



Gifts plant the seeds for long-term growth and success of Equine Guelph

Like training a spirited young horse, sometimes it's small things that ultimately make a world of difference; planting the seeds for long-term ultimate success. "Donor's gifts to research and education are the seeds for long-term growth and success," says Dr. Elizabeth Stone, Ontario Veterinary College (OVC) dean. "We frequently see how one person's modest donation can have a far-reaching impact".

There are many areas where OVC equine specialists have demonstrated how major innovations sometimes have modest beginnings. For example, OVC researchers have pioneered the use of electric shock to correct irregular heartbeat in horses, a technique that may soon be in use at top clinics worldwide.

The idea started with conversations in the corridors of the Large Animal Clinic.

"We were frustrated because we were taking otherwise healthy horses and treating them with drugs that were making them sick," says Dr. Peter Physick-Sheard, who worked with Dr. Kim McGurrin and Dr. Dan Kenney on development of the technique.

With just \$25,000 from Equine Guelph's Research Program and the Grayson-Jockey Club Research Foundation, the research team adapted catheter-mounted electrodes to deliver a high-voltage jolt to the heart. To date, they have treated 52 horses with no complications; the proce-



- Photo by Dave Landry

cedure corrected the arrhythmia in all but one of the cases. Recovery time is much quicker than with drug treatments: patients can be doing light work within two days and resume regular training in a week.

Modest investments have also made a big difference in the education initiatives of Equine Guelph. For example, with the help of just over \$30,000 in gifts from individuals and associations, Equine Guelph was able to launch the highly successful EquiMania!; our exciting youth program promoting horse health and safety. With your help, Equine Guelph will continue to make a bold investment in the future of the industry by means of our education strat-

egy (see Fall 2005). From our youth program to the Industry Skills, Groom One, program to the award-winning Equine Science Certificate program, we are committed to lifelong learning for horse enthusiasts and those interested in building a career in the industry.

Equine Guelph is the horse owner's centre at the University of Guelph. Equine Guelph is dedicated to improving the health and well-being of horses through the provision and promotion of research, performance and education. With your support, no matter how small, we will strive to strengthen the industry by means of our research, performance and education programs.

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UPDATE ON EQUINE GUELPH'S WORK

Research

Equine Guelph has invested approximately \$340,000 in research for 2005-2006, supporting 19 projects related to equine health. Of the 19 projects, ten are new with the balance receiving second-year funding.

One new project that received support is investigating the use of a new technique to treat longstanding atrial fibrillation (AF) (also known as irregular heartbeat). While conventional drug therapy is often effective in the treatment of cases of recent AF, the prognosis for horses afflicted with long term (generally greater than four months) AF can be poor. However, a newly developed technique at U of G's Ontario Veterinary College (OVC) called transvenous electrical cardioversion has been shown to successfully treat AF. Investigators are examining if horses with long term AF, that are successfully treated with this new technique, will subsequently maintain a normal heart rhythm and return to regular athletic activity.

To learn more about this project, and to read about our current and past research projects, visit Equine Guelph's website at www.equineguelph.ca.

Performance

The OVC has a long and distinguished history of being a world leader in veterinary medicine, research and education. Indeed, people at the College have been touching lives and putting new knowledge into practice since 1862.

One currently funded study, at the College, is evaluating a novel laparoscopic technique for the collection of full-thickness small intestinal biopsies in standing sedated horses.

Diagnosing and identifying the cause of colic remains a challenge for equine practitioners and researchers. Full wall thickness small intestinal biopsy is a procedure, which it is hoped, will provide valuable information to be used both to diagnose intestinal disease, such as colic, and to research the underlying mechanisms of this disease in horses. Laparoscopy (the passage of a small device less than 1/4" in thickness) (page 3) through the abdomen to visualize the intestine is now a well-established minimally invasive surgical procedure associated with minimal post-operative pain and complications in horses.

Education

In response to the industry-wide need for an increased number of well qualified, skilled, and dedicated grooms, Equine Guelph is pleased to launch a groom's skills training program called Groom One. Groom One is the first course in the Industry Skills Program and is designed for newcomers to the racing industry who wish to become competent, employable grooms at either a racetrack or a training facility. "Equine Guelph's primary focus is horse health and well-being", says Gayle Ecker, Senior Manager. "This program is an excellent first step in providing this knowledge to newcomers to the industry."

The program consists of four phases. The first phase, which is an orientation session, includes two days of hands-on training. Students in our sold out premiere orientation session, which was held last summer, gained valuable experience in horse handling, safety and daily management. Offerings for phase one, this spring, will take place in each of the Guelph, Kemptville and King Township areas. The orientation phase is followed by a work term phase with a concurrent cd-rom based education program phase. The computer based units are complemented by online discussions with industry mentors. The premiere offering of the education program phase is this spring.

Students receive their certificate by completing the fourth phase, a demonstration of their skills and knowledge.

Left: The new Groom One cd-rom, part of the Industry Skills Program, is a valuable resource to both newcomers and those currently employed in the industry.



Equine laparoscopy: Innovative technique will help postoperative recovery for many equine patients

Minimally invasive surgical procedure means less pain, speedier recoveries and less postoperative complications

Dr. Ludovic Bouré, a faculty member at the Ontario Veterinary College (OVC), is a leader in the implementation, research and development of innovative and effective laparoscopic procedures. This ground-breaking technique will help equine patients that must undergo abdominal surgery by reducing the risk of complications associated with traditional techniques.

Laparoscopy is an alternative to open surgery for the examination, diagnosis and treatment of several abdominal conditions. Several 10-mm incisions are made in the abdomen to accommodate surgical tools and a small camera (laparoscope) that transmits images of internal organs and other structures to a video monitor. Standard surgery demands significantly larger incisions that carry increased risk of adhesion formation (scar tissue that abnormally joins other structures such as intestines), stress and slower healing.

Horses are maintained, as appropriate for the particular surgical procedure, either in a standing or lying position (recumbent) during laparoscopy. Visualization of organs and tissues is enhanced by inflating the abdominal cavity with carbon dioxide (insufflation), thereby giving the surgeons more room to work. In all animals, the independent and combined use of general anesthesia and insufflation has some affect on cardiopulmonary function. However, research by Dr. Antonio Cruz, OVC, has demonstrated that exposure of healthy horses to these combined factors for one hour, typical for most procedures, does not lead to any significant adverse effects on blood flow to and from the heart.

Advantages of laparoscopy for the equine patient include:

- Reduced risk of infection
- Reduced formation of adhesions (scar tissue), thus reducing risk of abdominal pain and colic
- Reduced healing time
- Allows the return to normal activities more quickly



- Photo courtesy of Dr. Ludovic Bouré

Adhesion formation is a common complication that may develop within seven to ten days following any abdominal surgery and may increase the risk of colic, intestinal obstruction and death. A second surgery may be required to detach affected tissue. Dr. Bouré and his team have optimized a minimally invasive procedure, “second-look laparoscopy”, for re-examining the abdominal cavity one to three weeks following a surgery to detect and separate adhesions before they cause a problem for the horse.

Dr. Bouré also uses laparoscopy to repair ruptured bladders in foals. Like all babies, foals often have a full bladder at birth, which makes the organ prone to rupture during labour contractions of the mare. Subsequent leakage of urine into the abdomen may cause weakness, straining, septicemia, fever and even death within a few days. A foal may survive and fully recover from a ruptured bladder, however, this requires corrective surgery within a day or two of birth. Using fine suturing techniques and

laparoscopy, Dr. Bouré is able to repair the problem and significantly boost the foal’s chance of survival.

Equine laparoscopy is rapidly gaining increased usage by equine practitioners around the world for both research and for the detection and treatment of many diseases and disorders. Current limitations to its use include the high level of knowledge and skill required to perform the procedures, limited surgical instruments suitable for use in large animals and adaptation of human methodologies to horses. Dr. Bouré’s hands-on International Laparoscopy Course at OVC addresses these concerns and is providing practitioners with cutting-edge techniques in laparoscopy. The challenges are also successfully being overcome through innovative research and protocols, offering safer and less invasive surgery that is accompanied by reduced pain and increased rates of survival and recovery allowing patients to return to normal activities more quickly.

- Coralie Sopher

EquiMania! Education Centre sets the groundwork

Those visiting EquiMania!'s Education Centre know that learning can be fun. From the hands-on learning resources, interactive website (www.EquiMania.ca) and annual Quiz Challenge, the entire EquiMania! program is overflowing with valuable educational material that focuses on horse health while engaging those taking part.

Last November, the Education Centre travelled to the Ontario Equestrian Federation's Annual Conference. Most recently it was Can-Am's Equine Exposition in London, Ontario that hosted both the Centre and the second annual Quiz Challenge.

EquiMania!'s Education Centre will be hitting the road with scheduled stops this summer at the Schomberg Fair (May 27), Woodbine Racetrack (weekends through July and August), and Grand River Raceway (August 7).

Youth interested in learning more about horses are encouraged to visit www.EquiMania.ca.

The Painted Horse is a focal point of EquiMania!'s Education Centre (artist: Ruth Benns). This remarkable instructive resource is a full size fibreglass horse painted with incredible anatomical detail.

- Photo by River Bend Designs



Dr. Elizabeth Stone, Dean, OVC, began her five-year term as the first woman to head a veterinary school in Canada last June. Dr. Stone is very supportive of Equine Guelph's programs and since her arrival has become involved in Equine Guelph's exciting plans for the future.

About Equine Guelph

Equine Guelph is the horse owner and caregiver's centre at the University of Guelph. We are dedicated to improving the health and well-being of horses through the provision and promotion of research, performance and education.

We welcome your views and encourage you to contact us with your comments or suggestions. Anyone wishing to excerpt *Equine Guelph Update* should contact:

Susan Raymond
Equine Guelph
University of Guelph
Guelph, ON N1G 2W1
Tel: (519) 824-4120 ext. 54230
Fax: (519) 767-1081
E-mail: sraymon@uoguelph.ca
www.equineguelph.ca

Equine Guelph also publishes a bi-monthly e-newsletter, *Horses@Guelph*. To subscribe to the e-newsletter, please visit www.equineguelph.ca

Equine Guelph Donation Form

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Area of Greatest Need Research Performance Education

Equine Guelph also offers a memorial program to honour deceased horses or people. Please call the office for details.

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Equine Guelph, University of Guelph, Guelph, ON N1G 2W1
Tel: (519) 824-4120 ext 54205 Fax: (519) 767-1081