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’Tis the season to be foaling

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Most foals are born without complication but it is important to be prepared in case veterinary assistance is required

Fortunately, most mares manage to foal without complication and the unprepared might simply find one morning that there is a dry, happily sucking foal in the stable (or paddock) in with the mare that was still heavily pregnant the previous evening.

However, if something goes wrong with a foaling it can go wrong quickly and without warning – and the results can be disastrous for the mare and or the foal. Knowing what to expect in a normal foaling can help recognise when all is not as it should be and appropriate steps can be taken or help sought to try to ensure a happy outcome.

Preparation

It is important to know the mare’s last covering date so that you have some idea of when she might foal. Having said that, the length of pregnancy in mares can vary from around 320 to 380 days, with the average length of gestation being 335 to 340 days, meaning it is impossible to plan accurately based on dates alone.

Approximately one month before her ‘expected’ foaling date, the mare should be moved to the premises where she will be foaling so that she can develop some immunity to potential environmental pathogens, enabling the mare to share this immunity with her foal via the colostrum (first milk). She should have received all relevant vaccinations (influenza/tetanus/equine herpesvirus 1 and 4 and rotavirus if indicated) and be in good health. If she is being moved to a boarding stud, you might need to have certain blood tests and swabs taken in advance of the move. The stud will advise you of their particular requirements.

In the northern hemisphere, thoroughbred mares usually foal in a stable and most studs will have large foaling boxes into which the mare will be moved as she approaches term. Any stable used for foaling should be large enough (at least 4m x 4m), dry, warm and draft-free, have plenty of clean bedding and there must be permanent access to drinking water for the mare.

Most studs will foal on straw as it is warm and not as likely as shavings or paper to get into the foals’ eyes or mouth. Whatever bedding is used, it should be kept scrupulously clean. The mare should be turned out during the day into a paddock where she can be closely watched. Most mares foal at night and often in the early hours of the morning, but occasionally one will decide to foal during the day! Many studs use CCTV cameras or foaling alarms (or both) to assist in monitoring heavily pregnant mares.

Equipment

If you are foaling the mare at home you will need to gather together a few essential items: clean towels; a clean sponge or paper towel to wash the mare’s perineum; a clean bucket for water; skin disinfectant such as chlorhexidine or povidone iodine for hand washing; a headcollar and rope for the mare; naval dip or spray (consisting of dilute chlorhexidine or povidone iodine) for the foal’s umbilical stump; sterile scissors; a clean tail bandage; and emergency phone numbers (assistance/vet/transport etc). Umbilical tape or sterile (if possible) cord/string may also be needed.

What to look out for

There are a few changes which may be noticed in the mare as her foaling day approaches.

Relaxation of muscles at the base of the tail leads to a slightly ‘hollow’ appearance either side of her vulva. There will be an increase in size of her mammary glands (‘bagging up’) as she starts to produce and store milk. The first milk – colostrum – is rich in antibodies, which are essential for the foal in the first weeks of life. This colostrum is thicker than normal milk and quite sticky. Small amounts usually appear at the teats, giving the appearance of wax droplets (‘waxing up’, *Fig 1*) as the mare gets closer to foaling. Some mares, especially maidens, may not bag up or wax up or may appear to do so and then ‘back off’, causing some confusion and frustration to anyone monitoring them for impending foaling.

Some mares will ‘run milk’, meaning they lose more colostrum than just the tiny amounts forming wax. If your mare is running milk, you may see this happening or you might just see dried milk on her hindlimbs. If this persists, the mare should be stripped out (i.e. milked) into a clean jug and the colostrum frozen in a suitable lidded container for administration to the foal after birth. Frozen colostrum must be thawed slowly by immersing the container in hot water. It must not be microwaved as this destroys the important proteins.

Closer to foaling the vulva will lengthen as more muscles relax.

Foaling

There are three stages of labour. During stage one the mare becomes restless and may walk the box or repeatedly lie down and stand again. Both heart and respiratory rates increase. She is likely to start to sweat (although not all mares do this. Some foaling alarms rely on the mare sweating and so aren’t effective in those that don’t).

The duration of stage one can vary from minutes to hours. During this stage you should ensure that you have everything you might need to hand. If you are concerned at all, call for assistance from an experienced person. If you can do so safely, wrap the top of the tail in a bandage to below the level of the vulva and wash the mare’s perineum with plenty of clean water and a clean sponge or paper towel. Ensure all droppings have been picked up in the stable. Wash your hands with disinfectant and rinse them well.

Figure 1: *‘Wax’ on mare’s teats prior to foaling*

Stage two is when the foal is delivered and is quite short in the mare – usually less than 20 minutes. The mare will lie down and obviously strain. Her waters should break, resulting in a gush of yellow/brown fluid as the placenta ruptures. A bulge of white membrane – the amnion – should appear at the vulval lips.

Figure 2: *Foal immediately after birth*

If you see a red velvety-looking bulge, this could indicate that the thicker outer layer of the placenta (chorion) hasn’t ruptured (‘Red bag’ delivery). This is an emergency situation and you might need to manually rupture the membrane. You should call your vet immediately.

The foal should then start to appear, with one front foot closely followed by the other with the head then following, ‘resting’ on the forelimbs. At this stage it is useful to check that the foal is coming out correctly. With clean hands, feel for two hooves, one slightly ahead of the other, and as labour progresses you should see the foal’s muzzle resting on the upper cannon, or slightly to one side. The foal’s back should be towards the mare’s back, not ‘upside down’. This means the foal is in a ‘diving’ position.

If any of these is not what is happening, call your vet immediately. Occasionally the head might be bent back or one or both front legs retained or contracted so that unassisted delivery is not possible. Rarely, the foal will be coming backwards (breach) or with all four limbs at once. These are emergency situations and you should call your vet immediately.

The shoulders follow the front legs and head, and then the abdomen and hips will be delivered. Once the head is delivered, the amnion (white inner sac) should rupture. If it doesn’t, you should tear it away from the foal’s nose promptly so that it can breathe freely.

The mare may appear to have a ››

Figure 3: *Mare licking foal*

Figure 4: *Placenta tied up to prevent it being walked on and to assist passage*

›› 'break' at this stage with the foal's hind limbs still inside the birth canal. If she rests in this position, it enables full transfer of blood from the placenta to the foal before the umbilical cord ruptures.

As the foal starts to move or the mare gets to her feet, the umbilical cord should rupture close to the foal's abdomen. Leave the mare lying down as long as she will stay there. She will often turn her head to look at and to whicker to the foal (*Fig 2*) or be impatient to stand and lick the foal (*Fig 3*). The foal's umbilical stump should be sprayed or dipped in a dilute disinfectant solution (such as dilute povidone iodine or chlorhexidine). There should be little bleeding from the umbilical stump as the vessels constrict as they rupture. If bleeding does occur, wash your hands before pinching the end of the stump for a few minutes to try to stem the flow. If it still doesn't stop, tie umbilical tape around the end to stop the bleeding.

During stage three the placenta is expelled. In most mares this occurs within about 90 minutes of foaling but can take longer. It can be useful to tie the placenta up using baler twine so that the mare doesn't stand on it and the weight can assist its passage (*Fig 4*). If the placenta has not been expelled within four to five hours you should contact your vet. Do not try to pull it out as it might tear, leaving behind a remnant that can cause serious, potentially life-threatening infection and associated laminitis. Once the placenta is passed, the thicker outer layer (chorion) should be checked for completeness, with the characteristic 'F' shape formed by the pregnant and non-pregnant horns as the 'arms'.

If the foaling has progressed without incident and the placenta has been passed intact, you will still need to monitor the mare for signs of post-foaling colic (abdominal pain), which is quite common, particularly in maiden mares. If this isn't mild or doesn't pass quickly, you should call your vet.

The foal

The normal newborn foal will start to make attempts to stand quite quickly and should stand within 60 minutes of birth. It will also quickly start showing sucking behaviour as it seeks out the mare's udder. It will often suck at her hocks or between her front legs and even on any human that gets in the way! The foal should have found the udder and have started sucking by two hours of age (*Fig 5*). Maiden mares might be a bit excited or confused at first and might need to be held to allow the foal to nurse for the first few times.

It is important that the foal receives adequate colostrum as this contains vital antibodies to help the foal resist infection. If the mare has run milk prior to foaling, the colostrum may be lost and the foal will need to be given donor colostrum from another mare or a plasma transfusion. Blood taken at more than 24 hours of age should be tested for IgG levels (ideally over 8 g/l) and a plasma transfusion given if the level is low.

The foal should pass urine and droppings (meconium – the first droppings – might be soft) within 12 hours of birth.

Fortunately, most foalings are uneventful. Occasionally nature doesn't get it right and we have to intervene to avoid disaster. Good preparation can mean the difference between success and failure – or considerable stress – at foaling time.

Figure 5: *Relaxed mare with foal successfully on suck*