



## Hearn Veterinary Services

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### **Routine Foaling Procedures to Prevent Neonatal Infections**

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The key to successfully preventing neonatal infections is to minimize exposure to bacteria and maximize foal immunity. Mares have a type of placenta that blocks transmission of maternal immune factors from the mare to the fetus during pregnancy. Therefore, foals must acquire their initial immunity through ingesting colostrum. Colostrum is the first milk produced by the mare. It contains high levels of antibodies and several other immune products that actively combat fetal infections during the first 6 months of life. Since many of these immune products are large molecules, foals have developed a system whereby they are able to absorb large molecules across their intestine during the first 18 hours of life. So the good news is that foals can ingest colostrum and then absorb the antibodies and other immune products across their intestinal wall into the blood stream. The bad news is that they can also easily absorb any bacteria they might have ingested during the same period. In nature, mares try to stray away from the herd at night, find a quiet place, and quickly deliver their foal before a predator finds them. The equine neonate is born very mature, and can usually stand within an hour, nurse within two hours, and be running at the side of his mother by morning. In the open country, the exposure to bacteria is low.

#### **How to solve the problem of foaling in captivity:**

1. Decrease exposure of the newborn foal to bacteria during the first 18 hours of life.
  - a. Select a barn with stalls and floors that are easily scrubbed. It is important to remove all fecal material from the floor and walls between foalings. If the walls are wood, consider either varnishing them with at least two coats of marine varnish, or installing a hard plastic veneer.
  - b. Keep the mare in facilities in which foaling will take place to allow production of antibodies to pathogens within the area. If the mare does not live in the foaling barn, move her in at least 30 days prior to her due date.
  - c. Immediately following delivery prevent the foal from contacting the mare until steps 2a and 2b are completed.
  - d. Wash your hands and use gloves to handle the foal. This prevents transfer of infections from people to foals, from foals to people, and from foals to other foals via people. You would be amazed at the quantity of bacteria on your hands when you are working in a barn.
  - e. Wash the mare after foaling with large volumes of soap and water to remove bacteria around the perineum, udder, and rear quarters where the foal may lick during udder seeking.
  - f. After foaling, clean foaling stalls twice daily. Scrub and disinfect stalls between foalings.
  
2. Maximize the ingestion of good quality colostrum.
  - a. Milk the mare's cleaned mammary gland of 120 mls of colostrum. Test the specific gravity of the colostrum. Good quality colostrum has a specific gravity of over 1.060\*\*.

- b. Bottle-feed the foal around 30 minutes after foaling provided that it has a normal suck reflex. This will provide initial immune protection before the foal has a chance to ingest any significant quantities of bacteria while searching for the udder. Use colostrum from the bank if the specific gravity is less than 1.060 or you are unable to milk the mare for any reason. Use cow's colostrum if mare's colostrum is not available. If the foal is weak, but can sit sternally, and does not have a good suck reflex, have the vet stomach-tube the foal within 1 hour of birth with 250 mls of good colostrum.
- c. If foaling was not observed and the foal is standing or nursing, start preventative antibiotics for 72 hours. Consult your veterinarian for an appropriate treatment regime.
- d. If the colostrum specific gravity is greater than 1.060, milk off 250 mls of colostrum and save it in the freezer for possible future problems. Remember to mark the bag with the mare's name, the date and the specific gravity of the colostrum. Colostrum will remain good for approximately 18 months.

Discuss your foaling program with your vet. They are an excellent resource and can provide good information on all of these subjects. After foaling make sure to also contact your vet and have them examine the foal and check that it has acquired an adequate transfer of immune factors. They do this by measuring the IgG level within the foal's blood. If the foal did not acquire enough colostrum, the vet can still recommend several options to decrease the risk that the foal will acquire an infection.

### **Good luck foaling**

#### **References:**

\* Madigan: Manual of Equine Neonatal Medicine 3<sup>rd</sup> Edition

\*\* How to measure specific gravity of colostrum: Colostrometers, Hydrometers, and Sugar refractometers can be purchased for between \$120 and \$275. Contact your vet for details.