



# PALM BEACH EQUINE CLINIC

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## Equine Ophthalmology *by Susan M. Carastro, DVM, MS, Diplomate, American College of Veterinary Ophthalmologists*



Palm Beach Equine Clinic is proud to have great consulting relationships with many equine medical professionals throughout the country, including Dr. Susan M. Carastro, DVM, MS, of the Animal Eye Specialty Clinic. A Diplomate of the American College of Veterinary Ophthalmologists, Dr. Carastro shared her expertise this month on some of the most common diseases of the equine eye.

The horse has a uniquely developed eye suited to accommodate the lifestyle and needs of our equine companions. The location of the eyes being on the side of the head allows for a more panoramic view for protection. This is imperative to the fight or flight response as visual detection of a threat is necessary to alert the flight animals to flee.

There are a few common diseases of the horse eye that are worth having basic knowledge about. Early recognition and proper treatment is ideal to minimizing damage to the eye. Eyelid cuts or lacerations can occur with contact of numerous objects, but most commonly occur with catching the eyelid on a metal S ring on buckets or nails, or splits in the lid margin from blunt trauma. Eyelid lacerations are easily identified and repaired with primary closure or suturing.

The eyelids have an extensive blood supply

and can bleed excessively. As long as the globe is not damaged, the eyelids have an excellent capacity to heal with minimal impact on ocular health. No matter how extensive the laceration appears, every attempt should be made to salvage as much eyelid margin as possible. Allowing the eyelids to heal without suturing can result in poor cosmetic appearance, enhanced scarring, and irregular eyelid margins. The scarring can result in hair or lashes contacting the cornea surface causing chronic irritation or discomfort.

Corneal injuries are one of the most common vision-threatening and painful eye diseases that occur in horses. The cornea is the front clear part of the eye that protects the delicate intraocular structures. Ulcers are generally due to abrasion or puncture with environmental objects (hay, branches, and sand). Clinical signs of a corneal ulcer include squinting, tearing, swelling around the eye, redness to the eye, and/or cloudiness to the eye. Corneal ulcers can be confirmed by careful examination of the eye and staining with a green dye (fluorescein). Uncomplicated superficial corneal ulcers can heal without leaving any residual damage. Once an ulcer has occurred, the main concern is the risk of corneal infection. Topical therapy with antibiotics, as

well as anti-fungal agents four times daily is recommended until the ulcer heals.

Bacterial and/or fungal corneal infections can be devastating and result in loss of vision and the eye. These infections are more common in the southeastern United States with the heat and humidity supporting the growth of these organisms. If a corneal infection occurs, aggressive topical therapy up to every hour and in many cases, surgery, is necessary to save the eye.

Hourly medication can be quite difficult due to personal time constraints, and the horse will keep the eye forcefully closed because of the pain and light sensitivity. A subpalpebral lavage system can be placed for easier and more effective treatment. This is a small tube or catheter inserted through the upper or lower eyelid with the injection port being attached to the mane near the withers. The lavage allows for medication to be injected through the catheter to reach the eye without coming near the horse's head. Corneal infections in horses can take months to clear. Corneal ulcers can also be extremely painful, thus pain control with atropine and banamine will minimize discomfort and distress.

Equine recurrent uveitis or moon blindness affects horses worldwide. Uveitis is an



inflammation of the iris (colored part of the eye) that can be caused by numerous issues. These include trauma, infections in other parts of the body, or can be generated by the horse's own immune system, but there is also a genetic predisposition for Appaloosas and Draft breeds. Clinical symptoms of uveitis include a painful eye (squinting, tearing), cloudiness to the eye, and swelling around the eye. If uveitis is diagnosed, evaluation for infections or inflammations elsewhere in the body should be pursued. This may include bloodwork, titers for specific infections including Leptospirosis, abdominal ultrasound, chest radiographs, and sampling of fluid from inside the eye. If no underlying cause can be identified, the main goal is minimizing

inflammation inside of the eye to control pain and limit the impact on vision. Treatments that are used include topical steroids and nonsteroidal agents, oral steroids and nonsteroidal agents (banamine/bute), and atropine.

The frustrating part of this disease is the recurrent nature. The interval of flare-ups can range between days to years in patients. Management for horses affected with uveitis is to limit the frequency and severity of the episodes with lifelong treatment. This can be accomplished with daily maintenance medication (topical and/or oral) even when there is no active inflammation. If the eye is still having flare-ups, surgical implantation of a device impregnated with anti-inflammatory

medication called cyclosporine allows for a constant release of drug into the eye to limit episodes. If the uveitis remains poorly controlled, further consequences including cataracts, glaucoma, and retinal detachment can result in loss of vision and a painful eye requiring removal of the eye.

Eye diseases in horses can generally be managed with early recognition, assistance from your veterinarian in establishing a diagnosis, and effective treatment. Please contact your veterinarian if you notice any of the above symptoms as soon as possible, as it may save your horse's eyesight. Any of Palm Beach Equine Clinic's veterinarians are available to answer any additional questions.

## PBEC Client Reminder

# Vaccinating Against Infectious

## Diseases *by Lauren Fisher, Jump Media*

The veterinarians of Palm Beach Equine Clinic (PBEC) work every day to keep their clients' horses happy and healthy. In light of recent outbreaks of Eastern Equine Encephalitis (EEE) and the Equine Herpes Virus (EHV-1) in Palm Beach County, PBEC stresses the importance of vaccinating your horses against these and other infectious diseases, especially with horses that travel. In this article, PBEC would like to further educate horse owners on the causes, symptoms, and suggested prevention plans to avoid contracting life-threatening infectious diseases.

EEE and EHV-1 are highly infectious, dangerous diseases that often result in equine

fatalities. This year on June 6th, a case of Eastern Equine Encephalitis (EEE) was confirmed in Palm Beach County. The vaccinated, 14-month-old Arabian was moved within the county and had previously not been outside Palm Beach County since birth. Clinical signs began on May 31 and the horse was euthanized for humane reasons the same day. This was the first confirmed EEE case in Palm Beach County and the fourth confirmed case in Florida for 2016.

### **Eastern Equine Encephalitis (EEE)**

Eastern Equine Encephalitis (EEE) is a serious, mosquito-borne illness in horses that can also affect humans. In unvaccinated horses, it is





almost always fatal. The death rate for EEE is 75-95%, usually within two-three days from the onset of signs.

Symptoms usually develop in horses from two to five days after exposure. These clinical signs include stumbling, circling, head pressing, depression or apprehension, weakness of legs, partial paralysis, inability to stand, muscle twitching, or death.

EEE cannot be transmitted from horse to horse, but rather is spread by mosquitoes that serve as the vectors, or carriers, that transmit the disease. The EEE virus is maintained in nature through a cycle involving the freshwater swamp mosquito, *Culiseta melanura*, commonly known as the Blacktailed Mosquito. Two to three days after becoming infected with the virus, a mosquito is capable of transmitting the virus by biting horses and humans.

The best defense for horse owners is to maintain current equine vaccinations for Eastern Equine Encephalitis. Vaccinating at the proper time of the year is critical to protecting horses from the sometimes-fatal mosquito-borne disease. Horses vaccinated after late March should be protected during the height of mosquito season, but those that were vaccinated prior to March should receive an EEE booster. Especially in warmer climates, such as Florida where mosquitoes are present year-round, boosters should be given regularly. The vaccine should be effective for six to eight months.

### **Equine Herpes Virus (EHV-1).**

On May 12, one premises in Palm Beach County was placed under quarantine after a horse displayed neurologic signs and confirmed positive for Equine Herpes Virus (EHV-1). The 18 other horses on the premises were clinically normal at the time. The index case was euthanized for humane reasons. Biosecurity measures and twice-daily temperature monitoring were put in place. The Florida Department of Agriculture and Consumer Services continued to monitor the situation. As of May 25, the quarantine on the facility was lifted after all horses on the premises tested negative for the virus with both blood and nasal samples. Luckily, no additional EHV-1 cases were detected during the isolation period.

Equine Herpes Virus (EHV-1) is highly contagious among horses and can cause a variety of ailments. EHV are viruses that are found in most horses all over the world. Almost all horses have been infected with the virus and have no serious side effects. It is unknown what causes some of the horses to develop the serious



neurological forms that may be fatal. EHV is a family of viruses, which are named by numbers such as EHV 1, 3, 4. To date, nine EHV's have been identified worldwide, but EHV 1, 3, and 4 pose the most serious health risks for domesticated horses.

EHV-1 can cause four manifestations of disease in horses, including neurological form, respiratory disease, abortion, and neonatal death. With respiratory infections, there is often nasal and ocular discharge, but limited amounts of coughing. There may be some persistent enlargement of lymph nodes under the jaw. With the neurologic form, there are typically minimal respiratory signs and a fever (rectal temperature greater than 102 degrees F) being the only warning sign. Neurologic disease appears suddenly and is usually rapidly progressing, reaching its peak intensity within 24 to 48 hours from onset of neurologic signs.

EHV-1 is contagious and spread by direct horse-to-horse contact via the respiratory tract through nasal secretions. It is important to know that this disease can also be spread indirectly through contact with physical objects contaminated with the virus, such as: human contaminated hands or clothing, contaminated equipment and tack, contaminated trailers used for transporting horses, contaminated wipe rags or other grooming equipment, and contaminated feed and water buckets.

If your horse develops a fever, respiratory signs, or neurological signs, immediately notify your veterinarian, clean and disinfect equipment and horse housing areas, and do not move the horse or horses in the immediate area. Alert those who have horses in the adjacent area to

cease all movement of horses in and out of the facility until a diagnosis is confirmed by testing and a targeted plan for control of spread of disease is developed in consultation with your veterinarian.

While there are several vaccines available for protection against both respiratory disease and abortion as a result of EHV-1 infection, at this time there is no equine licensed vaccine that has a label claim for protection against the neurological strain of the virus (EHM). Consult with your veterinarian for further guidance if you are considering the use of EHV-1 vaccines.

### **Prevention**

Two main methods of prevention you can establish to help avoid disease outbreak on your premises include a proper vaccination program and biosecurity protection.

Biosecurity protocols are preventative measures taken to reduce the risk of transmission of infectious diseases onto your farm by people, animals, equipment, or vehicles. Biosecurity is important at all times, even when an outbreak has not occurred. Consult with your veterinarian regarding any newly developed travel restrictions and always stay current with vaccinations to protect your horses.

PBEC President Dr. Scott Swerdlin cautions clients on the importance of properly vaccinating and protecting against these diseases.

"It is imperative that equine owners maintain a regular vaccination program for their horses," Dr. Swerdlin stated. "Horses must receive the first two doses of every vaccination in order to develop a safe immune response for protection. Just giving the first dose is not enough. The first

dose gives a weak response to sensitize the horse so that when they get the second vaccine, it really charges the antibodies. I have seen people bring a horse over from Europe, give it the first vaccine and not the second, and the horse gets sick. Owners need to be really careful in the management of vaccines; the schedule must to be accurate. I recommend that imported horses be vaccinated after quarantine, and then again at 14-30 days, and then again at six months.

"For EHV-1, the immunity is not very long," Dr. Swerdlin advised. "If you are showing your horses and you are in a high density horse population, you should be vaccinating for flu/rhino every

three months or four times a year. Even if your horse is not in a high-density area and just at home, they should be vaccinated every six months. If other horses are coming and going, that is considered a high traffic flow, and all horses should be vaccinated every three months. If there is an isolated outbreak of neurogenic herpes, you should contact your local veterinarian right away for recommendations."

Dr. Swerdlin also suggests that owners vaccinate once a year for Rabies if they have horses anywhere in the Southeast or Midwest, and twice a year for the West Nile Virus.

Vaccinations can be split up so that your

horse is not receiving too many at once. For example, your horse can receive Flu/Rhino and then EEE and Tetanus vaccinations separately. However, the West Nile vaccination should always be given as a separate shot, not in combination with anything else.

Visit this link for the Equine Disease Communication Center to see where the most recent equine disease outbreaks have taken place around the country: <http://www.equinediseasecc.org/outbreaks.aspx>.

Contact your veterinarians at Palm Beach Equine Clinic for more information on disease control and prevention at 561-793-1599.

## Wolfi Gets Back to Work with the Help of Palm Beach Equine Clinic *by Lauren Fisher, Jump Media*

As one of the nation's premier equine medical centers, Palm Beach Equine Clinic (PBEC) strives to provide the very best care for every client. Treating equine athletes requires a great deal of dedication from the veterinarian; each time a horse recovers from a difficult prognosis, the hard work pays off. In the case of Wolfi, the perseverance, expertise, and compassion of PBEC's top veterinarians gave a talented horse a second chance at his career after several challenging months of treatment.

Susan Feeney is the proud owner and companion to Wolfi for the past seven years. She purchased the Oldenburg gelding when he was five years old and competes with him in the Adult Amateur Dressage divisions. Susan and Wolfi previously lived in Madrid, Spain, until a decision was made to relocate to the United States. Susan wanted to give her children the opportunity to experience life in a great town in the U.S., and she wanted to continue to train and compete Wolfi through the ranks in top equestrian venues. Wellington was the perfect place to meet both requirements! During August of 2015, the entire family, including Wolfi, two kids, three dogs, and a cat, all moved to Wellington, FL. Unfortunately, after the long journey overseas, Wolfi experienced multiple injuries upon arrival to their new life.

Following the long trip, Wolfi cut his leg getting out of the trailer in Wellington, and it became infected due to Wolfi's weakened immune system. That is when Susan and Wolfi first met Palm Beach Equine Clinic's veterinarian, Dr. Ryan Lukens.

Dr. Lukens treated the wound successfully,

but more problems followed. In September, Wolfi pulled back on the crossties and injured his right hind leg, creating two deep puncture wounds and a large, deep bone bruise. That injury resulted in bone sequestrums, which is dead bone tissue occurring within an injured bone. The sequestrums kept Wolfi's wounds from closing properly and resulted in further infections.

Wolfi underwent four surgeries in five months performed by PBEC's Head Surgeon Dr. Robert Brusie. Progress was made after each surgery, but the wounds continued to abscess, requiring additional, more aggressive treatment each time. After his fourth and final surgery, Wolfi required almost daily visits from Dr. Lukens and others at PBEC to manage his post-operative recovery.

Wolfi's injuries could have easily ended his career, but the steadfast chestnut gelding is now on the mend thanks to the wonderful care he received from the veterinarians and staff with Palm Beach Equine Clinic.

Going above and beyond for his client, Dr. Lukens also helped Susan and Wolfi find a new farm where Wolfi could be turned out in a large paddock as he healed from his injuries. A show horse that is often nervous and not accustomed to the pasture lifestyle, Wolfi now happily lives on a quiet farm in Loxahatchee. He is recovering well, enjoying his new life, and slowly being introduced back to work.

Susan stated, "On the morning of his third surgery, he was waiting in a stall in front of the paddocks and watching the horses being turned out. He was so nervous. My heart broke seeing him looking at them and knowing what



he was facing again only six weeks from the second surgery. I promised him that if he made it through, I would find a place to be able to give him a paddock. I was really happy that Dr. Lukens could help me fulfill my promise to him. He is back in work and getting stronger every day - and could not be happier with his new life and expert care from Palm Beach Equine Clinic!"

Dr. Lukens, Dr. Brusie, and the whole team at Palm Beach Equine Clinic are so happy that they were able to get Susan and Wolfi through their difficult time and consider it a privilege to have great horses and owners to work with.





**Wolfi and Dr. Ryan Lukens**

**A kind note from Susan Feeney to Palm Beach Equine Clinic:**

*"I wanted to thank all of those involved in his care (many over the months). Neither my horse nor I were always easy patients... him avoiding being given more medicine... and me just not being able to deal with any worse news as the months went on. But, Dr. Lukens did a great job on a very complicated case. Always professional yet empathetic....he led us through one hurdle after another looking for solutions and drawing on all of the resources available at the clinic to get him to the other side. He went really above and beyond and truly provided integrated care trying to do everything in his power to get my horse through and back on track.*

*Going through four surgeries in such a short period of time was devastating, but Dr. Brusie, consistent with his reputation, was great. He was patient with pushy questions about the use of alternative approaches from someone that didn't know anything...and supportive in follow-up calls and care.*

*I'm sure you have thousands of clients - I just wanted you to know that with this one and the horse she loves probably too much...I could not be happier with the care and service provided by Dr. Lukens and the Palm Beach Equine Clinic!*

*Kind Regards, Susan*



**Wolfi's injury post surgery one (left), followed by more bone dying, mounting infection and dehiscence of sutures after the first surgery (right).**



**Wolfi's injury post surgery two before a serious abscess formed (left), and pictured again following surgery number three (right).**



**Wolfi's injury five months after initial injury — about three weeks after final surgery. Surgical flushing (left), and again six months after original puncture injury (right).**