AAEP Vaccination Guidelines Executive Summary

As the name implies, this document constitutes "guidelines" for equine practitioners when making vaccination decisions for their patients. The recommendations for vaccine administration in this document may differ from the manufacturer's recommendations. It is incumbent on each individual practitioner to reach a decision on vaccine usage based on the circumstances of each unique situation and his or her professional experience. As such, a "standard" vaccination program for all horses does not exist. And depending upon these unique situations, the final vaccination recommendations may differ from those found here, as the attending veterinarian is the best authority for those decisions.

Principles of Vaccination

Vaccination decisions should be based upon: risk of disease, consequences of disease, effectiveness of selected products, potential for adverse events and the cost of immunization versus potential cost of disease.

Veterinarians provide the foundation for realistic client expectations with respect to vaccination and should help their clients understand that 1) no vaccine is 100% effective in preventing disease; 2) vaccination without good management will not prevent infectious disease; 3) horses within a population vary in degree and duration of protective response after vaccination; and 4) protection is not immediate and requires the appropriate number of immunizations administered at appropriate intervals (prior to significant exposure).

Concepts in Vaccine Usage

A. Vaccine Technology

The vaccine technology utilized in equine products continues to evolve and improve. The two primary categories for vaccines are "live" (most commonly modified live) and "killed" or inactivated products with the latter being the most commonly used in equine practice. The killed products require an adjuvant system to effectively present antigen to the immune system for processing and to properly stimulate/amplify an immune response. New technologies have allowed for the development of recombinant vaccines that contain antigenic properties of the pathogen. The recombinant products are available in both inactivated and live vaccine formulations and these formulations may also require adjuvant systems.

B. Vaccine labeling

To use vaccines appropriately, veterinarians should be familiar with the respective product labels. The label claims granted by USDA will depend upon the level of protection demonstrated in well controlled studies by the product sponsors. Very briefly, in descending order of protection (from highest to lowest) these label claims read: "Prevention of infection," "Prevention of disease," "Aid in disease prevention," "Aid in disease control" and other claims such as "reduction of pathogen shedding" and "reduction in severity."

C. Vaccine Storage and Handling

Because proper vaccine storage and handling are critical to maintaining efficacy and safety, practitioners should read labels to ensure proper storage and handling conditions are achieved. Storage conditions should be monitored both within the clinic and the practice vehicle. Aseptic technique should always be utilized for injection and products administered via the intended route.

D. Vaccination and Passive Transfer

It is important to vaccinate broodmares 4 to 6 weeks before foaling for their own protection, as well as to maximize concentrations of immunoglobulins in their colostrum to be passively transferred to their foals. The majority of vaccines administered to broodmares during late gestation to maximize immunoglobulin transfer via the colostrum, do not carry a "safe for use in pregnant mare" claim. However, this is an accepted practice and clinical experience indicates these products are safe for this purpose. If the practitioner has specific safety questions or concerns, he or she is encouraged to contact the manufacturer for additional information.

Vaccination of a foal in the presence of colostral antibodies can potentially have a negative impact on vaccine efficacy because of maternal antibody interference. Foals with residual maternal antibodies generally produce a greater serologic response to killed vaccines when an initial series of three doses is administered, rather than the 2-dose series recommended by most manufacturers of vaccines for older horses without residual maternal antibodies.

E. Vaccination in an Infectious Disease Control Program

Infectious disease control measures are very important to maintain the health, productivity and performance of horses. The AAEP has excellent information on this topic which can be found at http://www.aaep.org/control_guidelines_intro.htm

Adverse Reactions

Because foreign material (including proteins and adjuvants) is being injected into a biological system, the risk of adverse reactions associated with vaccine use cannot be eliminated. These reactions can range from local soreness and swelling to life-threatening anaphylaxis. The potential for adverse reactions should be properly explained to the owner prior to vaccination. Whenever an adverse event occurs, the veterinarian should report it to the vaccine manufacturer and/or the USDA at (800) 752-6255 or online at http://www.aphis.usda.gov/animal_health/vet_biologics/vb_adverse_event.shtml. Veterinarians should always record the vaccine serial number in the medical record and provide this when reporting an adverse event.

Core Vaccination Guidelines:

Core vaccines are defined as those that: protect animals from diseases that are endemic to a region or have potential public health significance, are required by law, protect against virulent and highly infectious organisms, and/or those posing a risk of severe disease. Core vaccines have clearly demonstrated efficacy and safety, and thus exhibit a high enough level of patient benefit and low enough level of risk to justify their use in the majority of patients. The core equine vaccines include tetanus, eastern and western equine encephalomyelitis (EEE/WEE), West Nile virus and Rabies.

I. Tetanus

Adult horses: Tetanus toxoid is administered. Initial 2-dose series at a 3- to 4-week interval followed by a yearly booster. Horses that sustain a wound or undergo surgery 6 or more months after their previous tetanus booster should be revaccinated with tetanus toxoid immediately at the time of injury or surgery

Foals of mares vaccinated against tetanus in prepartum period: Administer a 3-dose series beginning 4 to 6 months of age with a 4- to 6-week interval between the first and second doses and the third dose administered at 10 to 12 months of age.

Foals of unvaccinated mares or unknown vaccination history: Administer a 3-dose series beginning 1 to 4 months of age with a 4-week interval between doses.

II. EEE/WEE

Adult horses: An initial 2-dose series at a 4- to 6-week interval is followed by a yearly booster prior to the vector season. In high risk animals, and in areas with year-round vectors, more frequent vaccination is recommended during periods of likely exposure (twice yearly).

Foals of mares vaccinated against EEE/WEE in prepartum period: Administer a 3-dose series beginning at 4 to 6 months of age with a 4- to 6-week interval between the first and second dose. The third dose is administered at 10 to 12 months of age.

Foals of unvaccinated mares or having unknown vaccinal history: Administer a primary series of 3 doses beginning at 3 to 4 months of age, with a 30-day interval between the first and second doses and a 60-day interval between the second and third doses. If the primary series is initiated during the mosquito vector season, an interval of 3 to 4 weeks between the second and third doses is preferable to the above described interval of 8 weeks.

III. West Nile Virus

Adult horses: An initial 2-dose series at a 3- to 6-week interval is recommended with a yearly booster prior to the vector season. In high risk animals, and in areas with year-round vectors, more frequent vaccination (with any of the currently licensed products) may be recommended to meet the vaccination needs of these horses.

Foals of vaccinated mares: Administer a primary 3-dose series beginning at 4-6 months of age with a 4- to 6-week interval between the first and second dose. The third dose should be administered at 10 to 12 months of age prior to the onset of the next mosquito season.

Foals of unvaccinated mares or having unknown vaccinal history: Administer a primary series of 3 doses beginning at 3 to 4 months of age, with a 30-day interval between the first and second dose and a 60-day interval between the second and third dose. If the primary series is initiated during the mosquito vector season, an interval of 3 to 4 weeks between the second and third dose is preferable to the above described interval of 8 weeks.

IV. Rabies

Note: Rabies is an excellent immunogen and these vaccines induce a strong serologic response after a single dose.

Adult horses: Following an initial single-dose administration, rabies vaccines are administered as a yearly booster.

Foals of mares vaccinated against rabies: Administer a primary 2-dose series. The first dose of vaccine should be administered no earlier than 6 months of age. The second dose should be given 4 to 6 weeks later. Revaccinate annually thereafter.

Foals of mares not vaccinated against rabies: Administer according to label directions. The first dose of vaccine should be administered at 3 to 4 months of age. Revaccinate annually thereafter.

Risk-Based Vaccination Guidelines

These are vaccine products which are used following a risk-benefit appraisal by the attending veterinarian. The use of risk-based vaccinations may vary regionally, from population to population within an area, or between individual horses within a given population. The diseases and associated vaccine products included in risk-based vaccination guidelines include: anthrax, botulism, equine herpesvirus type 1 and 4, equine viral arteritis, equine influenza, rotaviral diarrhea and strangles. The practitioner can find additional information on all risk-based guidelines within the complete guidelines on this website.