



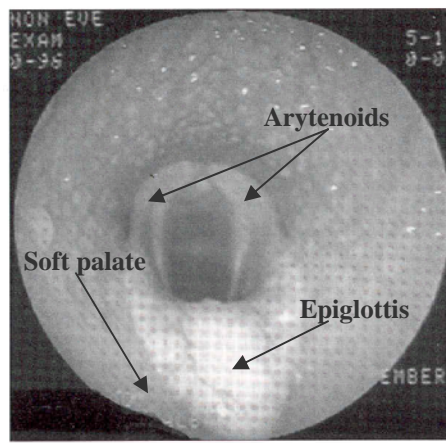
Previous VET NOTES

- October 2006 - Eastern equine encephalitis—time to vaccinate!!
- September 2006 - Gastroscopy
- August 2006 - Rhodococcal pneumonia
- July 2006 - Managing limb deformities in foal with dynaslints
- June 2006 - Disaster preparedness
- May 2006 - Mare reproductive loss syndrome (MRLS)
- April 2006 - Exercise-induced pulmonary hemorrhage
- March 2006 - The use of high speed treadmill to diagnose upper respiratory tract disorders
- February 2006 - Common medications used to assist breeding, cycle regulation and pregnancy maintenance of the mare
- January 2006 - Managing high risk pregnancies
- December 2005 - Affording the unhealthy horse
- November 2005 - Strangles
- October 2005 - The “dummy” foal
- September 2005 - New medications
- August 2005 - Extracorporeal shockwave therapy (ESWT)

Upper respiratory infections of young Thoroughbreds in training

The demanding lives of adolescent thoroughbreds in race training predispose them to acquire upper respiratory infections. Ignored, the sequelae of these infections may hold material effects on their general health, early performance, and capitalization. Adequate immunization, adept management, and appropriate medical therapy will result in juveniles prepared for early auction and their race career.

The pertinent upper respiratory anatomy affecting performance includes the nasal passages, pharynx, guttural pouches, and laryngeal cartilages, all of which are lined with mucus membrane. The mucus of these membranes contains white blood cells, antibodies, and moisture, all of which cleanses and moderates the temperature of the air entering the trachea and lungs. The nasal passages channel air from the nostrils to the pharynx. The pharynx is a corridor between the nasal passages and the laryngeal cartilages. It includes lymphatic nodules on top, the soft palate on the bottom, and flaps covering the guttural pouches on each side. Guttural pouches are cul-de-sacs extending outwardly and are responsible for cooling blood entering the brain. These pouches are analogous to human Eustachian tubes. The larynx is a collection of cartilages attached to the most forward extent of the trachea. The arytenoids are two of these cartilages and must be pulled open with each breath. Under normal circumstances, the larynx is the point of



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maximum airflow resistance. The epiglottis is a muscular and cartilaginous triangular-shaped structure that extends forward from the bottom of the larynx, the tip of which normally rests over the soft palate. The epiglottis closes over the arytenoids and allows food to move into the esophagus while swallowing.

A result of a horse's immune system battling an infection is inflammation of the afflicted tissues as increased blood flow mobilizes white blood cells to the area. Inflammation of the upper respiratory tract includes swelling, increased mucus production, and a loss of function. In addition, the body may develop a fever to kill temperature-sensitive infections. The severity of inflammation is dependent upon the individual's degree of infection, immune maturity, and the appropriateness of the immune response. Immature horses are expected to have a higher amount of inflammation as their immune systems are naïve to many infectious agents.

Infections of the upper respiratory tract most commonly occur from a virus. Infections in yearlings usually start as equine influenza virus (i.e. EIV, flu) while infections in juveniles usually begin as equine herpes virus (i.e. EHV-1, EHV-4, rhino). The horse may get depressed, febrile, cough, and a clear nasal discharge as it mounts an immune response against the virus. Usually three to ten days later, a secondary bacterial infection will populate the damaged tissues, furthering the severity of the condition. The conversion is characterized by excessive quantities of thick, cloudy nasal discharge. Bacterial infections range from only one type (usu. *Streptococcus zooepidemicus*) to a blend, or "mixed bag," of many otherwise non-infective types. These bacteria are naturally present in the upper airways and rarely cause problems until the integrity of these tissues is compromised by a viral infection.

Descriptions of an upper respiratory infection indicate the tissues affected and include pharyngitis, chondritis, and guttural pouch empyema. Diagnosis of these conditions is obtained by presence of clinical signs and endoscopic examination. Additional diagnostic tools include a complete blood count and pharyngeal washes. The predomination of many naturally-occurring bacteria obstructs veterinary interpretation of bacterial culture results. Viral particles may no longer be present for detection.

Resolution of these conditions is aimed at aiding the horse's immune system in overcoming the infection. Turn out and feeding on the ground will assist the mucus flow to express the bacteria load. Oral or injectable antibiotics such as potentiated sulfas (bactrim, tucoprim), tetracyclines (oxytet, doxycycline), penicillin, or gentocin are often effective. Anti-inflammatory agents such as bute, banamine, dexamethasone, and DMSO limit collateral damage associated with inflammatory cells and enzymes. Medicated lavage of the pharynx and guttural pouches is often very effective with minimal systemic side effects. The mucolytic qualities of iodide and acetylcysteine decrease the viscosity of the excess mucus loaded with bacteria and ease flow down the nasal passages and out of the horse. Immunostimulants (Eq Stim, Equimmune, Zylexis) and hyperinnoculation with EIV/EHV or EHV vaccines have anecdotally improved clinical signs.

Sequelae to severe or long term infections which may have material effects on racing soundness include refractory guttural pouch infections, severe chondritis with laryngeal hemiplegia (lazy throat) or paralysis, or pneumonia. Pharyngitis of any degree may lead to dorsal displacement of the soft palate as the epiglottis is unable to hold down the thickened tissue. Increased airflow resistance has been incriminated as a cause of exercise induced pulmonary hemorrhage (EIPH, bleeders). The detection or suspicion of these conditions at public auction can greatly affect the marketability of these horses.

Management and prevention of upper respiratory infections will preserve the health and value of the young racehorse. Turn out, shed row barns, high ceilings, and good ventilation will limit the dose of infectious agents with which they are exposed. Minimizing the stresses of training, shipping, growing, and new introductions will limit the opportunity of a virus to become seeded through a compromised immune system. Boosting EHV vaccines every thirty to sixty days and newer generation EIV vaccines (Calvenza, Flu Avert) every six months after a three shot series will strengthen their immune system prior to exposure. Proper tack hygiene with disinfectants and dilute bleach solutions also limits exposure.

Please consult your veterinarian for advice on management and control of the respiratory environment in which these young athletes are to develop. Tailoring a protocol to your and your horses' needs will streamline your operation throughout the year as these horses will be ready, whether it be breeze day, race day, or Derby day.

2006 HORSEMAN'S SEMINAR

We are pleased to inform you that the Third Annual Peterson & Smith Horseman's Seminar will be held on Saturday and Sunday, November 18 & 19, 2006 at the Ocala Hilton.

Venue: The Ocala Hilton

Dates: Saturday, November 18, 2006:

8:00 am - 5:30 pm

Sunday, November 19, 2006:

7:30 am - 4:55 pm

Deadline for early registration is *Friday, November 10, 2006*. Early registration fee is \$60 per day or \$100 for both days. Late registration fee is \$75 per day or \$130 for both days. This includes lectures, breakfast and lunch each day, and a dinner lecture on Saturday evening.

Topics include:

- Equine insurance
- Embryo transfer
- Equine podiatry
- Ophthalmology
- Prevention of disease in neonatal foals
- Nutrition in brood mares
- Care/management of laminitis
- Wet lab on bandaging and medicating

We hope you will be able to join us at the Seminar. To register please mail/fax in the attached registration form, or call Grace Tirado (352) 237-6151.

2006 Horseman's Seminar

Peterson & Smith Equine Hospital

Annual Horseman's Seminar

Saturday & Sunday, November 18 & 19, 2006

At the Ocala Hilton

REGISTRATION FORM

Name _____

Address _____

Phone _____

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		After 11/10
<input type="checkbox"/> Saturday session	\$60.00	\$75.00
<input type="checkbox"/> Sunday session	\$60.00	\$75.00
<input type="checkbox"/> Saturday & Sunday	\$100.00	\$130.00

Please make checks payable to: Peterson & Smith Equine Hospital. If you wish to make a credit card payment, please complete the following:

VISA/MC/AmEx # _____

Expiration date _____

Signature _____

Please return this registration form to:

Grace Tirado Perez, Operations Assistant
Peterson & Smith Equine Hospital,
4747 SW 60th Avenue, Ocala, FL 34474
Tel: (352) 237-6151
Fax: (352) 237-0629



**Don't forget to bring the family for the
FESTIVAL OF TREES - Making Spirits Bright-
November 18 through December 28, 2006**

- July 2005 - Vaccination recommendations
- June 2005 - The advantages of high fat/low carbohydrate diets for horses
- May 2005 - The Hoof: Form and function
- March 2005 - Liquid gold
- February 2005 - Breeding the problem mare
- January 2005 - Condylar fractures
- December 2004 - Early diagnosis and treatment of high-risk pregnancy in the mare
- November 2004 - Know your horse
- October 2004 - White Line Disease
- September 2004 - Announcements
- August 2004 - Reminders for pregnant mare management

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