

Mothering  
behaviour also  
impacts foal  
survival. \ iStock



# Well-being of the neonatal foal

**Wendy Conlon** of Teagasc offers advice on the vital care of our new born foals

**Q**uality observation of neonatal foals is very important. The newborn foal makes a massive transition between life in the uterus and life on earth. Foals experience rapid changes in every body system in the minutes it takes to leave the uterus and arrive on terra firma. It is really very important to know the milestones a newborn should accomplish normally, and to be very proactive when these are not being reached.

A foal's body temperature must adjust quickly. Their nutrition is delivered, and metabolised differently. They have no immunity when born and are exceptionally vulnerable to infection before the transfer of antibodies from colostrum. A 'wait and see'

approach when anything is amiss with a foal is not recommended.

## ASSESSING RISK

Consider any risk factors that may be associated with the dam, the foal, or the pregnancy. For example (and by no means a complete list):

**Mare** – first time mother; poor maternal behaviour previously; illness during pregnancy (the earlier in pregnancy a problem occurs, the better the foal's chances); history of complications during foaling (dystocia); colic, with or without surgery; and laminitis

**Foal** – failure of passive transfer of immunity (poor quality or lack of colostrum; not suckling; prevented from suckling by the dam)

**Pregnancy** – history of complications during pregnancy; twins (if known and not managed at an early stage); placentitis (caused by infection, evident as vaginal / uterine discharge); any evidence of vulval discharge; premature let down of milk; abnormal length of pregnancy.

The foaling process, even com-

pletely normal deliveries, can be hard on a foal. Providing appropriate mare care during pregnancy and attending the birth (being there in case a problem arises while minimally intervening otherwise) improves the chances of a good outcome if things go awry.

## KEY MILESTONES?

- ➔ Foals should be standing within one hour
- ➔ Within two hours, foals should be nursing
- ➔ Foals should pass meconium (first faeces) within around three hours
- ➔ Colts should urinate within the first six hours
- ➔ Fillies should urinate in the next 10 to 12 hours

## NURSING AND TRANSFER OF IMMUNITY

Nursing good quality colostrum, within the correct timeline, is a vital step in the foal's health and survival. Foals are born without infection-fighting antibodies (e.g. IgG / immunoglobulins), until they ingest colostrum. For the first six to 12 weeks foals rely on their dam's antibod-

ies (via colostrum) to protect them from pathogens, while their own bodies build up natural immunity.

## EXCELLENT OBSERVATION AND CHECKING IN RELATION TO THIS IS CRITICAL:

- ➔ Is the foal successfully latching on to the udder and observed to be swallowing?
- ➔ Is the udder emptied after suckling?
- ➔ Check the quality of colostrum using a refractometer showing the percentage of IgG (above 30% is excellent, below 20% is not enough). The foal's gastrointestinal tract can absorb IgG's during the first 24 hours after birth, with maximum intake during the first eight to 12 hours. A blood sample where any concerns during the first 24 hours can determine immunity status.
- ➔ Is there any evidence of milk at the nostrils? This is a sign of cleft palate, requiring veterinary attention.

If a foal has low IgG levels they can receive donated or supplemental colostrum. Beyond 24 hours intravenous (IV) plasma is an option to deliver IgG's. Always alert the vet if powdered colostrum was given before





plasma is being considered, as serious consequences can arise where plasma follows powdered colostrum efforts. Foals that have blood IgG values lower than 400mg/dL are more likely to become gravely ill, or die, than foals with IgG levels above 400mg/dL if not provided with supplemental IgG cover.

#### MATERNAL BEHAVIOUR

Mothering behaviour also impacts foal survival. Where absence of bonding, over-protection, fear of the newborn, or even prevention or reluctance to permit nursing (some mares might be experiencing udder pain; or a maiden may be unsure of her role) or true foal rejection with accompanying aggressive behaviour, experienced intervention is necessary.

Seek veterinary help. Remember also, unwarranted excessive human intervention in the early hours can negatively impact bonding. Close observation, which is as unobtrusive as possible, unless warranted, remains very important.

#### UMBILICAL CORD CARE AND PREVENTION OF SEPSIS

Care of the umbilical cord is also very important. A leading cause of foal death is sepsis, infection of the blood, which foals can develop after bacterial exposure. Foals encounter bacteria in

the birth canal and the environment. Bacteria can enter the foal in various ways, for example, orally, through a wound, or through a compromised umbilical stump.

☞ Observe any signs of discolouration or possible stress to the cord before / during foaling

☞ Allow the umbilical cord to break naturally

☞ Treat the umbilicus with dilute 0.5% chlorohexidine (Hibitane) preferably, or iodine solution (2%). If using a spray bottle take care to target the umbilicus effectively as the surrounding skin is sensitive and can burn; small clean disposable cups can be used to dip the umbilicus; wear disposable gloves to minimise causing infection.

☞ Monitor closely during the first few days to ensure the umbilicus dries; and for any signs of infection. Call the vet if any signs of urine leaking from the navel, or the navel is persistently moist. Navel closure is crucial to prevent pathogen access.

☞ Check for hernia (ask vet if unsure).

#### VET CHECK

Any foal that is lethargic and unable to stand or nurse and lacks curiosity in their surroundings must be veterinary assessed as soon as possible. If a foal cannot get on their feet, whether due to mechanical issues with their limbs,

**The newborn foal makes a massive transition between life in the uterus and life on earth \ iStock**

or other issues, they cannot nurse independently and even bigger problems can quickly ensue. Such circumstances demand immediate attention.

#### RECOGNISE AND GET HELP WHEN OTHER SIGNS A FOAL IS IN TROUBLE, INCLUDING FOR EXAMPLE:

☞ Elevated heart rate (newborn foals normal range 80-120 beats per minute; older foals 60-80 beats per minute).

☞ Increased respiratory rate or visible effort breathing.

☞ Abnormal body temperature (either too high, above 39°C, or too low, less than 37°C).

A veterinary check-up in the first 24 hours of life is good practice. The check is beneficial for the mare in assessing for any signs of trauma to the birth canal, and that the placenta is complete. The foal is examined for normal vital signs and any congenital conditions of the limbs, heart, eyes and other body systems.

It is also an opportunity to ensure no life threatening issues are at stake, for example:

☞ Neonatal septicaemia – a generalised infection in the bloodstream (described above)

☞ Fractured ribs – usually behind the elbow; dangerous if penetrates an organ

☞ Dummy foal syndrome – altered foal behaviour, failure to bond with the mare,

and either associated delayed nursing or failure to nurse put the foal at risk of developing septicaemia. Many foals are now treated using the 'Madigan squeeze' process to mimic birth canal pressure, which may be a critical signal for transition from the physiology with in the uterus to that outside the uterus.

☞ Meconium retention – causes can include impaction, lack of normal intestinal movement, and birth defects of the gastrointestinal tract, or failure of the large intestine to develop properly; colicky signs evident

☞ Neonatal isoerythrolysis/ haemolytic disease – antibodies secreted in colostrum and absorbed by the foal destroy the red blood cells of the foal, who presents with jaundice (yellow colouring of mucous membranes). Where mares tested and risk known in advance a foal can be muzzled, mares colostrum milked off and destroyed, and foal provided with alternative colostrum.

☞ Ruptured bladder – requires near-immediate surgical repair.

#### CONCLUSION

If you are even the least bit concerned, call the vet immediately. Early intervention where there are problems makes all the difference with foals. Although foals are resilient and programmed for survival, it is still good to be prepared to quickly intervene if things go wrong.