



4-1-2009

## Penn Vet's Laminitis Institute and Farrier Program Are Spearheading the Fight Against Laminitis

Jennifer Rench  
*University of Pennsylvania*

# Penn Vet's Laminitis Institute and Farrier Program Are Spearheading the Fight Against Laminitis

BY JENNIFER RENCH

**P**enn Vet's New Bolton Center treats world-class equine athletes of all disciplines. In spring 2006, Kentucky Derby winner Barbaro broke down in the second leg of the Triple Crown, the Preakness Stakes—and his injury and fight for life would forever change the horseracing world and veterinary medicine. Barbaro healed from his original injuries, but it was laminitis that ultimately took him from us.

Since 2006, there have been many advances in the fight against laminitis. The Laminitis Institute at Penn Vet has developed into the epicenter for collaboration with researchers from multiple disciplines from across the U.S. and from around the world. Most recently, **Chris Pollitt, BVSc, Ph.D.**, University of Queensland, Australia, was appointed research director. Dr. Pollitt joins our existing team of experts including **Dr. Jim Orsini**, director of the Laminitis Institute; **Dr. Hannah Gallantino-Homer**, lead investigator; and a team of leading researchers and clinicians from stellar institutions throughout the world.

Today, the Institute's three major priorities are tissue banking, investigation into the pathogenesis of the disease and trying to develop an in vitro lab model of laminitis. The key is collaboration, not only within the university, but also with other universities. These priorities are underway and are paving the way for the ultimate goal of clinical application and prevention of laminitis.

The ultimate goal of the Institute is to translate research findings into clinical applications to help manage and prevent laminitis. "Integration of the clinical care component of the Laminitis Institute with the farrier service plays an essential role in managing horses with laminitis/founder," said Dr. Orsini. Farriers at New Bolton Center have pioneered many of the techniques and applications that are used today and are paving the future. Former Penn Vet farrier Rob Sigafoos blazed new trails in the industry, and **Patrick Reilly**, current chief of Farrier Services at New Bolton Center, is building on this foundation and innovating new techniques that will help manage horses with laminitis, and is collaborating with farriers worldwide to exchange ideas and innovations that translate into clinical applications.



Dr. Chris Pollitt, Hannah Gallantino-Homer and Jim Orsini.

One exciting application that is on the horizon is an In-Shoe Force Measuring System. This system has undergone extensive research both in human and veterinary medicine. It was originally developed for human podiatry, but has not been available to the equine industry for logistical reasons (nails interfere with the sensors, and boots do not provide adequate stability). Pat Reilly and Rob Sigafoos have modified the system for application in horses. "Incorporating the Sigafoos Shoe has provided excellent data, and we are in the process of collecting data to validate this protocol. The system collects data regarding hoof impact, hoof loading and breakover," according to Mr. Reilly. It offers promise in providing answers for many of the mechanical questions debated among veterinarians, farriers, trainers and horse owners. Potential applications of this system include:

- > Assessment of hoof balance
- > Comparison of various horseshoe types
- > Comparison of hoof pads
- > Assessing the effect of various surfaces (footings)
- > Evaluation of foot problems during working conditions
- > Evaluation of "normal" foot functions (i.e., how often does a horse shift weight?)
- > Evaluation of surgical techniques
- > Evaluation of casting and splinting techniques