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Foaling in Horses

The expected birth of a foal from a favorite mare is an exciting but worrying time for many horse owners. Ideally, help and advice should be sought from your veterinarian or someone with experience in foaling mares, in good time before the event. It is most important to know what is 'normal' both in terms of the foaling process and how to expect the foal to behave once born.

How should I prepare my mare for foaling during pregnancy?


Pregnant mare

Your mare should have been in good condition throughout her pregnancy. Very poor or overweight mares often produce small foals. It is wise to vaccinate the mare against influenza and tetanus approximately one month prior to foaling as this will boost antibody levels in her colostrum (first milk) that helps to protect her foal against infections during its first few weeks of life. If your mare is to foal away from home, she should be moved four to six weeks prior to foaling so that she can develop specific antibodies to potential infections in her new environment.

You should have prepared a large clean stall that should be ready at any time should the mare start to foal. Mares should be foaled where they can be discretely observed and where help can be easily given if problems arise. This usually means in a stable environment, although mares can be foaled outside if the weather is good and they can be clearly observed and helped if needed. The bed should be of good quality deep straw or rubber. Shavings are not a good bed for foaling as they stick to the birth fluids and find their way into foals' noses and other places that they should not be. The stall should be well lit and there should be a readily available supply of clean warm water. A first aid kit containing scissors, disinfectant, string, wound powder and towels should be on hand. Stud farms have cylinders of oxygen with the necessary control valve and soft rubber tubing in case the foal needs to be resuscitated and a stock of frozen equine colostrum and hyperimmune donor plasma in case these are needed to boost the foal's immunity.

Foals are born after 11 months gestation (time in the mare's womb). Thoroughbred breeders work on an average gestation length of 340 days to work out their 'due dates'. Some mares foal earlier and some later. Foals are not usually viable if born before 290-300 days. Some older mares and others with chronic uterine problems sometimes 'hang on' to their foals for up to 350 days and, unusually even a full year. These overdue foals are often poor specimens with signs of intrauterine growth retardation when eventually born. It is, in fact, the foal, via its hormones, that has 'coarse control' over gestation length. Mares have 'fine control' and their state of relaxation can determine at what time of day the foal is born. Most mares foal during the night, an instinctive means of helping to protect their vulnerable newborn foals from predators, but this cannot be relied upon and full term mares should be watched to make sure that they do not get into difficulty at any time during the day or night.

In the weeks leading up to foaling your mare will start producing milk resulting in gradual enlargement of her udder. This is called 'bagging-up'. During the week before or on her foaling day small amounts of colostrum may ooze from her teats, creating wax-like droplets that stick to the tip of the teats. This is called 'waxing up'. It is a sign that foaling is imminent, although individual mares can vary enormously in their timing. The ligaments over the pelvis and under the tail head relax slightly giving a 'dropped' appearance to the hindquarters. During the 24 hours prior to foaling the mare may appear restless and uncomfortable and may re-arrange bedding as if 'nest making'. These are signs of first stage labor. She should be moved to the foaling box as soon as it looks as though she is ready to foal.


Was on the tips of a mare's teats

The key to good management of foaling is to observe discretely without interfering unnecessarily. Closed circuit television can be used and can be very helpful but should not be relied upon. Foaling 'alarms' that work on a harness or head collar sensor that detect sweating or prolonged lying down are available. Some mare owners have found these to be helpful but they cannot be relied upon. Small samples of early milk can be collected and tested with 'dip stick' tests for calcium and electrolyte concentrations to help determine whether mares are 'ready for birth' and likely to foal tonight. More usefully, mares can be examined to confirm that they are not 'ready' which may help to avoid unnecessary sitting up. However, mares behave very differently as individuals and from pregnancy to pregnancy and cameras, monitors and milk tests cannot be relied upon. There is no real substitute for experienced 'sitting up'.

What is first stage labor?

During first stage labor, where the foal gets itself into the final birth position in the birth canal and the mare's cervix relaxes, the mare will look restless and will get up and go down several times with abdominal discomfort. The mare will raise and lower her tail and produce small quantities of droppings and urine frequently. Most mares sweat but some do not. This stage may last for several minutes to several hours and ends when the mare 'breaks water', i.e. the placenta ruptures and allantoic fluid is released. Placental rupture can be differentiated from urination because the mare does not straddle in the urinating stance and the volume of fluid is too large in consideration of the fact that the mare has already passed small quantities of urine repeatedly.


Mare showing signs of pain during 1st stage labor

Your veterinarian should be called if your mare is excessively distressed or is in prolonged, non-productive discomfort. If the placenta does not rupture, it may appear at the vulva as a red velvety structure. This is called 'red bag' delivery and is a sign that the normal site of rupture is too thick and the mare is separating her placenta to expel her foal. The foal needs the placenta to be attached to the mare's uterus at this time to allow oxygen to pass across from the mare's blood, i.e., it needs the placenta to 'breathe'. If this happens it is important to tear or cut through the 'red bag' placenta immediately or the foal may suffocate. This is an emergency.

What is second stage labor?

As soon as the first water bag ruptures (the mare's point of no return'), you should carefully and gently examine your mare, with a clean hand, to make sure that the foal's muzzle and two front feet are appearing at the vulva, covered by a thin white membrane (amnion). The feet are just ahead of the muzzle and one foot should be just ahead of the other. The foal can often be seen to move. If the head or one or both legs are back, or if more than two feet are present, or if only the foal's neck or back can be felt, you should either correct minor misplacements yourself or call your veterinarian immediately.

While you are waiting for him to arrive, keep the mare up and walking around the box to prevent straining and impacting the foal in the birth canal. This will cause less stress for both mare and foal and the veterinarian will find re-positioning of the foal much easier. If the mare keeps trying to strain, pull her tongue out of one side of her mouth. If the mare appears unable to expel the foal because it appears too big to come through the birth canal, or if the mare appears to 'give up', you should call your veterinarian without delay. If you need to help the mare, pull one leg at a time when the mare strains. If you pull both legs together you will maximize the width of the foal across its shoulders and this will make passage through the birth canal more difficult than it should be.

Mare during 2nd stage labor – foal's feet visible in amniotic sac

Once the placenta has ruptured, most mares will lie down for quite rapid delivery of their foal. With the foal in the normal position foaling should progress normally. If the mare's vulva has been stitched (Caslick's operation) it will be necessary to cut it (episiotomy) at this time, when the mare will usually not notice, to avoid injury. Sharp, long-bladed, round-ended, bandage-type scissors should be used to cut a clean straight cut along the scar that shows the line of previous repair. You should ask your veterinarian to instruct you in performing this task or, if you do not feel confident or sufficiently experienced, ask him to perform the operation ahead of time, when the mare is up to her 'due dates' and shows that she is ready to foal within the next few days.

The mare will usually lie on her side to push and the foal's forelegs, head, trunk and hindquarters should be delivered within a few minutes. Second stage labor is a short and violent process, in contrast to first stage labor. The hind legs may remain in the birth canal while the mare recuperates and until she moves or the foal starts to struggle. The umbilical cord should rupture naturally at a point of natural constriction that develops just below the umbilicus. There should be minimal bleeding unless the cord has broken prematurely. The cord should only be clamped and cut if it is too thick to break naturally or if it breaks prematurely and the foal is hemorrhaging. The umbilical stump should be treated with disinfectant solution (e.g., 0.5% chlorhexidine or iodine), spray or powder. The mare will usually turn to see and lick her foal and will often make a soft murmuring (called 'nickering') sound.

Occasionally, mares try to foal standing up. If this happens the foal should be supported as it is born, at the level of the mare's vulva, so it does not fall to the ground and while the blood passes through the umbilical cord from the placenta. When the cord stops pulsing, it can be broken just outside the navel and the foal can be laid in the straw.

What is third stage labor?

This is the stage of placental release. During this stage the uterus contracts and this can cause the mare discomfort until the placenta is passed. When the mare stands, the placenta should be tied up into a ball so that it does not flap around the mare's hocks and frighten her, she does not walk on it and tear it, and so that its weight will help its gradual separation from the mare's uterus ('cleansing'). When it drops from the mare it should be checked carefully to make sure that it is complete and, in particular, that both horn tips (blind 'ends' corresponding to the tips of the uterine horns) have been expelled and none has been retained inside the mare.

Mare smelling newborn foal

The placenta is normally passed within 1 to 4 hours of foaling. If the placenta has not come away by 8 hours, or the following morning, your veterinarian should be called. Retained placenta can result in infection of the uterus, toxemia, laminitis and even death of the mare, if left unattended.

What happens after the mare has foaled?

The mare usually stands and starts to lick her foal a few minutes after birth. She may squeal and 'nicker' at it and generally make a fuss over it. This is an important time of instinctive 'bonding' and this should not be confused by unnecessary human interference.

If the mare's vulva has torn or if she was stitched, she will need to be re-stitched after foaling, usually during the next day.

Foal sucking colostrum

Many mares will lie down again soon after foaling. This may be just to rest or may be because of abdominal pain (colic). She may scrape or roll indicating her discomfort. If this does not pass within an hour, or the pain gets progressively more severe, this may indicate complications (uterine artery hemorrhage, uterine or colonic rupture) and your veterinarian should be called immediately.

The foal should make attempts to stand and suck and should have achieved both within 4 hours of birth, usually within 1-2 hours. Ask your veterinarian for his client information hand-out on the newborn foal.

If both mare and foal are bright and well there is no reason why they cannot be turned out into a small paddock for a few hours next day, providing the weather is suitable. Exercise is beneficial to help the mare's uterus to recover after foaling and to help the foal to strengthen and its legs to straighten.

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