



Woodside & Woodside North Equine Clinic Equine Health Times

Quick Links

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Strangles Update

We have received a number of inquiries lately about a Strangles outbreak in the area. We currently have multiple cases isolated on one farm within our practice area. As is recommended, the horses are under orders of strict quarantine and they are currently under veterinary care.

If you travel with your horses, take precautions and use good biosecurity. Avoid nose to nose contact with other horses and avoid sharing communal water sources. If you have any questions or concerns, do not hesitate to call!

A Review of Genetic Disease in the Horse



Megan Mathias, DVM

What is a Genetic Disease?

A **genetic disease** is an illness or condition that is caused by an abnormality in the horse genome. The **genome** is the complete set of DNA and genes that make up the horse and was successfully mapped by the Horse Genome Project in 2007. This genome (~2.7 billion DNA pairs in the horse) is found inside each nucleated cell in the body and encompasses 32 pairs of chromosomes. The DNA base pairs that make up the genome are strung together and form approximately 20,000 **genes** in the horse. Genetic diseases that are described in horses are, most often, **heritable**, meaning they are passed down from the sire and dam's DNA to the affected horse.

What has our staff been up to?

Dr. Jonathan Hirsch attended the **Potomac Regional Veterinary conference** in Baltimore, MD with talks focused on podiatry, lameness, and equine emergencies.

Dr. Claudia True attended the **Veterinary Dental Forum** in Atlanta where she attended lectures and hands on labs practicing the most cutting edge techniques of veterinary dentistry.

Dr. Megan Mathias attended the **North Carolina Veterinary Conference** in Raleigh which focused on Discipline Related Lamenesses, Rehabilitation, and Lameness in the Young Horse.

Dr. Scott Anderson, Dr. Claudia True, Dr. Courtney Bolam, Dr. Kara Brown and one of our LVT's Ryan Corrigan attended the **AAEP Annual Convention** in Salt Lake City, Utah, a yearly convention

Dr. Megan Mathias, Dr. Meg Hammond and Dr. Jonathan Hirsch attended the **Blue Ridge Equine Clinic Practitioner's Seminar on Equine Ophthalmology**.

Dr. Claudia True attended to the **Virginia Veterinary Medical Association's Legislative Day** at the Capitol.

How do genetic diseases affect horses?

There are several genetic diseases that have been described in the horse. The effects of these diseases vary widely and include conformational faults, anatomic abnormalities, impaired function of the skin, muscular system, nervous system, thermoregulation, or even the immune system, just to name a few. Whew! Depending on the disease, the signs may be present from birth, become apparent as the horse grows or begins training, or remain inapparent until adulthood. Some signs may only become apparent in adulthood if the horse experiences a stressful event or undergoes general anesthesia for an elective surgery. Interestingly, certain genetic diseases are specific to a particular breed or specific to a certain coat color. For example, Severe Combined Immunodeficiency is found only in Arabian foals and Multiple Congenital Ocular Anomalies is associated with the silver coat gene.

Interesting Genetic Diseases



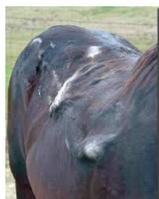
Hyperkalemic periodic paralysis (HYPP) - an inherited muscular disease caused by a genetic mutation in sodium channels found in Quarter Horses who are descendants of the halter horse "Impressive". Affected horses display muscle twitching, weakness, and in severe cases collapse and death. Designated by the AQHA as a "genetic defect". Testing is available for HYPP using hair samples.



Severe Combined Immunodeficiency Disease (SCID) - a rare recessive genetic disorder that affects Arabian foals and results in a complete lack of immune system. These foals do not survive because they can not fight infection. 8% of Arabians in the U.S. are carriers. Genetic testing using DNA from cheek swabs is available to identify carriers of the disease.



Multiple Congenital Ocular Anomalies (MCOA) - caused by a recessive genetic trait that is associated with the silver dapple coat color in Rocky Mountain horses, Icelandics, and Shetlands among other breeds. The disease is usually non painful and non progressive, but can cause several abnormalities within the eye that can limit vision or be mistaken as a sign of other ocular disease. These abnormalities can be found on an in depth ophthalmic examination.



Hereditary Equine Regional Dermal Asthenia (HERDA) - a recessive genetic disease in Quarter Horses (particularly from the Poco Bueno line) which affects collagen, the connective tissue that adheres skin to underlying tissues. The skin of these horses can split or separate from the tissue under it.

Read about the lives of our veterinary interns in their blog

Diaries of a Veterinary Intern

by:
Dr. Megan Mathias
and
Dr. Kara Brown

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There is no cure but a test is available using a sample of mane or tail hairs.

The above diseases describe just a few of the many genetic diseases that can affect horses. For more information on the horse genome project or genetic disease in the horse, we recommend that you visit these reputable websites:
http://www.omafra.gov.on.ca/english/livestock/horses/facts/info_congenital.htm
<http://www.uky.edu/Ag/Horsemap/welcome.html>
<http://www.arabianhorses.org/education/genetic/>

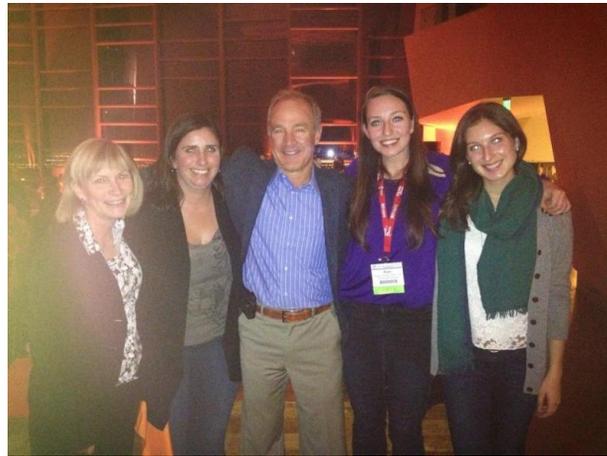
Happy Trails!

Photo credits: www.nist.gov, www.foundationhorses.com, www.thehorse.com

If you have any questions, please contact **Woodside Equine Clinic at (804) 798-3281** or **Woodside North Equine Clinic (540) 423-3100** to speak with a veterinarian or schedule an appointment.

Blog: Diaries of a Veterinary Intern

AAEP: Tips for a Successful Veterinary Practice *Kara Brown , VMD*



Hello Woodside Equine clients! In the beginning of December, Dr. Claudia True, Dr. Scott Anderson, Dr. Courtney Bolam, Dr. Julia Wolfe, Ryan Corrigan (one of our licensed veterinary technicians) and I (Dr. Brown) attended the annual American Association of Equine Practitioners convention held in Salt Lake City, Utah. The purpose of the AAEP convention is to allow practitioners from all types of equine practices come together and share their experiences, participate in educational seminars, and learn about the most innovative technologies available to their practices. In this way, we as clinicians are able to continue to offer the best and most modern care to our equine patients. Each year over 4,000 horse veterinarians and around

400 exhibitors gather in one city to fulfill these goals. We all had a wonderful time and learned a great deal during the convention, however, I think we all agreed that one of the most inspirational speeches was made by Dr. Marvin Beeman, founder of Littleton Large Animal Hospital in Colorado, and an equine practitioner since 1957...

...To read more about , please visit [Diaries of a Veterinary Intern](#) at Woodside Equine Clinic's website.

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Our practice devotes its charitable giving efforts to the AAEP foundation. The foundation is committed to supporting education, research and benevolent efforts for horses and their caretakers. If you'd like more information or to donate to the Foundation you can visit the website at [AAEP Foundation](#).



Sincerely,

Woodside & Woodside North Equine Clinic