

SIEVERS EQUINE SERVICE

Dr. Patrick G. Sievers

4195 Peterboro Rd

Vernon, NY

EQUINE
"FAST FACTS"
SERIES

LIST OF EQUINE "FAST FACTS"

- 1. BOTULISM**
- 2. CONTAGIOUS EQUINE METRITIS**
- 3. EQUINE ENCEPHALOMYELITIS**
- 4. EQUINE INFECTIOUS ANEMIA**
- 5. EQUINE INFLUENZA**
- 6. EQUINE PROTOZOAL MYELOENCEPHALITIS**
- 7. EQUINE RHINOPNEUMONITIS**
- 8. EQUINE VIRAL ARTERITIS**
- 9. LYME DISEASE**
- 10. POTOMAC HORSE FEVER**
- 11. RABIES**
- 12. SALMONELLOSIS**
- 13. STRANGLES**
- 14. TETANUS**
- 15. CLEANING AND DISINFECTING**
- 16. EQUINE WATER NEEDS**
- 17. PASTURE REGIME**
- 18. THE PREVENTION AND CONTROL OF INFECTIOUS EQUINE DISEASES**
- 19. STALL WASTE PRODUCTION AND CHARACTERISTICS**
- 20. VITAL SIGNS FOR ADULT HORSES**

SIEVERS EQUINE SERVICE

FAST FACTS ABOUT

CLEANING AND DISINFECTING PROCEDURES

1. Remove all buckets and feed tubs from the stall. If you have automatic waterers, shut off the water and remove the bowls.
2. Strip the stall by removing all bedding and organic material. Do not save "clean" bedding.
3. Sweep the walls and floor to remove as much organic matter as possible.
4. Use a long handle duster to remove all cobwebs and dust from stall's ceiling.
5. Thoroughly dry scrub all surfaces to remove as much organic matter as possible.
6. Wash down all stall surfaces including bars on windows and stall fronts with a disinfectant using hose with spray nozzle or a scrub brush by hand.
7. Rinse by starting at the top of stall, then working from the edges of stall toward the draining area. All manure caked onto walls and floors needs to be washed off! Pay special attention to areas of stall walls where feedtubs and water buckets are hung or to the automatic waterers.
8. After all surfaces are cleaned and rinsed, remove as much excess water as possible, especially from floors. If you use stall mats or have a concrete floor, use a squeegee.
9. Put on protective clothing, gloves, and goggles before working with disinfectant. Dilute it into an applicator such as a garden sprayer. Spray the walls (begin at top) and floors and allow to dry. **DO NOT** rinse!
10. Give the stall plenty of time to dry. Fans may be needed for drying thoroughly. Porous floors such as packed clay, sand, or dirt are difficult to adequately disinfect. Apply lime to the wet areas and allow extra time to dry.
11. Scrub all buckets, feed tubs, and other feeding equipment with a detergent, then rinse. Spray on diluted disinfectant, allow it to stand for 10 minutes, then thoroughly rinse with potable (drinkable) water. Dry these containers and return them to the disinfected stall. Anything that the horse will eat from needs to be **completely** rinsed of disinfectant!
12. Cover stall with fresh bedding and replace buckets.
13. If an outbreak of infectious disease is currently on your farm or nearby, repeat the spraying and drying of disinfectant.
14. All equipment such as pitchforks, shovels, and grooming tools should be cleaned, rinsed, then soaked in disinfectant solution for 10 minutes, followed by a final rinse. Any disinfectant is tough on leather so cover any leather parts with foil or plastic wrap.
15. Any machine washable items such as towels should be rinsed of gross filth, then soaked for 10 minutes in disinfectant solution, then washed.

SIEVERS EQUINE SERVICE

FAST FACTS ABOUT

EQUINE WATER NEEDS

The normal horse consumes 5-15 gallons of water per day.

Diet, exercise, lactation, and ambient temperature influence water maintenance needs.

The fluid requirement for an adult horse is approximately 60 ml/kg/day (2oz/2.2lbs/day). This equals approximately 1-2 liters (1/4– 1/2 gal) of water consumed per hour.

Owners should determine how much water their horse normally drinks so that normal levels for that horse can be established. This can easily be determined by measuring water consumed by the horse over a 24-hour period.

SIEVERS EQUINE SERVICE

FAST FACTS ABOUT

PASTURE REGIME

Animal densities that would maintain at least 70% vegetative cover in the pastures should be established if pastures are used to provide a significant source of nutrition and exercise.

The following recommendations can serve as guidelines for establishing stocking rates, based on restricting the number of horses and time allowed for turnout in order to maintain 70% or higher vegetative cover in the pastures:

- One horse can be maintained on one-half acre of pasture, if turnout time is limited to fewer than three hours per day.
- One horse can be maintained on one acre of pasture, if turnout time is limited to three to eight hours per day.
- One horse can be maintained on one and one-half acre of pasture, if turnout time is limited to eight to twelve hours per day.
- One horse can be maintained on two or more acres of pasture with unlimited turnout time.

The stocking rates listed above can be increased with elevated levels of management. Mowing, irrigating, fertilizing, overseeding, and rotating pastures can allow higher animal densities while still maintaining at least 70% vegetative cover.

SIEVERS EQUINE SERVICE

FAST FACTS ABOUT

THE PREVENTION AND CONTROL **OF INFECTIOUS EQUINE DISEASES**

Develop a strategic vaccination plan based on your veterinarian's recommendations to meet the particular needs of the farm.

Keep a closed herd (no horses enter the farm either by purchase or re-entry) or create "closed zones"; i.e. separate the brood mare band from the show horse group that continually come and go.

Separate horses into small groups and segregate different age groups.

Consider the source of purchased animals and bring in animals only from herds where you know the health status and vaccination program; avoid purchasing animals from unknown sources or that have been mixed with many other horses before sale.

Obtain a negative Coggins test prior to finalizing a purchase.

Quarantine new arrivals for a minimum of 7 days (30 days ideal) before allowing contact with animals on-farm.

Designate a "quarantine" area or stall; ideally, quarantined horses should not share the same airspace with resident horses or be allowed nose-to-nose contact with resident horses. Quarantined horses should have their own equipment, including buckets, halters, tack, and grooming tools. Check the isolated animal's temperature on a daily basis.

Work last with any isolated horse and use separate pitchforks or thoroughly disinfect these tools before their next use.

Thoroughly clean and disinfect any stall that has housed a sick horse or new arrival before stabling another horse in that stall; dispose of all bedding and hay/feed.

Provide footwear-cleaning facilities at main entrance of barn; bleach water (1 part bleach to 10 parts water) may be used.

Provide hand-washing facilities or alcohol-based hand gel disinfectants for use by handlers between individual horses.

Change clothes and clean or change boots before entering your own barn when you have been going from barn to barn or when returning from a horse show.

Avoid sharing buckets, tack, or equipment between horses when traveling.

Do not allow nose-to-nose contact between your horse and horses of unknown origin (i.e., horse show ring, trail ride)

Do not rotate horses from stall to stall.

Do not share multiple-dose medications between horses; one tube for each animal.

Implement a rodent control plan; keep grains and feed supplements in tight containers, remove standing water, and eliminate places birds enter the barn

-Dr. Lyda W. Denney-

SIEVERS EQUINE SERVICE

FAST FACTS ABOUT

STALL WASTE PRODUCTION

AND

CHARACTERISTICS

A 1,000-pound horse will defecate from four to thirteen times each day and produce about 50 pounds of manure (which consists of about 37 pounds of feces and 2.4 gallons of urine) daily, or approximately nine tons per year.

A horse kept in a stall may require fifteen to twenty pounds of bedding per day. Bedding products include: wood by-product (shavings or chips), straw, hay, or paper. Bedding must be provided in stalls, kept reasonably clean, and changed periodically. Manure plus bedding will have a volume of between two and three cubic feet per day.

Soiled bedding can equal almost twice the volume of the manure. It will vary based on management practices. A stalled horse will require the removal of 60 to 70 pounds of waste per day. This results in between 12 and 13 tons of waste per stall per year with 9 tons being manure, 3.5 tons urine, and the remainder bedding.

The density of horse manure is about 63 lb/ft³. Annual stall waste from one horse will fill a 12 ft. x 12 ft. stall about 6 ft. deep. This leads to a steady stream of manure to handle.

SIEVERS EQUINE SERVICE

FAST FACTS ABOUT

VITAL SIGNS FOR ADULT HORSES

TEMPERATURE: 99.5 – 101 degrees Fahrenheit

- lubricate a digital thermometer (petroleum jelly, Vaseline, or saliva)
- stand beside the horse's rump, facing the tail, and lift the tail
- slide tip of thermometer into horse's anus about 2"
- keep tip of thermometer against side of rectal wall
- wait for the beep and check temperature

PULSE: 30 – 40 beats per minute

- place end of a stethoscope just behind your horse's left elbow
 - count beats for 15 seconds, multiply by four
- or
- place three fingers against the thick artery that runs near the front of jawbone
 - press firmly inward and upward
 - count each surge of blood for 30 seconds, multiply by two

RESPIRATION: 8 – 20 breaths per minute

- stand about 12 inches from the horse's shoulder, facing hindquarters
 - look at the curved outline of the belly
 - count either each expansion or relaxation of the belly for one minute
- or
- watch the horse's nostrils, the breaths for 15 seconds, multiply by four

HYDRATION LEVEL or CAPILLARY REFILL: 2 seconds or less

- lift the horse's upper lip
- press your thumb on the horse's gum above the corner incisor for 2 seconds
- pink color should return within 1 - 2 seconds

HYDRATION LEVEL or PINCH TEST: an immediate return of skin to normal position

- pinch a small amount of skin at point of shoulder (or eyelid) into a fold $\frac{3}{4}$ inch high
- release it

GUM COLOR/CIRCULATION: pink

- lift the horse's upper lip and look at gum or inside nostrils, or lining of eyelids

GUT or INTESTINAL SOUNDS: gurgles, grumbles, squeaks, bubbles on both sides

- place a stethoscope along the horse's barrel, near the flank
 - listen in several places on both sides
- or
- place your ear against the horse's stomach behind his ribs

SIEVERS EQUINE SERVICE

FAST FACTS ABOUT BOTULISM

DEFINITION

BOTULISM IS AN OFTEN-LETHAL PROGRESSIVE NEUROMUSCULAR DISEASE. BOTULISM PRESENTS IN ONE OF THREE WAYS: 1) "FORAGE POISONING" (USUALLY TYPE C TOXIN) OCCURS IN ADULTS THAT INGEST PREFORMED BOTULINUM TOXIN IN IMPROPERLY DRIED/PROCESSED FORAGES (BALED HAY, SILAGE, HAYLAGE, HAY CUBES, ETC.) OR FEED CONTAMINATED WITH ANIMAL CARCASSES CONTAINING *C.BOTULINUM*. 2) "TOXICOINFECTIOUS BOTULISM" OR "SHAKER FOAL SYNDROME" OCCURS WHEN THE BACTERIUM ITSELF IS INGESTED FROM THE SOIL, GROWS IN THE GASTROINTESTINAL TRACT, AND PRODUCES TOXIN (USUALLY TYPE B TOXIN). THIS FORM OF THE DISEASE AFFECTS FOALS FROM A FEW DAYS OLD TO SEVERAL MONTHS OF AGE, USUALLY THOSE BORN TO DAMS THAT RECENTLY MOVED TO A REGION WHERE DISEASE IS KNOWN TO EXIST (ENDEMIC) OR WERE NOT VACCINATED DURING PREGNANCY. 3) "WOUND BOTULISM" IS THE LEAST COMMON FORM OF BOTULISM AND OCCURS WHEN *C. BOTULINUM* ESTABLISHES INFECTION WITHIN A SEALED WOUND, INCLUDING INJECTION SITE ABSCESSSES, UMBILICAL INFECTIONS, DEEP UNCTURE WOUNDS, AND CASTRATION SITES. TOXIN IS PRODUCED AS THE BACTERIUM GROWS AND IS ABSORBED INTO THE BLOODSTREAM.

CAUSE

BOTULISM IS CAUSED BY BOTULINUM TOXIN, A DANGEROUS PROTEIN PRODUCED BY THE BACTERIUM *CLOSTRIDIUM BOTULINUM*. THIS SPORE-FORMING BACTERIUM LIVES THROUGHOUT THE ENVIRONMENT (SOIL & DECCAYING ANIMAL CARCASSES) AND UNDER THE RIGHT CONDITIONS CAN PRODUCE ONE OF EIGHT TOXINS WITH TYPE B BEING THE MOST COMMON TOXIN AFFECTING HORSES. THE DISEASE CAN AFFECT NEARLY ALL WARBLOODED ANIMALS, BUT HORSES ARE THE MOST SENSITIVE OF DOMESTICATED ANIMALS TO BOTULISM.

CLINICAL SIGNS

CLINICAL SIGNS MAY VARY FROM MILD TO SEVERE DEPENDING ON THE AMOUNT OF TOXIN INGESTED OR BEING PRODUCED IN THE BODY. WHILE THE ROUTE OF TOXICOSIS MAY DIFFER, SIGNS ARE GENERALLY THE SAME AND CAN INCLUDE: DIFFICULTY SWALLOWING, DROPPING FOOD, DROOLING, EATING MORE SLOWLY OR NOT AT ALL, LEAKING MILK FROM MOUTH WHILE SUCKLING (IN FOALS), POOR MUSCLE TONE (REDUCED TONGUE TONE, EYELID DROOP, POOR TAIL TONE), WEAKNESS, TREMORS, INABILITY TO RISE, COLIC, ABNORMAL RESPIRTORY PATTERN AND RATE.

DIAGNOSIS

SINCE TESTS TO DEFINITELY DIAGNOSIS BOTULISM (ID TOXIN IN FEEDSTUFFS OR FECES OR ANTIBODY RESPONSE) ARE VERY CHALLENGING AND TIME-CONSUMING, BOTULISM IS GENERALLY DIAGNOSED BY RULING OUT OTHER POTENTIAL DISEASES. RESPONSE TO TREATMENT IS A COMMON METHOD OF "CONFIRMING" BOTULISM.

TREATMENT

BOTULISM IS DIFFICULT TO TREAT. PROMPT ADMINISTRATION OF BOTULISM ANTISERA CONTAINING NEUTRALIZING ANTIBODIES THAT BIND TO THE TOXIN CIRCULATING IN THE BLOODSTREAM IS THE TREATMENT OF CHOICE. INTENSIVE NURSING CARE IS REQUIRED, INCLUDING HYDRATION, ADMINISTRATION OF ANTIBIOTICS, MAINTAINING RECUMBENT HORSES IN A STERNAL POSITION, CATHETERIZING THE BLADDER, AND MINIMIZING PRESSURE SORES.

PROGNOSIS

PROGNOSIS DEPENDS ON THE DOSE OF TOXIN, HOW QUICKLY ANTISERA IS ADMINISTERED, AND WHETHER OR NOT THE ANIMAL IS RECUMBENT. ONCE A HORSE IS RECUMBENT FOR 24 HOURS, PROGNOSIS IS POOR. UNTREATED FOALS CAN SUFFER UP TO 90% MORTALITY. MORTALITY IN UNTREATED ADULTS IS ALSO HIGH. ADULT HORSES AND FOALS THAT RECUPERATE APPEAR TO RECOVER FULLY, WITH NO RESIDUAL NERVOUS SYSTEM DEFICITS OR MUSCLE WEAKNESS.

PREVENTION

VACCINATION HAS BEEN VERY EFFECTIVE IN PREVENTING THIS DISEASE. MANAGEMENT FACTORS INCLUDE: ENSURE HAY IS BALED IN THE 35°-50° MOISTURE LEVEL, DON'T FEED SILAGE TO HORSES UNLESS VACCINATED, WHEN RAKING HAY, LIFT TINES OF RAKE UP SO THEY DON'T PULL EARTH INTO HAY, DON'T APPLY POULTRY MANURE TO HAY FIELDS, AND WATCH FOR ACCIDENTAL INCORPORATION OF ANIMAL CARCASSES INTO THE BALES.

VACCINATION

AN INACTIVATED TOXOID IS USED AGAINST BOTULISM. IT PROTECTS AGAINST TYPE B ONLY.

SIEVERS EQUINE SERVICE

FAST FACTS ABOUT CONTAGIOUS EQUINE METRITIS (CEM)

DEFINITION

CONTAGIOUS EQUINE METRITIS IS A HIGHLY TRANSMISSABLE VENEREAL DISEASE OF HORSES. CEM IS COMMONLY TRANSMITTED DIRECTLY DURING SEXUAL INTERCOURSE BETWEEN UNDETECTED CEM-POSITIVE BREEDING MARES AND STALLIONS. IT CAN ALSO BE TRANSMITTED ON CONTAMINATED INSEMINATION EQUIPMENT OR HANDS. MARES MAY BECOME CHRONICALLY INFECTED AND REMAIN CARRIERS OF THE ORGANISM FOR SEVERAL MONTHS OR LONGER. STALLIONS CARRY THE ORGANISM FOR SEVERAL YEARS ON THEIR EXTERNAL GENITALIA. BECAUSE ANIMALS MAY BE ASYMPTOMATIC, THE DISEASE IS DIFFICULT TO DETECT AND CONTROL.

CAUSE

THE DISEASE IS CAUSED BY THE BACTERIUM *TAYLORELLA EQUIGENITALIS*. THERE IS NO EVIDENCE THAT MAN IS AFFECTED BY THE ORGANISM.

CLINICAL SIGNS

INFECTED STALLIONS DISPLAY NO CLINICAL SIGNS. MARES DEVELOP METRITIS AND TEMPORARY INFERTILITY, BUT NO SYSTEMIC SIGNS. SOME INFECTIONS ARE SUBCLINICAL. THE ONLY SIGN MAY BE A RETURN TO ESTRUS AFTER A SHORTENED ESTRUS CYCLE. OTHER MARES ALSO DEVELOP A MUCOPURULENT VAGINAL DISCHARGE A WEEK OR TWO AFTER BREEDING. THE DISCHARGE OFTEN DISAPPEARS AFTER A FEW DAYS TO TWO WEEKS. MOST INFECTED MARES DO NOT CONCEIVE. THOSE THAT DO CONCEIVE MAY ABORT THE FETUS OR CARRY AN INFECTED FOAL TO TERM. THE NEWBORN FOAL MAY THEN BECOME A CARRIER OF THE CAUSATIVE ORGANISM.

DIAGNOSIS

IN BOTH THE ACUTE AND CHRONIC STAGES OF THE DISEASE, ISOLATION OF THE BACTERIUM IS NECESSARY FOR A DIAGNOSIS. SWABS FOR BACTERIOLOGIC CULTURES ARE TAKEN FROM SPECIFIC SITES IN MARES AND STALLIONS. VARIOUS SEROLOGIC TESTS MAY BE USED IN MARES ONLY TO DETECT ANTIBODIES TO THE CAUSATIVE ORGANISM. IN STALLIONS, DETECTABLE ANTIBODIES DO NOT DEVELOP.

TREATMENT

MARES CANNOT BE SUCCESSFULLY TREATED UNTIL THE BACTERIA CLEAR FROM THE UTERUS WHICH MAY TAKE SEVERAL MONTHS. THE EXTERNAL GENITALIA OF MARES AND STALLIONS CAN BE TREATED WITH DISINFECTANTS AND ANTIBIOTICS.

PROGNOSIS

TREATMENT CAN TAKE UP TO SEVERAL WEEKS IN MARES. THE ORGANISM MAY BE MORE READILY ELIMINATED IN STALLIONS.

PREVENTION

THE ORGANISM HAS BEEN ERADICATED FROM SOME COUNTRIES BY SURVEILLANCE/TESTING, QUARANTINE OF INFECTED ANIMALS, TREATMENT, AND A BAN ON BREEDING FROM INFECTED ANIMALS.

VACCINATION

THERE IS NO VACCINE AND BECAUSE OF THE NATURE OF THE DISEASE AND THE CARRIER STATE, VACCINATION IS NOT A PRACTICAL OR RECOMMENDED PROCEDURE FOR PREVENTING TRANSMISSION OF THE INFECTION.

SIEVERS EQUINE SERVICE

FAST FACTS ABOUT EQUINE ENCEPHALOMYELITIS (Sleeping Sickness)

DEFINITION

ENCEPHALOMYELITIS (EASTERN, WESTERN, AND VENEZUELAN) ARE DISEASES OF THE HORSE'S CENTRAL NERVOUS SYSTEM. WILD ANIMALS AND BIRDS ACTS AS HOSTS AND MOSQUITOES ARE RESPONSIBLE FOR SPREADING THE VIRUS TO HORSES. THE VIRUSES CAN ALSO INFECTION HUMANS.

CAUSE

THE THREE FORMS (EEE, WEE, VEE) OF THIS DISEASE ARE CAUSED BY *ALPHAVIRUSES*.

CLINICAL SIGNS

INITIALLY, A SUBTLE CHANGE IN BEHAVIOR AND WITHIN A SHORT TIME, ANIMALS REFUSE TO EAT OR DRINK. FEVER AND DEPRESSION ALWAYS OCCUR AS THE CONDITION PROGRESSES. EVENTUALLY HORSES WILL EXHIBIT CIRCLING, BLINDNESS, HEAD-PRESSING, SEIZURES, AND OFTEN A DROOPING LIP. AS DISEASE PROGRESSES, PARALYSIS OCCURS AND THE ANIMAL BECOMES COMATOSE.

DIAGNOSIS

CLINICAL SIGNS AND THE ANIMAL BEING IN A GEOGRAPHIC AREA WHERE THESE DISEASES ARE PREVALENT DURING MOSQUITO SEASON. TESTS ON CEREBROSPINAL FLUID AND SERUM SAMPLES ARE USEFUL, BUT DEFINITIVE DIAGNOSIS CAN ONLY BE MADE ON POSTMORTEM EVALUATION.

TREATMENT

REST AND SUPPORTIVE NURSING CARE IS PRIMARY. MEDICATIONS TO REDUCE INFLAMMATION AND CONTROL SEIZURES ARE USEFUL. IV FLUID THERAPY IS OFTEN INDICATED.

PROGNOSIS

DEATH FROM EEE OCCURS IN 75% OF HORSES THAT DEVELOP NEUROLOGIC SIGNS, AND IN 15-30% OF THOSE WITH WEE. SURVIVORS SHOW GRADUAL IMPROVEMENT OVER WEEKS TO MONTHS, BUT COMPLETE RECOVERY IS RARE. HORSES THAT RECOVER OFTEN CONTINUE TO SHOW DEPRESSION, ABNORMAL BEHAVIOR, AND DIFFICULTY WALKING.

PREVENTION

VACCINATION AND INSECT CONTROL PROGRAMS.

VACCINATION

ANNUAL SPRING VACCINATION IS RECOMMENDED.

SIEVERS EQUINE SERVICE

FAST FACTS ABOUT EQUINE INFECTIOUS ANEMIA **(EIA, Swamp Fever)**

DEFINITION

EIA IS A COMMUNICABLE (BUT NOT CONTAGIOUS) DISEASE THAT AFFECTS THE HORSE'S IMMUNE SYSTEM. BECAUSE EIA INFECTED HORSES REMAIN INFECTED FOR LIFE, POSING A THREAT TO OTHER HORSES, MOST STATES REQUIRE THAT TEST POSITIVE HORSES MUST BE QUARANTINED FOR LIFE OR EUTHANIZED. THE FEDERAL GOVERNMENT REQUIRES THAT HORSES BEING IMPORTED FROM FOREIGN COUNTRIES TEST NEGATIVE TO THE COGGINS TEST AND EACH STATE HAS ITS OWN SPECIFIC REQUIREMENTS FOR EIA.

CAUSE

EIA IS CAUSED BY A *RETROVIRUS* THAT HAS A CLOSE RELATIONSHIP WITH HUMAN IMMUNODEFICIENCY VIRUS (HIV). EIA IS TRANSMITTED BETWEEN INFECTED AND UNINFECTED HORSES BY TRANSFER OF BLOOD VIA BLOOD-SUCKING INSECTS OR BY USE OF CONTAMINATED EQUIPMENT.

CLINICAL SIGNS

SYMPTOMS VARY FROM HORSE TO HORSE AND MIMIC OTHER DISEASES. SOME ANIMALS MAY DEMONSTRATE NO OBVIOUS SIGNS. SIGNS MAY INCLUDE ANY OF THE FOLLOWING: FEVER, DEPRESSION, DECREASED APPETITE, FATIGUE, RAPID BREATHING, SWEATING, WEIGHT LOSS, WEAKNESS, COLIC, SWELLING OF LEGS AND ABDOMEN.

DIAGNOSIS

DIAGNOSIS IS MADE BY USING ONE OF TWO APPROVED BLOOD TESTS – THE COGGINS TEST, OR AN ELISA TEST. ELISA MAY NOT BE AS ACCURATE AS THE COGGINS.

TREATMENT

THERE IS NO EFFECTIVE TREATMENT FOR EIA.

PROGNOSIS

THERE IS NO CURE FOR EIA. ALTHOUGH MOST INFECTED HORSES SHOW NO SYMPTOMS, THEY REMAIN INFECTIOUS FOR LIFE. THEY ARE UNABLE TO CLEAR THE VIRUS FROM THEIR BODIES AND THEREFORE, CONTINUALLY ENDANGER THE HEALTH OF OTHER HORSES.

PREVENTION

CONTROL MEASURES TO DECREASE CHANCES OF EXPOSURE TO EIA INCLUDE REQUIRING NEGATIVE TEST RESULTS FOR NEW ARRIVALS OR SHOW/EVENT PARTICIPANTS AND ANNUAL TESTS AS PART OF A HEALTH PROGRAM, FLY CONTROL, GOOD STABLE MANAGEMENT PROCEDURES (DISPOSABLE NEEDLES AND SYRINGES, CLEAN DENTAL INSTRUMENTS, NO SHARING OF BITS), AND PASTURE MANAGEMENT: (REMOVE MANURE AND PROVIDE ADEQUATE DRAINAGE TO DISCOURAGE BREEDING SITES FOR PESTS).

VACCINATION

THERE IS NO VACCINE CURRENTLY AVAILABLE TO PREVENT EIA. THE EIA VIRUS UNDERGOES CHANGES WITHIN THE HORSE MAKING VACCINE DEVELOPMENT DIFFICULT.

SIEVERS EQUINE SERVICE

FAST FACTS ABOUT EQUINE INFLUENZA (FLU)

DEFINITION

EQUINE INFLUENZA ("FLU") IS AN ACUTE, HIGHLY CONTAGIOUS RESPIRATORY DISEASE.

CAUSE

THE INFLUENZA VIRUS, *MYXOVIRUS A-EQUI* IS THE CAUSATIVE AGENT.

CLINICAL SIGNS

THE INCUBATION PERIOD IS 1-3 DAYS AND SIGNS BEGIN SUDDENLY WITH A HIGH FEVER. A DRY, HARSH COUGH BEGINS EARLY AND MAY LAST FOR WEEKS. NASAL DISCHARGE INITIALLY IS WATERY AND SCANT, BUT MAY BECOME YELLOW AND HEAVY, AND BREATHING DIFFICULTY MAY BE OBSERVED. DEPRESSION, LOSS OF APPETITE, AND WEAKNESS ARE COMMON.

DIAGNOSIS

THE CLINICAL SIGNS ARE PRIMARILY USED TO BASE THE DIAGNOSIS UPON. VIRAL ISOLATION FROM NOSE AND THROAT SWABS AND ANTIBODY LEVELS FROM BLOOD SAMPLES ARE DEFINITIVE.

TREATMENT

REST AND SUPPORTIVE NURSING CARE MAY BE ALL THAT IS REQUIRED; MEDICATIONS TO REDUCE FEVER AND ANTIBIOTICS IF FEVER LASTS MORE THAN 3-4 DAYS ARE HELPFUL.

PROGNOSIS

RECOVERY IN MILD CASES OCCURS WITHIN 2 WEEKS. COMPLICATIONS OF BACTERIAL INFECTIONS, CHRONIC BRONCHITIS, OR INFLAMMATION OF HEART MUSCLE CAN BE PREVENTED BY RESTRICTING EXERCISE, CONTROLLING DUST AND PROVIDING EXCELLENT VENTILATION.

PREVENTION

STRICT QUARANTINE OF ANY NEW ANIMALS BROUGHT ON THE PREMISES, IMMEDIATE ISOLATION OF SICK

VACCINATION

VACCINATION OF ALL HEALTHY HORSES SHOULD BE DONE AT AN EARLY AGE, WITH ADEQUATE BOOSTERING AND FREQUENT REVACCINATION (FREQUENCY DEPENDS ON FACTORS WHICH VARY FARM TO FARM).

-Dr. Lyda W. Denney-

SIEVERS EQUINE SERVICE

FAST FACTS ABOUT EQUINE PROTOZOAL MYELOENCEPHALITIS (EPM)

DEFINITION

EPM IS A DEBILITATING DISEASE THAT RESULTS IN WEAKNESS, INCOORDINATION, SPASTICITY, AND MAY BE FATAL. IT IS CONSIDERED THE #1 CAUSE OF NEUROLOGIC PROBLEMS IN HORSES TODAY.

CAUSE

THIS DISORDER IS CAUSED BY THE PROTOZOA *SARCOCYTIS NEURONA*. THE PROTOZOA ARE SPREAD BY OPOSSUMS THAT ACQUIRE THEM FROM INFECTED BIRDS. INFECTIVE STAGES OF THE ORGANISM ARE PASSED IN AN OPOSSUM'S FECES THAT THE HORSE COMES IN CONTACT WITH WHEN EATING CONTAMINATED FEED OR WATER.

CLINICAL SIGNS

IT TAKES A MINIMUM OF 4 WEEKS AND MAY REQUIRE YEARS FOR CLINICAL SIGNS TO DEVELOP. IT MAY ONLY BE SEEN WHEN ANIMAL IS UNDER STRESS. SIGNS WHICH CAN VARY FROM MILD TO SEVERE INCLUDE ABNORMAL GAIT, INCOORDINATION, WEAKNESS, MUSCLE ATROPHY, FATIGUE, SEIZURES, ABNORMAL SWEATING AND BEHAVIORAL CHANGES.

DIAGNOSIS

THE CLINICAL SIGNS CAN BE USED TO BASE THE DIAGNOSIS UPON. BLOOD (USUALLY INCONCLUSIVE) AND CEREBROSPINAL FLUID CAN BE ANALYZED. TRIAL AND ERROR METHOD NOTING ANY RESPONSE TO TREATMENT IN THE FIRST 10-14 DAYS.

TREATMENT

GOALS OF TREATMENT INCLUDE ELIMINATING THE PARASITE (USING ANTI-PROTOZOAL DRUGS), REDUCING INFLAMMATION (NONSTEROIDAL ANTI-INFLAMMATORY DRUGS), AND TREATING ANY SECONDARY COMPLICATIONS

PROGNOSIS

IF DIAGNOSED EARLY, RECOVERY TO NORMAL USUALLY OCCURS IN 50-70% OF HORSES. RESPONSE IN FIRST 10-14 DAYS OF TREATMENT IS A GOOD INDICATOR IN THE PROGNOSIS. THOSE DIAGNOSED EARLY AND MILDLY AFFECTED ARE MORE LIKELY TO RETURN TO NORMAL.

PREVENTION

PREVENT ACCESS OF OPOSSUMS TO FEED, HAY, AND WATER. TRAP OPOSSUMS. KEEP STABLE AND FEED AREAS CLEAN. SEAL FEEDS IN CONTAINERS. DO NOT FEED GRAIN SWEEPED FROM FLOOR. FEED HEAT-TREATED CEREAL GRAINS.

VACCINATION

A VACCINE, THE EFFICACY OF WHICH IS STILL BEING ANALYZED, HAS RECENTLY (2001) BECOME AVAILABLE. INITIAL VACCINATION CONSISTS OF 2 INJECTIONS, FOLLOWED BY AN ANNUAL BOOSTER.

SIEVERS EQUINE SERVICE

FAST FACTS ABOUT EQUINE RHINOPNEUMONITIS

DEFINITION

EQUINE RHINOPNEUMONITIS (EHV-1 & 4) IS A RESPIRATORY DISEASE, COMMON IN AREAS OF HIGH HORSE CONCENTRATION, ESPECIALLY AMONG WEANLINGS; ANOTHER FORM (EHV-1) OF THE DISEASE CAN CAUSE ABORTION AS WELL.

CAUSE

The virus Herpes virus 1 and Herpes virus 4 are the causative agents.

CLINICAL SIGNS

SIGNS OF EHV-1 & 4 INCLUDE FEVER, CONGESTION, COUGH, LOSS OF APPETITE, NASAL AND EYE DISCHARGES, FATIGUE, AND SWOLLEN LYMPH NODES (ESPECIALLY IN YOUNG HORSES). EHV-1 CAN ALSO CAUSE ABORTION, STILLBIRTHS OR WEAK FOALS, AND NEUROLOGIC DISEASE.

DIAGNOSIS

THE CLINICAL SIGNS (FOR RESPIRATORY EHV-1 & 4) ARE PRIMARILY USED TO BASE THE DIAGNOSIS. ALTHOUGH SIMILAR TO OTHER RESPIRATORY DISEASES, VIRAL ISOLATION FROM NOSE AND THROAT SWABS IS DIFFICULT AND CHECKING ANTIBODY LEVELS FROM BLOOD SAMPLES IS OFTEN NOT RELIABLE. EXAMINATION OF AN ABORTED FETUS IS NECESSARY FOR DIAGNOSIS (OF EHV-1 ABORTION).

TREATMENT

NO SPECIFIC TREATMENT FOR THE RESPIRATORY DISEASE OR FOR ABORTION OR WEAK FOALS. REST AND SUPPORTIVE NURSING CARE AND ANTIBIOTICS FOR SECONDARY INFECTIONS. MEDICATIONS IF FEVER OVER 104°F.

PROGNOSIS

RECOVERY IN UNCOMPLICATED CASES OCCURS WITHIN SEVERAL WEEKS. FREQUENTLY, BACTERIAL INFECTIONS FOLLOW. HEALTH AND PERFORMANCE CAPABILITY MAY BE PERMANENTLY AFFECTED UNLESS TRAINING IS DISCONTINUED AND STALLS ARE WELL VENTILATED AND DUST-FREE. RECOGNITION OF DISEASE IS ESSENTIAL TO PREVENT AN "ABORTION STORM" OR RESPIRATORY OUTBREAK AMONG ALL HORSES.

PREVENTION

STRICT QUARANTINE OF ANY NEW ANIMALS BROUGHT ON THE PREMISES AND IMMEDIATE ISOLATION OF SICK HORSES. VACCINATION PROGRAM SHOULD INCLUDE ALL HORSES ON PREMISES. AFTER AN ABORTION; CLEAN AND DISINFECT AREA. ALL MARES IN CONTACT WITH AFFECTED MARE SHOULD BE ISOLATED AND HANDLERS MUST BE CAREFUL TO NOT SPREAD DISEASE BY EQUIPMENT OR HANDS.

VACCINATION

Vaccination of all healthy horses should be done with adequate boosting and frequency of these revaccinations (frequency depends on factors, which vary farm to farm). Vaccination helps prevent disease and reduces the amount of virus shed.

SIEVERS EQUINE SERVICE

FAST FACTS ABOUT

EQUINE VIRAL ARTERITIS

(EVA)

DEFINITION

EVA IS A CONTAGIOUS DISEASE THAT ATTACKS THE CIRCULATORY, RESPIRATORY, AND REPRODUCTIVE SYSTEMS. ALTHOUGH OCCURRING RATHER INFREQUENTLY, IT CAN HAVE A DEVASTATING EFFECT ON BROODMARES AND STALLIONS. THE MOST SERIOUS CONSEQUENCES OF EVA ARE ABORTION AND PERMANENT ESTABLISHMENT OF THE CARRIER STATE IN A HIGH PERCENTAGE OF INFECTED STALLIONS.

CAUSE

EVA IS CAUSED BY A VIRUS CALLED *EQUINE ARTERITIS VIRUS*; IT CAN BE TRANSMITTED BY ACUTELY AFFECTED HORSES THROUGH THE RESPIRATORY ROUTE OR VENEREAL ROUTE.

CLINICAL SIGNS

ANY COMBINATION OR ALL OF THE FOLLOWING SIGNS CAN BE SEEN: FEVER, SWELLING OF THE LIMBS, LACK OF APPETITE, DEPRESSION, SWELLING OF THE EXTERNAL GENITALIA IN THE MALE OR OF THE MAMMARY GLANDS IN THE MARE, CONJUNCTIVITIS, NASAL DISCHARGE, SKIN RASH, AND ABORTION IN MARES. INFECTION IN VERY YOUNG FOALS CAN CAUSE SEVERE PNEUMONIA AND DEATH. MOST CASES OF INFECTION WITH EAV NEVER DEVELOP CLINICAL SIGNS.

DIAGNOSIS

RESPIRATORY DISEASE = BLOOD SAMPLES AND NASAL SWABS. ABORTION = SAMPLES OF FETUS AND PLACENTA. SUSPICION OF SHEDDING STALLION = SEMEN SAMPLE

TREATMENT

THERE IS NO SPECIFIC TREATMENT FOR EVA.

PROGNOSIS

ALMOST ALL HORSES RECOVER FROM EVA WITHIN 7-14 DAYS, WITH THE EXCEPTION OF SOME VERY YOUNG FOALS. FEVER IN STALLIONS CAN LEAD TO TEMPORARY INFERTILITY. AFTER ACUTE INFECTION, CARRIER STALLIONS CAN SHED VIRUS FOR YEARS IN THEIR SEMEN (CARRIER RATE AMONG POSITIVE STALLIONS CAN = 40-45%).

PREVENTION

MANAGEMENT TECHNIQUES, SUCH AS ISOLATION OF NEW ARRIVALS TO THE FARM AND BLOOD TESTING ALL BREEDING ANIMALS WITH IDENTIFICATION OF CARRIERS, ARE EFFECTIVE IN LIMITING EXPOSURE TO EVA. VACCINATION OF BREEDING ANIMALS IS A FIRST LINE OF DEFENSE. BECAUSE OF THE ECONOMIC IMPACT ON U.S. HORSE OWNERS, A VOLUNTARY EVA CONTROL PROGRAM THAT INCLUDES PROTOCOLS FOR IDENTIFYING AND MANAGING SOURCES OF EVA INFECTION (BY WAY OF CARRIER STALLIONS OR VIRUS INFECTIVE SEMEN) AND FOR ASSISTING STALLION OWNERS IN PREVENTING ESTABLISHMENT OF THE CARRIER STATE AND MINIMIZE THE RISK OF EVA ABORTION IN MARES HAS BEEN DEVELOPED. KENTUCKY AND NY ALSO HAVE REGULATIONS IN PLACE FOR THOROUGHBREDS REGARDING PROTOCOLS OF BREEDING SHEDDING STALLIONS.

VACCINATION

THE VACCINE IS A SINGLE-DOSE PRODUCT, BUT REQUIRES AN ANNUAL BOOSTER.

SIEVERS EQUINE SERVICE

FAST FACTS ABOUT LYME DISEASE

DEFINITION

LYME DISEASE IS MULTISYSTEMIC DISEASE AFFECTING PRIMARILY THE JOINTS, THE MUSCULOSKELETAL SYSTEM AND THE NEUROLOGICAL SYSTEM.

CAUSE

THIS ILLNESS (AFFECTING HUMANS AND MANY DOMESTIC ANIMAL SPECIES) IS CAUSED BY THE SPIROCHETAL (CORKSCREW SHAPED) BACTERIA *BORRELIA BURGDORFERI* WHICH IS TRANSMITTED BY THE BITE OF INFECTED "DEER" OR "BLACK-LEGGED TICKS". TICKS CONTRACT THE BACTERIA BY FEEDING ON A RODENT, WHICH IS ALREADY INFECTED WITH *BORRELIA BURGDORFERI*. ADULT TICKS, WHICH ARE PRESENT IN THE FALL AND EARLY SPRING, ARE THE STAGE MOST LIKELY TO FEED ON HORSES.

CLINICAL SIGNS

CLINICAL SIGNS APPEAR IN LESS THAN 10% OF HORSES THAT ARE INFECTED WITH THE BACTERIA. MOST COMMON SIGNS = LAMENESS (SHIFTING FROM LIMB TO LIMB AND GENERALIZED STIFFNESS) AND BEHAVIORAL CHANGES (IRRITABILITY, UNWILLINGNESS TO WORK).

DIAGNOSIS

PRESUMPTIVE "EVIDENCE" IS USED IN DIAGNOSING LYME DISEASE: HISTORY OF TICK EXPOSURE IN AN AREA WHERE THERE IS KNOWN LYME DISEASE (ENDEMIC DISEASE), A THOROUGH VETERINARY EXAM TO RULE OUT OTHER POSSIBLE CAUSES, POSITIVE BLOOD TESTS (INDICATE ONLY EXPOSURE TO THE BACTERIA, NOT THAT ILLNESS IS LYME DISEASE), AND RELIEF OF SIGNS AFTER ANTIBIOTIC THERAPY.

TREATMENT

LYME DISEASE IS TREATED WITH ANTIBIOTICS, ANTI-INFLAMMATORY DRUGS AND/OR MEDICINES TO HELP REPLACE THE NORMAL INTESTINAL BACTERIA KILLED BY THE ANITIBIOTICS.

PROGNOSIS

LYME DISEASE CAN BE CURED WITH ANTIBIOTICS. SOME HORSES DEVELOP LAMINITIS AS A RESULT OF A REACTION TO TOXINS RELEASED BY BACTERIA KILLED THE FIRST FEW DAYS OF TREATMENT.

PREVENTION

TICK CONTROL IS OF PRIMARY IMPORTANCE- REDUCE TICK HABITAT (MOW PASTURES, REMOVE BRUSH, WOOD PILES, AND OTHER DEBRIS FROM PASTURE AREAS TO DISCOURAGE RODENT NESTING WHICH DECREASES TICK POPULATION). TREAT TURNED-OUT HORSES WITH INSECT REPELLENT. INSPECT HORSES DAILY FOR TICKS; REMOVE ATTACHED TICKS IMMEDIATELY. REDUCE DEER POPULATION ON YOUR PROPERTY.

VACCINATION

THERE IS NO VACCINE FOR LYME DISEASE CURRENTLY LICENSED FOR HORSES. THERE ARE SEVERAL AVAILABLE FOR DOGS AND A HUMAN FORMULATION AS WELL.

SIEVERS EQUINE SERVICE

FAST FACTS ABOUT POTOMAC HORSE FEVER (PHF)

DEFINITION

PHF, OR EQUINE MONOCYTTIC EHRLICHIOSIS, IS AN INFECTIOUS DISEASE OF THE HORSE'S GI TRACT.

CAUSE

PHF IS CAUSED BY THE RICKETTSIAL ORGANISM, *EHRLICHIA RISTICII*. HORSES CONSUME AQUATIC INSECTS CARRYING THIS CAUSATIVE AGENT. THE INSECTS WORK WITH OTHER CREATURES (SNAILS, FLATWORMS, AND BIRDS) IN A COMPLEX SCHEME THAT "HATCHES" THE RICKETTSIA IN AN AQUATIC SETTING AND TRANSMITS THEM TO HORSES IN RIVERSIDE AREAS AND FURTHER.

CLINICAL SIGNS

CLINICAL SIGNS VARY AMONG INDIVIDUALS. MOST HORSES SHOW COLIC, DEPRESSION, APPETITE LOSS, AND REDUCED GUT SOUNDS. SOME DEVELOP A FEVER OF SHORT DURATION; SOME DEVELOP DIARRHEA, WHICH RANGES FROM MILD TO SEVERE. LAMINITIS MAY DEVELOP SECONDARY TO DIARRHEA; IT MAY OCCUR EARLY OR DURING RECOVERY.

DIAGNOSIS

CLINICAL SIGNS ARE PRIMARILY USED IF IN AN AREA WHERE PHF IS KNOWN TO OCCUR. BLOOD TESTS MAY SUPPORT A DIAGNOSIS OF PHF, BUT ARE UNRELIABLE.

TREATMENT

ANTIBIOTICS AGAINST THE ORGANISM, FLUID THERAPY, NURSING AND SUPPORTIVE CARE, AND MEASURES TO PREVENT LAMINITIS.

PROGNOSIS

HORSES WITH MILD SIGNS USUALLY RECOVER WITHIN A WEEK. THOSE WITH SEVERE DIARRHEA MAY DIE DUE TO DEHYDRATION. LAMINITIS RANGES FROM MILD TO LIFE THREATENING.

PREVENTION

REMOVE HORSES FROM AREAS WITH CREEKS, STREAMS, OR OTHER WETLANDS WHERE AQUATIC INSECTS LIVE.

VACCINATION

VACCINATION IS RECOMMENDED IN AREAS WHERE PHF OCCURS OR IF THE HORSE WILL BE TRAVELING TO SHOWS IN SUCH AREAS. FREQUENCY DEPENDS ON EACH HORSE'S SITUATION.

SIEVERS EQUINE SERVICE

FAST FACTS ABOUT

RABIES

DEFINITION

RABIES IS A RAPIDLY PROGRESSIVE ILLNESS THAT ALMOST ALWAYS INCLUDES NEUROLOGIC SIGNS FOLLOWED BY DEATH. RABIES IS SPREAD BY BITES OF INFECTED RACCOONS, SKUNKS, FOXES, AND BATS. THIS DEADLY DISEASE CAN BE TRANSMITTED FROM HORSES TO HUMANS.

CAUSE

RABIES IS CAUSED BY A VIRAL AGENT, RHABDOVIRUS.

CLINICAL SIGNS

THERE ARE 3 FORMS OF INFECTION AND THE SIGNS CAN BE EASILY CONFUSED WITH THOSE OF OTHER DISEASES: THE "FURIOUS" FORM, A "DUMB" FORM, AND A PARALYTIC FROM. CLINICAL SIGNS CAN INCLUDE: LAMENESS, COLIC, AGGRESSION, SEIZURES, EXCESSIVE SALIVATION, INABILITY TO SWALLOW, OR SENSITIVITY TO LIGHT.

DIAGNOSIS

CLINICAL SIGNS & HISTORY ARE USED TO BASE THE DIAGNOSIS UPON. A DEFINITE DIAGNOSIS BEFORE DEATH IS DIFFICULT, ALTHOUGH TESTS ARE AVAILABLE. THE ONLY RELIABLE TESTS ARE THOSE PERFORMED ON BRAIN AND SPINAL CORD TISSUE AFTER DEATH.

TREATMENT

THERE IS NO TREATMENT TO HALT THE PROGRESS OF RABIES.

PROGNOSIS

ONCE A POSITIVE DIAGNOSIS IS MADE, THE HORSE SHOULD BE EUTHANIZED AS SOON AS POSSIBLE.

PREVENTION

VACCINATION AGAINST RABIES IS THE EASIEST AND SUREST METHOD OF PROTECTION. REDUCE EXPOSURE TO WILDLIFE.

VACCINATION

VACCINATION SHOULD BE INCLUDED IN THE ANNUAL PREVENTATIVE MEDICINE PROGRAM. VACCINATED ANIMALS WITH KNOWN EXPOSURE TO RABIES SHOULD BE REVACCINATED QUICKLY AND PLACED UNDER OBSERVATION FOR 3 MONTHS. IF A VACCINATED ANIMAL IS SUSPECTED OF BEING EXPOSED, THE LEVEL OF IMMUNITY CAN BE CHECKED BY A LAB TEST IMMEDIATELY AFTER EXPOSURE. NONVACCINATED ANIMALS WITH A KNOWN EXPOSURE SHOULD BE EUTHANIZED.

SIEVERS EQUINE SERVICE

FAST FACTS ABOUT SALMONELLOSIS

DEFINITION

SALMONELLOSIS IS A DISORDER OF THE GASTROINTESTINAL TRACT. HORSES OF ALL AGES ARE AFFECTED, BUT IS MORE COMMON IN YOUNGER ANIMALS. STRESS SUCH AS TRAINING, TRANSPORTATION, SURGERY, ANTIBIOTIC THERAPY, OR DIETARY CHANGES CAN LEAD TO IT'S DEVELOPMENT.

CAUSE

THE SYMPTOMS OF THIS DISEASE ARE CAUSED BY TOXINS PRODUCED BY SALMONELLA SPECIES BACTERIA. 10-20% OF THE EQUINE POPULATION ARE INFECTED AND SHED SALMONELLA. TRANSMISSION TO OTHER HORSES IS BY THE ORAL ROUTE, OR ENTRY THROUGH THE UMBILICAL STUMP IN FOALS LESS THAN 30 DAYS OF AGE, OR AN OPEN WOUND. MANY TYPES OF SALMONELLA CAN BE TRANSMITTED TO PEOPLE.

CLINICAL SIGNS

ANIMALS EXHIBIT ONE OF FOUR DISTINCT SIGNS:

- (1) ACTIVE CARRIER THAT APPEARS NORMAL
- (2) DEPRESSION, FEVER, LOSS OF APPETITE
- (3) SEVERE CASE OF COLITIS WITH DIARRHEA
- (4) SEPTICEMIA-BONE AND JOINT INFECTIONS

DIAGNOSIS

Fecal samples taken on a daily basis for 3-5 days or cultures of joint fluid.

TREATMENT

Fluid & electrolyte therapy, nonsteroidal anti-inflammatory drugs, antibiotics, anti-diarrheal medications, and anti-serum in horses with colitis.

PROGNOSIS

GUARDED; HOWEVER, IF PROPER TREATMENT IS RECEIVED, 90% WILL SURVIVE. SOME OF THESE ANIMALS WILL REMAIN CARRIERS AND INFECT OTHER HORSES. LAMINITIS MAY OCCUR.

PREVENTION

ISOLATION OF ANY SICK HORSE (ESPECIALLY THOSE WITH DIARRHEA). WASHING OF HANDS AFTER HANDLING SICK ANIMAL. IMMEDIATE ATTENTION TO WOUNDS. TREATING NAVELS OF NEWBORNS. FREQUENT AND THOROUGH REMOVAL OF MANURE IN BARN.

VACCINATION

CURRENTLY NO VACCINE TO PREVENT SALMONELLOSIS.

SIEVERS EQUINE SERVICE

FAST FACTS ABOUT STRANGLES

DEFINITION

STRANGLES IS A COMMON, EXTREMELY CONTAGIOUS AND EASILY TRANSMITTED INFECTION OF THE UPPER RESPIRATORY TRACT. INFECTION IS BY INHALATION OR INGESTION OF PURULENT EXUDATES FROM THE NOSE OR BURST ABSCESES EITHER DIRECTLY (HORSE TO HORSE) OR THROUGH ENVIRONMENTAL CONTAMINATION. HUMANS CAN ACT AS PHYSICAL CARRIERS OF THE BACTERIA AND SPREAD INFECTION WHICH IS USUALLY INTRODUCED INTO A GROUP BY A HORSE THAT IS INCUBATING THE DISEASE OR IS A CLINICALLY HEALTHY CARRIER. EQUINE MAY CONTINUE TO SHED THE BACTERIA 4 WEEKS TO 8 MONTHS AFTER CLINICAL SIGNS ARE GONE. THE GUTTURAL POUCH IS ONE AREA IN WHICH THE ORGANISM PERSISTS.

CAUSE

THE BACTERIUM STREPTOCOCCUS EQUI IS THE CAUSATIVE AGENT.

CLINICAL SIGNS

THE INCUBATION PERIOD IS 2 -6 DAYS AND WHEN SIGNS BEGIN =LOSS OF APPETITE, FEVER, DEPRESSION; THEN DISCHARGES FROM THE NOSTRILS AND SWELLINGS (ABSCESES) FORM IN THE LYMPH GLANDS UNDER THE JAW. LYMPH NODE ENLARGEMENT MAY BE SO SEVERE AS TO CAUSE ASPHYXIATION ("STRANGLES") AND DIFFICULTY IN SWALLOWING. COUGHING MAY BE PRESENT.

DIAGNOSIS

THE CLINICAL SIGNS ARE USED TO BASE THE DIAGNOSIS ON, BUT IT TAKES A POSITIVE CULTURE WITH OR WITHOUT A POSITIVE PCR TEST TO CONFIRM THE PRESENCE OF *STREP. EQUI*. BOTH TESTS UTILIZE A SAMPLE FROM A NASAL SWAB OR GUTTURAL POUCH OR DIRECT SWAB FROM AN ENLARGED LYMPH NODE.

TREATMENT

AFFECTED HORSES SHOULD BE ISOLATED, KEPT WARM AND DRY, AND ENCOURAGED TO EAT SOFT, PALATABLE FEED. THEY SHOULD NOT BE WORKED. HOT COMPRESSES APPLIED TO ABSCESES MAY HASTEN THE RUPTURE AND HEALING. THE USE OF ANTIBIOTICS IS CONTROVERSIAL AND ONLY ON THE ADVICE OF A VETERINARIAN UNDER PARTICULAR CIRCUMSTANCES.

PROGNOSIS

CHANCE OF RECOVERY IS EXCELLENT. THE SPREAD OF STRANGLES INFECTION IS RAPID AND OFTEN REACHES 100% OF THE POPULATION, BUT MORTALITY IS TYPICALLY LOW AND INVOLVES STRESSED OR DEBILITATED ANIMALS. AFTER THE ABSCESED LYMPH NODES RUPTURE IN 2 WEEKS, RECOVERY IS RAPID (UNLESS COMPLICATIONS).

PREVENTION

STRICT QUARANTINE OF ALL NEW ANIMALS ARRIVING ON THE PREMISES. ANY NEWLY ISOLATED EQUINE WITH A NASAL DISCHARGE SHOULD BE IMMEDIATELY EXAMINED BY A VETERINARIAN. AVOID HAVING YOUR HORSE EAT OR DRINK OUT OF PUBLIC, COMMONLY SHARED FACILITIES. ATTEMPT TO MINIMIZE EXPOSURE TO OTHER HORSES, PARTICULARLY AT SHOWS AND FARMS WITH A CHANGING POPULATION. A HORSE DOES NOT HAVE TO BE SHOWING CLINICAL SIGNS OF STRANGLES TO BE CAPABLE OF INFECTING OTHERS. TESTING INCOMING HORSES FOR *STREP. EQUI* CAN BE AN EFFECTIVE TOOL IN LIMITING THE INTRODUCTION OF STRANGLES INTO A HERD OR STABLE.

VACCINATION

VACCINATION OF ALL HEALTHY HORSES SHOULD BE DONE ON HIGH-RISK FARMS, IN ENDEMIC HERDS, OR IN FACE OF AN OUTBREAK. MULTIPLE VACCINES ARE CURRENTLY AVAILABLE. CONSULT WITH A VETERINARIAN FOR YOUR PARTICULAR FARM SITUATION REGARDING VACCINATION RECOMMENDATIONS.

SIEVERS EQUINE SERVICE

FAST FACTS ABOUT TETANUS ("Lock jaw")

DEFINITION

TETANUS IS A NEUROMUSCULAR DISEASE THAT CAUSES PARALYSIS, RIGIDITY AND, OFTEN TIMES, DEATH IN HORSES.

CAUSE

TOXINS RELEASED FROM THE BACTERIA *CLOSTRIDIUM TETANI* CAUSE THIS HIGHLY INFECTIOUS DISEASE. THE BACTERIA HAS A SPORE FORM WHICH ALLOWS IT TO SURVIVE FOR MANY YEARS IN THE SOIL; THEREFORE, HORSES ARE FREQUENTLY EXPOSED TO THIS INFECTIVE FORM OF THE BACTERIA. SPORES ARE DEPOSITED DEEP WITHIN TISSUES WHEN A PENETRATING WOUND (TO SOLE OF HOOF) OR CERTAIN TYPES OF WOUNDS (CASTRATION INCISIONS, OBSTETRICAL TRAUMA, BONE FRACTURES) OCCUR AND THE BACTERIA CAN THEN GROW. INFECTION THROUGH THE UMBILICUS IS POSSIBLE IN THE NEWBORN.

CLINICAL SIGNS

SIGNS BECOME OBVIOUS WITHIN SEVERAL DAYS TO SEVERAL WEEKS. JAW MOVEMENT BECOMES RESTRICTED; SALIVA DRIPS FROM MOUTH, AND ATTEMPTS TO DRINK MAY CAUSE REGURGITATION OF FOOD AND WATER FROM THE NOSTRILS. THE THIRD EYELID MAY PROLAPSE. PARALYSIS & RIGIDITY PROGRESSES TO FACE, NECK, TRUNK AND LEGS – THE HORSE THEN STANDS WITH ALL 4 LEGS STIFF IN A CHARACTERISTIC "SAWHORSE STANCE". VIOLENT REACTIONS TO EXTERNAL STIMULI AND CONVULSIONS OCCUR. OTHER SIGNS CAN INCLUDE: PROFUSE SWEATING, COLIC, DIFFICULTY IN BREATHING; LAMINITIS AND PNEUMONIA MAY DEVELOP SECONDARILY. AFTER TREATMENT HAS BEGUN, SIGNS MAY OCCUR FOR UP TO SIX WEEKS AND MUSCLE SPASMS FOR WEEKS TO MONTHS BEFORE FULL RECOVERY.

DIAGNOSIS

CLINICAL SIGNS, HISTORY OF A RECENT WOUND, AND A LACK OF CURRENT VACCINATION ARE DIAGNOSTIC FOR TETANUS.

TREATMENT

LARGE DOSES OF ANTIBIOTICS, USUALLY PENICILLIN AND TETANUS ANTITOXIN ARE GIVEN TO KILL THE BACTERIA AND NEUTRALIZE ANY TOXIN. IF AN INFECTED WOUND IS FOUND, IT SHOULD BE IMMEDIATELY CLEANED, DEBRIDED, AND IRRIGATED WITH DISINFECTANT SOLUTIONS. SUPPORTIVE NURSING CARE IS ESSENTIAL; SYSTEMIC TRANQUILIZERS, ANTI-INFLAMMATORY DRUGS, MUSCLE RELAXANT AGENTS AND FLUID THERAPY MAY ALL BE EMPLOYED.

PROGNOSIS

GENERALLY, ABOUT 80% OF AFFECTED HORSES DIE; THEREFORE, THE PROGNOSIS IS SEVERELY GUARDED OR VERY GRAVE. IF DEATH OCCURS, IT IS USUALLY DUE TO RESPIRATORY FAILURE. COMPLICATIONS INCLUDE LAMINITIS AND PNEUMONIA.

PREVENTION

A COMPLETE VACCINATION PROGRAM.

VACCINATION

TETANUS TOXOID SHOULD BE GIVEN TO ALL HORSES BEGINNING AT 3-4 MONTHS OF AGE, BOOSTERED AGAIN AT 6 MONTHS AND THEN BE ADMINISTERED ON AN ANNUAL BASIS AS PART OF A PREVENTIVE HEALTH PROGRAM. BROOD MARES SHOULD RECEIVE A TETANUS BOOSTER DURING THE LAST 4-6 WEEKS OF PREGNANCY. ANTITOXIN SHOULD BE GIVEN TO FOALS AT BIRTH.