

## Key to abbreviations

	Infectious Agent Name	Disease Name
WNV	West Nile Virus	West Nile Encephalitis
EWT	EW = Eastern & Western Encephalomyelitis Virus T = <i>Clostridium tetani</i> toxoid	Sleeping Sickness Tetanus
EIV	Equine Influenza Virus	Flu
EHV-1/4	Equine Herpes Virus 1 and 4	Rhinopneumonitis

## Annual schedule for horses exposed to non-herdmates

	Spring	Summer	Fall	Winter
WNV	X		X*	
EWT	X		X	
EIV	X		X	
EHV-1/4	X		X	
Rabies			X	
Strangles**		X		X

\*Second WNV vaccine requirement dependent on type of vaccine used; Chimera vaccine only requires one injection per year.

\*\*Strangles vaccination recommendation based on farm/individual horse exposure risk

## Annual schedule for horses NOT exposed to non-herdmates

	Spring	Summer	Fall	Winter
WNV	X		X*	
EWT	X		X	
EIV	X		X	
EHV-1/4	X		X	
Rabies			X	

\*Second WNV vaccine requirement dependent on type of vaccine used; Chimera vaccine only requires one injection per year.

## Supplemental Program for Broodmares

\*\*\*NOTE: Immunizations 30-45 days prior to foaling results in antibody production that will be transferred to the foal in the mare's colostrums (first milk). This protection is vital to the health of the foal until his or her immune system is mature and able to respond to immunization administered at 4, 5, 6, 7 and 8 months.\*\*\*

	3 months	5months	7months	9months	10months
EHV-1/4	X	X	X	X	X
WNV					X
EWT					X
EIV					X

\*\*\*NOTE: Rabies and intranasal Strangles vaccines are not approved for use in pregnant mares.\*\*\*

## Vaccination schedule for foals and weanlings born from VACCINATED mares

	Month 4	Month 5	Month 6	Month 7	Month 8	Month 12
WNV		X	X*			
EWT	X	X	X			
EIV			X	X	X	
EHV-1/4			X	X	X	
Strangles				X	X	
Rabies			X	X		X

\*Second WNV vaccine requirement dependent on type of vaccine used; Chimera vaccine only requires one injection per year.

### Links to Vaccine Schedule

1. **West Nile Encephalitis** is transmitted primarily by various species of mosquitoes that can cause inflammation of the brain and spinal cord. Clinical disease is primarily in birds, equines and humans. The virus is contracted from infected mosquitoes that inherit the virus from infected birds. Horses and humans have a low number of virus particles in their bloodstream, thus infection from mammals to other mammals is not significant. There are currently three approved vaccines available for immunization of horses against WNV. The vaccines are safe and have proven to be efficacious. As with all vaccines, 100% protection can never be guaranteed. For two of the three available vaccines, biannual vaccination in Arizona is recommended due to our climate. The third vaccine is a chimera vaccine that research and clinical trials have shown to be extremely effective for preventing clinical signs, so it only needs to be given once a year.
2. **Sleeping Sickness** is a neurologic disease caused by three different viruses including Eastern, Western and Venezuelan Encephalomyelitis Viruses. Venezuelan Encephalomyelitis Virus is rarely seen in the United States, and then usually at the Mexico-U.S. border, so we do not routinely vaccinate horses in Phoenix for it. Sleeping sickness is transmitted by mosquitoes that have acquired the virus from infected birds and small mammals. Humans are also susceptible to these viruses when bitten by infected mosquitoes, but direct horse-to-horse or horse-to-person transmission is extremely rare. One half of horses infected with WEE die, while 70-90% of horses infected with EEE or VEE die. Current vaccines are highly protective and safe when administered properly.
3. **Tetanus** is also known as “lockjaw” because one of the more common signs of people with Tetanus is a rigid and clenched jaw, it is an often fatal neurologic disease. The disease is caused by toxins released by the bacteria *Clostridium tetani*. These spore-forming bacteria can be found in the intestinal tract of many animals and are ubiquitous in the environment. The bacteria can be introduced through open wounds, including abrasions, lacerations or the umbilicus of newborns. Affected individuals show signs of extreme muscle rigidity, either in focal areas or over a large amount of the body. Vaccination is highly protective against a disease that is fatal in 80% of horses affected.
4. **Flu** is one of the most common causes of respiratory diseases in the horse. The disease is caused by Equine Influenza Type A Virus. The virus is highly

contagious and can be easily transmitted through aerosolized virus particles, as would occur with coughing or sneezing. Horse to horse transmission is reported to occur at distances of 30 yards. Unfortunately, influenza viruses are constantly changing and can bypass the horse's immune defenses. Due to this ever-changing behavior, duration of protection is short-lived and horses should be vaccinated twice a year.

5. **Rhinopneumonitis** is a disease caused by two distinct herpesvirus, type 1 (EHV-1) and type 4 (EHV-4). Both cause respiratory tract disease, while EHV-1 may also cause abortion and weak or stillborn foals. EHV transmission can be airborne or by direct contact with body secretions. Carrier animals may have no apparent clinical signs, but they can shed the virus and infect other animals. As with influenza, immune protection is short-lived. Therefore, pregnant mares are vaccinated at least during the third, fifth, seventh, and ninth months of gestation to help prevent abortion, then again at the tenth month to increase colostrum antibodies.
6. **Strangles** is a highly contagious and dangerous bacterial disease caused by *Streptococcus equi*. This bacterium attacks the respiratory tract and settles in the adjacent lymph nodes, leading to painful abscesses and systemic illness. *Streptococcus equi* is also associated with systemic abscesses (intra-abdominal) and immune mediated disease. These forms of the disease are potentially life-threatening. To reduce the incidence of clinical disease, the intra-nasal vaccine is recommended annually for horses that regularly come in contact with horses from different barns (i.e. competition horses or those stabled at a boarding facility).
7. **Rabies** is a viral disease that is transmitted via contact with saliva from infected animals. All domesticated mammals and humans are susceptible to this virus. This disease is always fatal, thus immunization is recommended annually as a preventative. Positive equine cases are found in Arizona each year.