

# Equine Guelph

## Research Update

Spring 2012



## Biosecurity: Spread the Word Not the Germs

To help keep your horses healthy, Equine Guelph has developed “Beat the Bugs”, an equine biosecurity education program. Biosecurity protects our horses and ourselves against disease-causing agents. It includes practical tips and good habits that will help prevent disease introduction and spread, as well as, reduce the associated detrimental impact. “Beat the Bugs” includes workshops and an e-Session focusing on the development of a disease prevention plan unique to your individual situation.

The program is funded through the Agricultural Biosecurity Program (ABP), part of the Best Practices Suite of programs under Growing Forward, a federal-provincial-territorial initiative. The Agricultural Adaptation Council assists in the delivery of several Growing Forward programs in Ontario.

Equine Guelph thanks the industry partners: American Association of Equine Practitioners Foundation, Central Ontario Standardbred Association, Colorado State University, Horsemen’s Benevolent and Protective Association, Ontario Association of Equine Practitioners, Ontario Equestrian Federation, Ontario Harness Horse Association, Ontario Horse Racing Industry Association, Ontario Veterinary College, Standardbred Canada, Vétuquinol Canada Inc. and Woodbine Entertainment Group.

More good news was received regarding Equine Guelph’s fight to keep horses healthy by improving biosecurity. Funding has been approved by the Grand River Agricultural Society to develop and distribute educational resources including additional workshops scheduled for Fall 2012. Visit [www.EquineGuelph.ca/biosecurity.php](http://www.EquineGuelph.ca/biosecurity.php) for more information.



### Protect Your Horse From Infectious Disease

ATTEND AN EQUINE  
BIOSECURITY  
WORKSHOP  
NEAR YOU

- Mohawk Racetrack, Campbellville  
March 7, 1 - 3pm
- Western Fair, London (during Can-Am)  
March 16, 10am - Noon
- Kemptville Campus, Kemptville  
March 24, 2 - 4pm
- Georgian Downs, Barrie  
March 27, 1:30 - 3:30pm

**Free!**  
Register early  
as space is  
limited.

SIGN UP FOR THE NEW  
EQUINE BIOSECURITY  
e-SESSION

- 2-week online e-Session from April 16 - April 29, 2012
  - \$75 per person
- Register at [www.EquineGuelph.ca/biosecurity.php](http://www.EquineGuelph.ca/biosecurity.php) for workshops and e-Session.

For more info, contact Susan Raymond at [sraymon@uoguelph.ca](mailto:sraymon@uoguelph.ca)

## See War Horse and Support Equine Welfare Education



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UNIVERSITY  
of GUELPH

CHANGING LIVES  
IMPROVING LIFE

# War Horse Promotes Horse Welfare Fund

The spectacular National Theatre of Great Britain production of War Horse will warm your heart in two ways – once when you watch the performance and again when your ticket purchase contributes to the new Equine Guelph-Ontario Equestrian Federation 'War Horse' Welfare Education Fund (the Fund).

Equine Guelph is pleased to announce a partnership with War Horse that will raise contributions for this new Fund.

"The War Horse Toronto production brings back into the spotlight the welfare issues that faced millions of horses in the First World War," says David Mirvish, producer, Mirvish Productions. "Recognizing the ongoing need for equine welfare awareness and education, we are pleased to partner with Equine Guelph and the Ontario Equestrian Federation to create the 'Equine Guelph-OEF War Horse Welfare Education Fund' in honour of these brave horses and to develop courses that teach horse care and welfare to future champions of the horse. Through education, we hope to help Equine Guelph in their admirable quest of 'helping horses for life.'"

War Horse will generously donate \$10 to the Fund for each ticket purchased by OEF members for performances between February 10 – May 6, 2012. And, as a special thank you, at the performance, OEF members will receive a complimentary CD (one per order) of the music of War Horse. Call 416-872-1212 or 1-800-461-3333 to order tickets and provide this special benefit code – WHFUND.

Equine Guelph offers 16 intensive online equine courses dedicated to horse owners and caregivers and is focusing their efforts to expand horse welfare education. In an industry where well-intentioned old wives tales are often passed down, rather than scientific knowledge, the horse is often the victim of mistreatment. Education in horse welfare will result in the following benefits: well-informed caregivers, healthier horses, lower vet bills and fewer unwanted horses.

Support Equine Welfare through Education and enjoy the show at the Princess of Wales Theatre! Donations can also be made to the Fund using the donation form enclosed. Visit [www.EquineGuelph.ca](http://www.EquineGuelph.ca) for more information.

**DONATE TODAY AND SUPPORT  
EQUINE WELFARE EDUCATION**

## The Beat Goes On: Report on Research Studies Heart Disturbances in Horses



topic: WHAT IS THE VALUE OF YOUR RESEARCH?  
researcher: Dr. Peter W. Physick-Sheard BVSc, DipVetErg, MSc, FRCVS (UK)  
Population Medicine Faculty, OVC, University of Guelph

Equine Guelph launches 'Report on Research' video series on YouTube! [www.youtube.com/equineguelphuofg](http://www.youtube.com/equineguelphuofg)

Normal heart rhythm and sounds in a horse are difficult to define because of the fascinating array of strange sounds and rhythms which can be found in apparently healthy animals and which change with exercise. Also, even when sounds or rhythms do reflect heart problems, most horse owners will not notice signs, until there is an inability to perform work at a level previously achieved successfully, when the horse shows an unusual tendency to tire.

Owners of performance horses understand the economic impact of a horse that can no longer work, or in the worst-case scenario, where sudden loss becomes a serious issue. University of Guelph researcher Dr. Physick-Sheard states, "After safety issues and welfare issues are discussed there is still a need to put an economic value on the horse, which is decided by the client." One aspect of research Dr. Physick-Sheard and Dr. Kim McGurrian look at is atrial fibrillation, the most common clinically significant rhythm disturbance horses can have. An arrhythmia is technically defined as an abnormal heart rhythm, however, irregular heart rhythm is commonplace in horses and the endeavor to define normal, continues to be a complex and fascinating journey. A completely steady rhythm can be considered abnormal.

Before a diagnosis of heart problems can be made, Dr. Physick-Sheard explains, a logical process where the client is asked the history of the horse (breed, use, how long it has been in training) is followed before conducting a general physical examination. Future use would also be discussed before deciding on diagnostics. An Electrocardiogram may be the next step to determine the heart's rhythm and possibly an ultrasound to look at how efficiently the muscle and valves work. They look for enlargement or abnormal structure in the heart and check for normal blood flow around the valves.

Dr. Physick-Sheard describes two types of rhythm disturbance that can be found:

1. Benign variations on normal (mostly involving the top part of the heart).
2. Ventricular rhythm disturbances, which can be serious and even life

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The Beat Goes On continued...

threatening. When found, they look first for problems outside the heart, disturbances in homeostasis, which involves keeping the environment around cells constant: dehydration, electrolyte and acid base imbalance. Under these circumstances secondary arrhythmias are often detected. Situations where the cardiac problem is primary are rare but sometimes serious.

McGurrin and Physick-Sheard have had enormous success treating arrhythmia with

transvenous electrical cardioversion. The response rate has been 100%! Electrodes are placed into the heart to deliver an electric shock, while the horse is under anesthesia, to convert the rhythm to normal.

Dr. McGurrin and Dr. Physick-Sheard developed this technique before their first Standardbred track study, where they collected heart rhythm data during racing using an electrocardiogram. Dr. Physick-Sheard explains how the technology works, "The heart is a bag of muscle, a slave pump which

does what the system tells it, contracting at a rate that reflects the body's needs. The heart gives off an electrical signal when it contracts which reaches the skin and can be detected by the electrocardiogram (ECG). This is then used to monitor heart rhythm."

Dr. Physick-Sheard has developed specialized equipment and software for the current intensive Thoroughbred study, which he is hoping will give more insights into causes of sudden death.

Research funding has been

provided by Equine Guelph, Grayson Jockey Club Foundation and Ontario Ministry of Agriculture, Food and Rural Affairs.

By: Jackie Bellamy



Get the free mobile app at  
<http://gettag.mobi>

Scan here to see the 1st Report on  
Research Video - Heart Disturbances

## You spoke. We listened!

### New Colic program to launch this year

In last year's Equine Guelph industry survey, you ranked colic as a priority and we listened! Equine Guelph is developing a comprehensive colic outreach program that will begin this spring. The program will be launched in April with an industry-wide survey on management practices within the industry and the incidence of colic.

Other components of the program will include: the development of an online colic risk assessment tool and a two-week colic 'e-Session' (to be offered in 2013). A high impact exhibit on colic, including an 85 foot long horse gut, will travel with EquiMania! demonstrating why a horse's digestive tract is so vulnerable to colic. So stay tuned to [EquineGuelph.ca](http://EquineGuelph.ca) for upcoming announcements!

Funding for this project has been provided by Agriculture and Agri-Food Canada through the Canadian Agricultural Adaptation Program (CAAP). In Ontario, this program is delivered by the Agricultural Adaptation Council. Standardbred Canada has also contributed funds to this important program.

## Survey Says!

Thanks to everyone who took time to complete the 2011 Equine Guelph Industry Survey! With results from over 2,000 participants, Equine Guelph is now responding by developing programs that address the needs and priorities voiced by the horse industry!

### Results Preview:

- The industry believes that Equine Guelph's #1 mandate is to provide education and training material for the horse industry
- 99% of respondents believe equine education is important for the horse industry
- Colic & Biosecurity rank in the top 5 topics that respondents wanted to learn more about
- Research Updates rank as the #1 topic to be included in Equine Guelph's e-News

To read survey report, please visit  
[www.EquineGuelph.ca/about\\_us/survey.php](http://www.EquineGuelph.ca/about_us/survey.php)

## Danger Detective Initiative to Launch Online

Coming soon to a computer near kids, the hugely popular 'Danger Detective' workbook comes to life online March, 2012 at [www.EquiMania.ca](http://www.EquiMania.ca). Interactive flash activities and videos will make learning about safety fun! Participants will click their way to a printable certificate after completing online games in five categories: rider safety, safety around the horse, safety around equipment, safety in the barn and safety outside.



'Danger Detective on the Horse Farm' aims to take a byte out of the #1 causes of horse and equipment-related injuries and fatalities to kids. The way to keep our children safe is through education, and Equine Guelph has rallied with the industry to present this significant project. Major partners include: Canadian Agricultural Safety Association (CASA) which receives funding from Growing Forward – a federal-provincial-territorial initiative; Equine Guelph; Equine Canada; Kubota Canada; SSG Gloves; Saddle Up SAFELY; System Fencing and Tack; University of Kentucky College of Agriculture (The Equine Initiative); University of Kentucky HealthCare; and Workplace Safety & Prevention Services. All equine federations are on-board, including: Alberta Equestrian Federation, Alberta Farm Safety Centre, Equine Association of Yukon, Fédération équestre du Québec, Horse Council British Columbia, Island Horse Council, Manitoba Horse Council, New Brunswick Equestrian Federation, Newfoundland Equestrian Association, Nova Scotia Equestrian Federation, Ontario Equestrian Federation and Saskatchewan Horse Federation.

Visit [www.EquiMania.ca](http://www.EquiMania.ca) and use your cyber-savvy to become a Danger Detective on the horse farm!

## EquiMania! Explorer Passport Stamped With Approval!

Bring EquiMania!  
to your Event - Contact  
[horses@uoguelph.ca](mailto:horses@uoguelph.ca)

Thanks to generous continued support from Kubota Canada, Ontario Equestrian Federation, SSG Gloves, System Fencing and Workplace Safety and Prevention Services, Equine Guelph launched a new interactive safety game, which has proved to be a passport to fun!

The young and young at heart were engaged right from the start, receiving a passport booklet to launch an adventure through EquiMania!. Each page of the passport book asked important questions about safety on the horse farm and mapped out a route to the next helpful EquiMania! ambassador for important safety tips.

Stamps were earned and smiles were delivered in this new game of guided discovery, launched at the 2011 Royal Agricultural Winter Fair. The outcome was another hugely successful year at the Royal for Equine Guelph's EquiMania! exhibit where visitors always learn something new about the wonderful world of horses and their care.

The hardworking EquiMania! volunteer team will be packing their passports and heading down to Omaha, Nebraska for the International horse show April 20 – 21, 2012. Organizer, Susan Runnels first set eyes on EquiMania! at the 2010 AlltechWorld Equestrian Games in Kentucky and knew instantly this was a "must have" attraction for her premier event! EquiMania! is looking forward to another busy year in 2012 kicking the year off with the Can-Am All Breeds Equine Emporium, March 16 – 18.



Photo by  
Sharon Grose

EquiMania! ambassadors give out stamps and safety tips

# Arterial Calcification in Horses

The tragic death of the Olympic show jumping horse Hickstead sent shockwaves throughout the equestrian community last year when the 15-year-old Dutch Warmblood stallion collapsed and died in front of thousands of viewers at the World Cup event in Italy. A post-mortem revealed a ruptured aorta, which brings to light the risks of sudden cardiovascular-related deaths in performance horses.

Dr. Luis Arroyo, an Assistant Professor at the University of Guelph, is currently studying equine cardiovascular disease, specifically arterial calcification in horses. In recent years, Dr. Arroyo has been exploring the causes of sudden death in racing horses at Ontario racetracks, of which about one-quarter of their deaths were left unexplained. During this study, he observed the presence of calcification and fibrosis of the pulmonary artery wall in a large number of these horses.

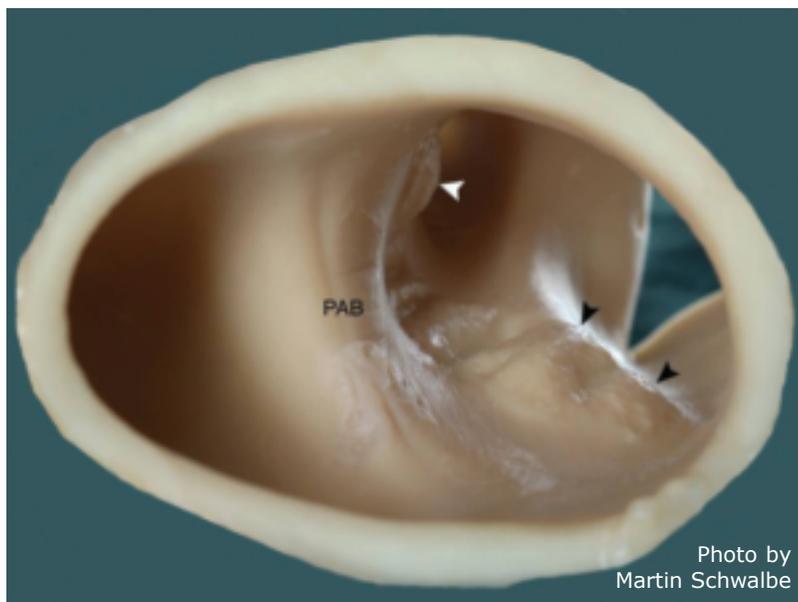
According to Dr. Arroyo, equine cardiovascular disease continues to be a very under-developed branch of veterinary science. The goal of his research is to understand the clinical significance of calcification, its causes, and ideally, its possible treatment and prevention.

“Where previously we looked at the cause of racehorse mortalities, I’ve since put more emphasis on the cause of calcification,” he explains. “We found this condition to be extremely prevalent in racehorses; 80 percent of the horses studied were found to have these lesions in their pulmonary arteries. And we really don’t know anything about it.”

While it’s known that diet, age and lack of exercise can affect cardiovascular health in humans, he notes that when it comes to horses, this is certainly not the case.

“The pulmonary artery is normally very large, and accommodates a lot of de-oxygenated blood rushing from heart to lung, especially for an animal that is running at a very high rate of speed,” he says. “That rush of blood could be impacted by the stiff and calcified vessels similar to that of a blocked garden hose. The arteries have been weakened, lacking flexibility and strength. The result can be fatal.”

Having seen fit horses as young as two years of age with



Calcified plaques (indicated with arrowheads) resembling scar tissue, can be seen protruding into the lumen of the right main branch of the artery

arterial calcification, Dr. Arroyo and his team of researchers plan to perform the same form of measurement on a group of horses that is currently being done in humans through the use of pulse wave velocity. By inserting long catheters into the lung arteries, they will be able to measure arterial stiffness.

Through a grant from the Canada Foundation for Innovation, the funding will allow for the purchase of new intravascular ultrasound equipment, which will assist in furthering his research.

Arroyo suspects that arterial calcification is a possible risk factor associated with sudden equine mortality, and he hopes his research will lead to a screening procedure for this disease.

“The first thing I’d like to determine is: does this lesion change or alter the normal function of the artery?” he says. “My belief and logic says that it does, but one has to prove it first before we can move on to treatment and prevention. It’s not only a medical problem. The shock from the public when watching a horse drop dead mid-performance is tragic – racing or otherwise; that’s not good for anyone’s eyes.”

By: Barbara Sheridan



Photo by Natalie Elliott

## Congratulations to EquiMania’s Facebook Contest Winners!

**Video submission:** Aletia Townsend, Guelph, ON

**Photo submission:** Natalie Elliott, Clinton, ON

**Drawing submission:** Christina Backhouse, Kingston, NS

**Story submission:** Teigen Bond, Shubenacadie, NS

# Equine Guelph's Toolbox Is Always in Season!

Helping Horse Owners Maintain Healthy Horses



Photo by  
Barbara Sheridan

Who doesn't want a horse shining with good health? Let Equine Guelph help you get organized this spring and give the best possible care to your horse!

Stay up to date and review your current healthcare regime with our FREE interactive checklists, videos, calculators, quiz's and games.

**Here are just a few ways to test your knowledge:**

**Horse Health Check** = 17 ways to assess general health in under two minutes. ✓

**Vaccination Equi-Planner** = Learn how geography, age, intended use and travel plans affect you. ✓

**Biosecurity Risk Calculator** = Infectious disease control involves more than just an annual vet visit. Learn what steps your barn can take with this customized questionnaire. ✓

**Journey Through The Joints** = Look inside an inflamed joint and learn the causes and early warning signs for equine arthritis. ✓

**Lameness Lab** = Video series will sharpen your eye for early detection. ✓

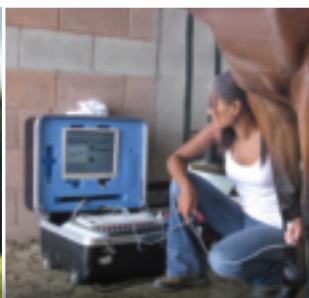
**Worms & Germs** = Follow everything from the flu to the latest superbugs. Knowing where these outbreaks are occurring can help you make sound decisions for vaccination plans and travel arrangements. ✓

Equine Guelph makes healthcare easy with it's FREE online tools. Go to [www.EquineGuelph.ca](http://www.EquineGuelph.ca) and check out our interactive, educational tools created for horse owners.

Equine Guelph thanks the following animal health companies for sponsoring our tools:



educating  
horsepeople



funding industry  
research



promoting health  
& performance

## EVENTS

Mark your calendar!

**War Horse – Special Promotion for OEF Members**

Feb 10 – May 6

**War Horse – Equine Guelph Gala Fundraiser**

Mar 8

**Biosecurity Workshops**

March 7, 16, 24 & 27

**EquiMania! at Can-Am Equine All Breeds Emporium**

Mar 16 – 18

**Biosecurity e-Session**

Apr 16 – 29

**Equine Anatomy Wet labs**

Apr 21 & 22

**Groom One Orientation**

Mar 25 – 26

**EquiMania! at Nebraska's International**

Mar 25 – 26

**Equine Guelph's Online Courses (Summer Offerings)**

May 7 – July 29

**EquiMania! at Canada's Outdoor Equine Expo**

June 8 – 10

**Anyone wishing to excerpt Equine Guelph should contact:**

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EQUINE GUELPH  
helping horses for life