Colorado State University
VETERINARY TEACHING HOSPITAL

Foal Vaccination Guidelines

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Protection of a foal against infectious diseases begins before birth. Pregnant mares should be vaccinated against equine herpesvirus-1, or EHV-1, at 5, 7 and 9 months of pregnancy to decrease the incidence of viral abortion. It is recommended that mares be moved to the farm where they will foal approximately 4 to 6 weeks prior to their due date. This should allow sufficient time for the mare to develop an immune response to pathogens present on that specific farm before foaling.

Traditionally, broodmares are vaccinated with a combination of inactivated, or killed, vaccines 4 to 6 weeks prior to their due date. The goal of prepartum vaccination is to stimulate the immune response of the mare to produce antibodies which will eventually be sequestered or concentrated in the colostrum and then passively transferred to the neonate. It is generally recommended to vaccinate pregnant mares against tetanus, West Nile virus, sleeping sickness (both eastern and western equine encephalomyelitis), influenza, equine herpesvirus–4 (rhinopneumonitis) and strangles. In addition, depending on geographic location, risk of exposure and farm management practices, it may be indicated to also consider vaccination against rabies, botulism, Potomac horse fever, rotavirus and other infectious agents. In most instances mares are given a vaccine against a single agent only once prior to foaling. However, it should be noted that some agents, such as rotavirus and botulism, are administered as a multi-dose series in the last trimester.

Ingestion of colostrum from vaccinated mares during the first 12 to 24 hours of a foal's life results in the passive transfer of high levels of maternal antibodies to the foal. Uptake of maternal antibodies through nursing is absolutely critical for immune protection of the foal from infectious diseases during the first few months of life until the foal can develop its own antibodies. Maternal antibodies may be present in the foal for 3-4 months in most cases and up to 6 months or more in some foals. Additional techniques commonly used for passive transfer of antibodies to the foal include oral administration of frozen-thawed colostrum or a commercial colostrum substitute (i.e. concentrated equine antibodies) and intravenous administration of plasma from hyperimmunized donor horses.

Vaccination of foals is intended to stimulate the immune system of the foal to produce antibodies, a process termed active immunization. It has been recognized for many years that the presence of maternal or passively derived antibodies in the foal may interfere with or inhibit the immune response of foals to vaccinations. In addition, it

has been reported that foals vaccinated early in life when maternal antibodies are still present may fail respond to a even a series of booster vaccinations against specific pathogens administered the following year. In other words, it is not advantageous and may be detrimental to begin vaccination of foals early in their life.

The vaccination guideline for foals and weanlings recommended by the American Association of Equine Practitioners is dependent upon whether the foal was born from a vaccinated or non-vaccinated mare. The presumption is that foals born from vaccinated mares will have acquired a greater degree of passive antibody transfer and potentially may have a longer duration of interference by maternal antibodies than foals born from unvaccinated mares. Foals born from unvaccinated mares may have lower rate of passive transfer and are often more susceptible to infectious diseases.

As a general rule, foals born from non-vaccinated mares should receive their first vaccine dose no earlier than 3-4 months of age and foals born from vaccinated mares should be administered their first vaccine at approximately 6 months of age. In addition, most vaccines are intended to be given as a series of three doses administered at approximately one month intervals. The primary exceptions are that West Nile virus vaccination is recommended beginning at 3-4 months of age for all foals and that the first dose of influenza vaccine is recommended at 6 months for foals from non-vaccinated mares and 9 months for foals from vaccinated mares.

Specific vaccination recommendations for foals and weanlings depend on the age of the foal, vaccination status of the mare, geographic location, risk of exposure on individual farms and potential severity of the disease. It is generally advised that foals be vaccinated beginning at an appropriate age with a series of immunizations against tetanus, sleeping sickness, influenza, rhinopneumonitis and West Nile virus. In specific geographic locations or on high-risk farms, it may also be prudent to vaccinate foals against strangles, rabies, botulism and/or Potomac horse fever.

Horse owners are encouraged to consult with their equine veterinarian for optimal vaccination strategies for pregnant mares and foals in specific geographic locations. Proper management of passive and active immunization is one of the key factors in the prevention of infectious diseases in foals, weanlings and yearlings.