

Species – Horse

Module – Health and Disease

Targeting Life Skills

Beginner

- Learning to Learn
- Critical Thinking

Intermediate

- Learning to Learn
- Problem solving
- Critical Thinking

Senior

- Critical Thinking
- Problem solving

Learning Objectives

Beginner

- Describe the behavior a horse demonstrates when it is sick.
- Assemble a First-aid kit.
- List 5 common diseases of horses, their clinical signs and treatment.

Intermediate

- Complete the objectives listed under Beginner Level.
- Explain the Vital Signs of a horse: Temperature, Pulse, Respiration, skin pinch test, capillary refill time.
- Explain 10 common diseases of horses, their clinical signs and treatment.
- Demonstrate Body Condition Scoring of horses.

Seniors

- Complete the objectives listed under Intermediate Level.
- Explain all the diseases listed in this manual, including clinical signs and their treatment.

Learning Activities

Age Level	Learning Activities	Materials Needed	Source
Beginner	<ul style="list-style-type: none"> • Discuss clinical signs of diseases horses might display when they are sick (such as fever, increase in heart rate, change in personality, etc). 		<u>Equine Science</u> , pp. 153-164 <u>Alberta Horse Reference Manual</u> pp. 111-150
	<ul style="list-style-type: none"> • Assemble a First-Aid Kit. 	<ul style="list-style-type: none"> • Materials found on pages 111- 150 of Alberta Manual and page 165 of Equine Science book. 	
	<ul style="list-style-type: none"> • Identify 5 common diseases of horses, their clinical signs and treatment. 	<ul style="list-style-type: none"> • Horse Disease Flash Cards. 	KHVCR kit

Age Level	Learning Activities	Materials Needed	Source
Intermediate	<ul style="list-style-type: none"> • Learn 10 common diseases of horses and the clinical signs and treatment. • Demonstrate how to Body Condition Score horses. • Describe the Vital Signs of a horse. 	<ul style="list-style-type: none"> • Horse Disease Flash Cards. • Body condition scoring chart • Thermometer, stethoscope, horse 	<p><u>KHVCR kit</u></p> <p><u>KHVCR kit</u></p> <p><u>Alberta Horse Reference Manual p. 118</u></p> <p><u>Equine Science pp. 153-164</u></p>
Senior	<ul style="list-style-type: none"> • Identify all common equine diseases. • Complete all Beginner and Intermediate objectives. 	<ul style="list-style-type: none"> • Horse Disease Flash Cards. 	<p><u>Alberta Horse Reference Manual pp. 111-150.</u></p> <p><u>Equine Science pp. 167-183.</u></p>

Time Requirement

- 30-45 minutes for classroom learning objectives

Best Location

- Classroom, barn

Evaluation

Beginner

- Score posters showing feed tags and information on the tags.
- Evaluate Activity Sheets – 75% accuracy.

Intermediate

- Evaluate a verbal test of ability to match feedstuffs found on a feed tag to the nutrients supplied with 80% accuracy.
- Evaluate Activity Sheets with 80% accuracy.

Senior

- Score written and verbal reports.
- Evaluate Activity Sheets with 90% accuracy.
- Evaluate teaching skills when teaching younger members using Activity Sheets.

References

- Alberta Horse Manual
- KHVCR Kit
- Equine Science book

Horse Disease Flash Cards Activity

Copy the horse disease flash cards and clinical sign cards on cardstock. Cut the disease name cards and description cards apart and laminate them. Use these flash cards to play matching games (youth match the disease name cards with the correct disease description card), or to quiz youth.

Strangles	Tetanus
Equine Protozoal Myeloencephalitis (EPM)	Equine Infectious Anemia
Equine Influenza	Eastern and Western Equine Encephalomyelitis (Sleeping Sickness)
Rabies	Equine Herpesvirus (Equine Rhinopneumonitis)
West Nile Virus	Colic
Heaves	Navicular Disease
Laminitis (Founder)	Botulism

Name the Horse Disease Flash Cards Activity

<p>Also known as distemper, caused by bacterium called <i>Streptococcus equi</i>. Fever as high as 106° F. Signs include mucous discharge from nose, may have discharge from eye, mucus becomes thick, yellow, and purulent. The most obvious clinical sign of this disease is the swelling of lymph nodes under the jaw and throat-latch, giving the impression that the horse is being strangled by the swelling. Lymph nodes may burst or need to be lanced and drained by veterinarian, after which healing begins and signs subside. The affected horse needs to be isolated because this disease is very contagious.</p>	<p>Also known as lockjaw. Caused by bacterium called <i>Clostridium tetani</i>. Commonly associated with puncture wounds. Signs include rigid paralysis, stiffness, erect ears, tail stiff and held away from body, prominent third eyelid, colic, difficulty walking, "saw-horse" stance, muscle spasms and twitches, severe spasm reaction to noise or light, increased heart and respiratory rates, sweating, flaring nostrils, inability to eat or drink, and locked jaws. Death occurs due to respiratory paralysis. The American Association of Equine Practitioners recommends annual vaccination against tetanus for all horses.</p>
<p>Horses become infected by eating or drinking water contaminated with feces of opossum. Signs of infection are those of the Central Nervous System, including stumbling, falls, head tilt, weakness, lameness, muscle wasting, etc. Signs worsen progressively. With treatment, most horses recover, but some horses continue to carry neurologic problems. Diagnosis is done by detection of antibodies in cerebrospinal fluid (CSF). The presence of antibodies in blood is inconclusive, as most horses have been in contact with opossum feces, develop the specific antibodies, but do not develop the disease.</p>	<p>Viral disease transmitted by insect bite. It can be acute, subacute and chronic. Clinical signs include fever, anemia, weight loss, horse tires easily. Death is possible, but it is possible for horse to live with disease for years. No effective treatment available and horses are carriers for life. This is a reportable disease. Diagnosis is made by Coggins blood test. If a horse is found positive, testing lab must report to federal authorities. A negative Coggins must accompany every horse being transported within state and out of state.</p> <p>Positive horses must be euthanized or branded and kept in a screened stall facility, at least 200 yards from all other horses.</p>

Name the Horse Disease Flash Cards Activity

<p>Highly contagious virus disease with clinical signs including high fever, cough, nasal discharge, depression, lack of appetite, weakness. This virus causes destruction of the mucosa of the respiratory system, with possible subsequent secondary bacterial infection, which can lead to pneumonia. This disease spreads very quickly among susceptible horses. In severe cases horses may take up to 4-6 months to return to previous performance level. This disease generally affects horses in sale barns, racetracks, and places where horses coming from different backgrounds comingle.</p>	<p>There are 3 different virus strains, the Eastern, Western and Venezuelan strains. Disease is transmitted by mosquito bites. Clinical signs include those of central nervous system, such as ataxia (lack of coordination), circling, animal acts blind and walks into walls and fences, depression, head press, unaware of surroundings. The Venezuelan strain is considered a reportable foreign disease.</p> <p>The American Association of Equine Practitioners recommends annual vaccination against EEE and WEE for all horses.</p>
<p>Neurological disease caused by a virus and transmitted by the bite of infected animal (bats, skunks, raccoons, etc). Animals are unable to swallow water or saliva and that is why excessive salivation is observed.</p> <p>Clinical signs include neurological signs, behavioral changes, ataxia (lack of coordination), odd stance, laying down more than usual, self-mutilation, etc.</p> <p>This is a reportable disease and if a horse is suspected to have this disease, a veterinarian must be contacted immediately, because this disease can be transmitted from animals to humans. The American Association of Equine Practitioners recommends annual vaccination against rabies for all horses.</p>	<p>There are 2 different strains of virus that most commonly affect horses, EHV-1 and EHV-4. EHV-1 causes abortion in pregnant mares and severe neurologic disease in the affected horse, whereas EHV-4 causes clinical signs of common cold, especially in young horses and performance horses. Clinical signs of EHV-4 infection include nasal discharge, fever, and cough.</p> <p>Most interesting feature about this virus is the latency that it develops, by “hiding” from the immune system and re-emerging later and causing signs of disease again.</p>

Name the Horse Disease Flash Cards Activity

<p>This virus causes encephalitis, a neurological disease, with signs including fever, disorientation, ataxia (lack of coordination), inability to stand, head pressing, convulsions, and even death. The virus is transmitted to animals and humans via infected mosquito bite, and birds are reservoirs for the virus. The American Association of Equine Practitioners recommends annual vaccination against WNV for all horses.</p>	<p>This word is used to describe any abdominal pain in horses. Clinical signs include swishing tail, looking around at belly, kicking at belly, rolling, sweating, pawing the ground, repeatedly lying down and getting up. There are many causes for this ailment, including impaction, obstruction, twisted gut, parasites, sand in gut, trapped gas, overeating, sudden change in diet or environment, etc. There are clinical cases and surgical cases. Call a veterinarian because this condition is always an emergency.</p>
<p>Also called asthma and Recurrent Airway Obstruction, this is a chronic allergic respiratory disease. Signs include cough, low tolerance to exercise, flaring nostrils, wheezing, and difficulty breathing. Signs worsen if horse is kept in dusty environment and fed hay. As this is a chronic disease, once the horse is diagnosed with it the only way to manage the disease is to manage the horse's environment, such as keeping the horse outdoors year-round and not feeding hay.</p>	<p>Inflammation of navicular bone and damage to surrounding structures. Horse changes the way of the foot landing on the ground, with the toes landing first. Signs include short and choppy strides and stiff gait, sensitivity to hoof testers, recurrent lameness. This disease usually affects front feet.</p>

Name the Horse Disease Flash Cards Activity

This is the inflammation of the laminae of the foot, which can progress to rotation of the coffin bone. Signs include lameness, throbbing digital pulse, feet hot to the touch, horse lies down more than usual, laminitic stance: front feet out ahead of body and weight shifted toward hind end, horse standing on heels of foot to relieve the pain. There are different causes for this disease, including bacterial infection, excessive sugar ingestion, concussion of hooves on hard ground, excessive ingestion of lush grass in the spring, and obese horses are predisposed.

In young foals, this is known as Shaker Foal Syndrome. Caused by *Clostridium botulinum*. It is characterized by flaccid paralysis, with horse being unable to stand, diminished tongue, eyelid and lip tones. Bacteria present in horse's feces and on the ground. The toxin produced by the bacteria is among the most potent toxins known to mankind. Horses acquire the disease by ingesting contaminated hay (especially those from round bales) or improperly fermented silage, puncture and castration wounds. Death occurs due to respiratory paralysis.

Horse Disease Flash Cards Activity

Answer Key

<p>Strangles</p> <p>Also known as distemper, caused by bacterium called <i>Streptococcus equi</i>. Fever as high as 106° F. Signs include mucous discharge from nose, may have discharge from eye, mucus becomes thick, yellow, and purulent. The most obvious clinical sign of this disease is the swelling of lymph nodes under the jaw and throat-latch, giving the impression that the horse is being strangled by the swelling. Lymph nodes may burst or need to be lanced and drained by veterinarian, after which healing begins and signs subside. The affected horse needs to be isolated because this disease is very contagious.</p>	<p>Tetanus</p> <p>Also known as lockjaw. Caused by bacterium called <i>Clostridium tetani</i>. Commonly associated with puncture wounds. Signs include rigid paralysis, stiffness, erect ears, tail stiff and held away from body, prominent third eyelid, colic, difficulty walking, "saw-horse" stance, muscle spasms and twitches, severe spasm reaction to noise or light, increased heart and respiratory rates, sweating, flaring nostrils, inability to eat or drink, and locked jaws. Death occurs due to respiratory paralysis. The American Association of Equine Practitioners recommends annual vaccination against tetanus for all horses.</p>
<p>Equine Protozoal Myeloencephalitis (EPM)</p> <p>Horses become infected by eating or drinking water contaminated with feces of opossum. Signs of infection are those of the Central Nervous System, including stumbling, falls, head tilt, weakness, lameness, muscle wasting, etc. Signs worsen progressively. With treatment, most horses recover, but some horses continue to carry neurologic problems. Diagnosis is done by detection of antibodies in cerebrospinal fluid (CSF). The presence of antibodies in blood is inconclusive, as most horses have been in contact with opossum feces, develop the specific antibodies, but do not develop the disease.</p>	<p>Equine Infectious Anemia</p> <p>Viral disease transmitted by insect bite. It can be acute, subacute and chronic. Clinical signs include fever, anemia, weight loss, horse tires easily. Death is possible, but it is possible for horse to live with disease for years. No effective treatment available and horses are carriers for life. This is a reportable disease. Diagnosis is made by Coggins blood test. If a horse is found positive, testing lab must report to federal authorities. A negative Coggins must accompany every horse being transported within state and out of state. Positive horses must be euthanized or branded and kept in a screened stall facility, at least 200 yards from all other horses.</p>

Horse Disease Flash Cards Activity

Answer Key

<p style="text-align: center;">Equine Influenza (Flu)</p> <p>Highly contagious virus disease with clinical signs including high fever, cough, nasal discharge, depression, lack of appetite, weakness. This virus causes destruction of the mucosa of the respiratory system, with possible subsequent secondary bacterial infection, which can lead to pneumonia. This disease spreads very quickly among susceptible horses. In severe cases horses may take up to 4-6 months to return to previous performance level. This disease generally affects horses in sale barns, racetracks, and places where horses coming from different backgrounds comingle.</p>	<p style="text-align: center;">Equine Encephalomyelitis (Sleeping Sickness)</p> <p>There are 3 different virus strains, the Eastern, Western and Venezuelan strains. Disease is transmitted by mosquito bites. Clinical signs include those of central nervous system, such as ataxia (lack of coordination), circling, animal acts blind and walks into walls and fences, depression, head press, unaware of surroundings. The Venezuelan strain is considered a reportable foreign disease. The American Association of Equine Practitioners recommends annual vaccination against EEE and WEE for all horses.</p>
<p style="text-align: center;">Rabies</p> <p>Neurological disease caused by a virus and transmitted by the bite of infected animal (bats, skunks, raccoons, etc). Animals are unable to swallow water or saliva and that is why excessive salivation is observed. Clinical signs include neurological signs, behavioral changes, ataxia (lack of coordination), odd stance, laying down more than usual, self-mutilation, etc. This is a reportable disease and if a horse is suspected to have this disease, a veterinarian must be contacted immediately, because this disease can be transmitted from animals to humans. The American Association of Equine Practitioners recommends annual vaccination against rabies for all horses.</p>	<p style="text-align: center;">Equine Herpesvirus (Rhinopneumonitis)</p> <p>There are 2 different strains of virus that most commonly affect horses, EHV-1 and EHV-4. EHV-1 causes abortion in pregnant mares and severe neurologic disease in the affected horse, whereas EHV-4 causes clinical signs of common cold, especially in young horses and performance horses. Clinical signs of EHV-4 infection include nasal discharge, fever, and cough. Most interesting feature about this virus is the latency that it develops, by “hiding” from the immune system and re-emerging later and causing signs of disease again.</p>

Horse Disease Flash Cards Activity

Answer Key

<p style="text-align: center;">West Nile Virus</p> <p>This virus causes encephalitis, a neurological disease, with signs including fever, disorientation, ataxia (lack of coordination), inability to stand, head pressing, convulsions, and even death. The virus is transmitted to animals and humans via infected mosquito bite, and birds are reservoirs for the virus. The American Association of Equine Practitioners recommends annual vaccination against WNV for all horses.</p>	<p style="text-align: center;">Colic</p> <p>This word is used to describe any abdominal pain in horses. Clinical signs include swishing tail, looking around at belly, kicking at belly, rolling, sweating, pawing the ground, repeatedly lying down and getting up. There are many causes for this ailment, including impaction, obstruction, twisted gut, parasites, sand in gut, trapped gas, overeating, sudden change in diet or environment, etc. There are clinical cases and surgical cases. Call a veterinarian because this condition is always an emergency.</p>
<p style="text-align: center;">Heaves</p> <p>Also called asthma and Recurrent Airway Obstruction, this is a chronic allergic respiratory disease. Signs include cough, low tolerance to exercise, flaring nostrils, wheezing, and difficulty breathing. Signs worsen if horse is kept in dusty environment and fed hay. As this is a chronic disease, once the horse is diagnosed with it the only way to manage the disease is to manage the horse's environment, such as keeping the horse outdoors year-round and not feeding hay.</p>	<p style="text-align: center;">Navicular Disease</p> <p>Inflammation of navicular bone and damage to surrounding structures. Horse changes the way of the foot landing on the ground, with the toes landing first. Signs include short and choppy strides and stiff gait, sensitivity to hoof testers, recurrent lameness. This disease usually affects front feet.</p>

Horse Disease Flash Cards Activity

Answer Key

Laminitis (Founder)	Botulism
<p>This is the inflammation of the laminae of the foot, which can progress to rotation of the coffin bone. Signs include lameness, throbbing digital pulse, feet hot to the touch, horse lies down more than usual, laminitic stance: front feet out ahead of body and weight shifted toward hind end, horse standing on heels of foot to relieve the pain. There are different causes for this disease, including bacterial infection, excessive sugar ingestion, concussion of hooves on hard ground, excessive ingestion of lush grass in the spring, and obese horses are predisposed.</p>	<p>In young foals, this is known as Shaker Foal Syndrome. Caused by <i>Clostridium botulinum</i>. It is characterized by flaccid paralysis, with horse being unable to stand, diminished tongue, eyelid and lip tones. Bacteria present in horse's feces and on the ground. The toxin produced by the bacteria is among the most potent toxins known to mankind. Horses acquire the disease by ingesting contaminated hay (especially those from round bales) or improperly fermented silage, puncture and castration wounds. Death occurs due to respiratory paralysis.</p>

