to three days preceding foaling, the area around her tail head will start to soften and become spongy. Additionally, a mare's vulva will become noticeably elongated, in fact by as much as twice the normal length. This lengthening of the vulva is typically seen within a few hours of foaling. Lastly, you may be able to notice a change in your mare's profile when you look at her from the rear. As she nears to parturition, the foal may “drop” causing the mare's shape to change from wide and shallow to narrow and deep.

Remember that most mares show similar signs, on similar time lines year after year. Therefore, it is advantageous to keep written records of when your mare begins showing the



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Page 3 of 6, Written: January, 2002

various signs of foaling so that in future years her time of foaling can be more accurately predicted.

There are three stages of parturition. The first stage is a preparation phase. In stage one the mare will show signs of physical discomfort. She will exhibit signs similar to colic. She may act restless by lying down and getting up repeatedly. Additionally, she may walk her stall in an anxious or nervous manner. She may break out into a sweat in her flank area and behind her elbows. Furthermore, she may look at, bite at, or kick at her sides. She may hold her tail in an elevated position or do a lot of tail swishing. Frequent urination or defecation is also common. In stage one, the mare's cervix is dilating and the foal is turning to get into the proper position for birth. Stage one can last for a few minutes to several hours. The mare has the ability to prolong stage one if she does not feel safe and secure. More than seventy percent of mare's foal between 10:00 pm and 2:00 am because there is typically less activity in their surroundings during that time. As experienced foaling attendants know, mares can and often do put off foaling until no one is watching.

Stage one ends and stage two, the birth, begins when the mare's water breaks. This is usually easy to recognize, as the mare will void two to five gallons of allantoic fluid. That is significantly more fluid than is passed during a typical urination. Once the mare's water breaks the foaling process cannot be stopped. From this point on, time is critical. Stage two usually is complete within 20 minutes, but it can take up to 1 hour. During the actual birth a mare will usually be lying on her side, but she may get up and lie back down or even roll. The first thing you should see after the water breaks is the amniotic sac, which is a whitish colored membrane that some describe as having a water balloon appearance. If, instead of the smooth white membrane, you see a red, velvety membrane you must take immediate action. The most common cause of “red bag” is toxicity after the mare has consumed endophyte-infected fescue pasture or hay. In this rare situation the mare is passing the foal and the placenta simultaneously. When that happens, the foal is being deprived of oxygen, as the



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Page 4 of 6, Written: January, 2002

connection of the placenta to the uterus is its source. Because the foal is suffocating, time is of essence. The red bag must be torn and the foal must be birthed as fast as possible. Though your veterinary probably cannot arrive in time he/she can coach you through this process.

Five to ten minutes after the mare's water breaks, you should see the foal's front feet, which will be inside of the amniotic sac. One front foot will appear first with the other front foot several inches above the first. At this time it should be determined if the soles of the feet are facing down as this indicates that the foal is in the correct birthing position. After the two front feet, the nose should appear at approximately the level of the foal's knees. The next thing to pass will be the foal's shoulders. This is the most difficult part of the birth. It may take several minutes as the mare may rest briefly to gain the strength to push the foal's shoulders through the birth canal. Once the shoulders are out the rest of the foal follows quickly. When the foal is completely delivered stage two is complete.

The final stage of the birthing process is placental passage (cleaning). After the foal is delivered the mare may remain lying down for ten to twenty minutes. This time allows her to rest in addition to providing time for placental blood to transfer to the foal. It is important to not interfere with the natural breakage of the umbilical cord. Cutting the cord with a knife or scissors creates too clean of a cut and prevents rapid clotting. There is a natural stricture on the cord where breakage occurs when the foal struggles sufficiently or the mare stands.

During stage three, the mare may again show signs of mild colic. She is still experiencing uterine contractions that facilitate the expulsion of the placenta (after birth). Stage three lasts approximately one hour and ends with the passage of the placenta. The placenta should not be manually removed, as that can damage the mare's uterus or result in pieces being left inside her, which leads to infection.



The Foaling Process: What is “Normal”?

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Page 5 of 6, Written: January, 2002

Most veterinarians will consider a placenta to be retained after three hours. Retention of a placenta predisposes mares to uterine infection that could lead to endometritis and infertility. Additionally, mares are prone to laminitis (founder) if they have a retained placenta. If a mare has not passed her placenta after two hours it is advisable to contact a veterinarian and apprise him/her of the situation so he/she can be better prepared to take action if the mare has still not cleaned after three hours.

Once the placenta is passed, it should be spread out on a flat surface to determine if any pieces are missing. As stated above, pieces left in the mare will cause infection. There should only be one hole in the placenta where the foal exited. The total placental weight is approximately eleven percent of the foal's weight, so from the placental weight you can estimate the foal's birth weight.

In regard to care of the newborn foal, the first thing to do is make sure the foal is breathing. If struggling by the foal does not tear the fetal sac, the foaling attendant should rip it and expose the foal's nose. Furthermore, the foaling attendant should clear the mucus from the foal's nostrils by lifting the head to allow fluids to drain or by stripping the nostrils clear. If the foal does not appear to be breathing, rubbing it vigorously on the belly and ribs with a towel may stimulate breathing. Extreme measures would include picking the foal one to one and one-half feet off the ground and dropping it. The navel stump should be treated with two percent iodine or one-half percent chlorhexidine. Filling a small cup with the iodine or chlorhexidine and dipping the navel stump for 30 seconds can accomplish this. One application is all that is needed. In fact, repeatedly dipping the navel stump over a few hours can be too caustic to the umbilical tissue.

It is important to make sure the foal passes its meconium (first feces). This is a reddish-colored feces that has a very sticky consistency, thus it can be difficult to pass. If the foal appears to be continually straining, but fails to defecate, an enema can be administered. A



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Page 6 of 6, Written: January, 2002

soap and water enema can be prepared or a human enema can be given. It is important to be very careful when giving an enema so that the rectum is not perforated.

The newborn foal should stand within two hours and it should nurse within three hours. The less human interference with this process the better. However, the foaling attendant does need to confirm that the foal is nursing. In order to develop immune, the foal needs to drink the mares first milk (colostrum) as it is rich in antibodies that will protect the foal until it's own immunity system is functional. The foal is only capable of absorbing the antibodies in the mare's colostrums for the first 24 hours of life, and more so during the first 12 hours. Thus it is essential to the viability of the foal to nurse. In addition to actually seeing the foal nurse, there are a few other signs that suggest it has consumed colostrums. The foal may have milk on its lips or whiskers if it has suckled. Also, if the mare has one side of her udder that looks significantly less full, that may suggest that the foal has nursed. If there is doubt as to if the foal has consumed colostrums a veterinarian needs to be advised so that he/she can provide the foal with antibodies either by injection or stomach tube.

Being aware of the normal events in the foaling process will make a foaling attendant more able to recognize when a mare is having birthing difficulty. In addition to understanding the physical events, it is important to be aware of the timing of the events as well. If a veterinarian needs to be called for assistance be prepared to tell him/her how long it has been since the mare's water broke, how long since feet have been seen, how long the placenta had been retained, etc. In the event of difficulties, this information will help your veterinarian make more appropriate decisions for the welfare of both the mare and the foal.