# Rethinking Colic Care: How Grayson-Funded Research Is Improving Outcomes For Horse

Colic remains one of the greatest threats to equine health and is the leading cause of death in horses behind old age. While advances in surgery, diagnostics, and intensive care have dramatically improved survival rates over the past several decades, colic remains a medical emergency where every hour—and every treatment decision—can influence a horse's outcome.

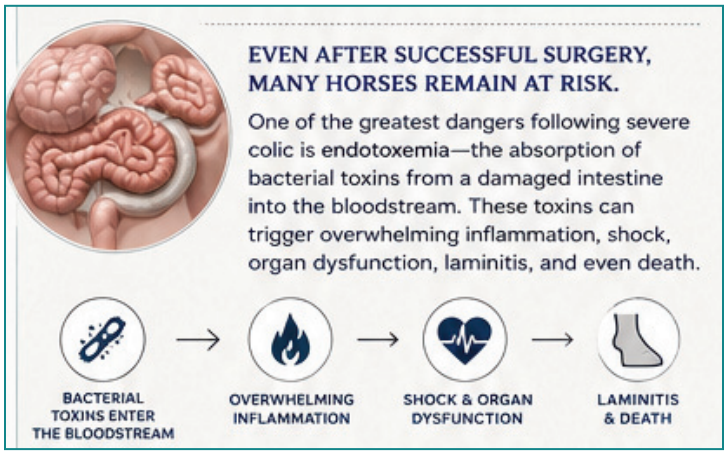
Thanks to research supported by the Grayson-Jockey Club Research Foundation, veterinarians are gaining new insights into one of the most commonly used medications in equine medicine, helping improve recovery for horses facing one of the industry's most life-threatening conditions.

## The Challenge of Colic

Colic is not a single disease but rather a broad term describing abdominal pain caused by a variety of gastrointestinal disorders. Some cases resolve with medical treatment, while others require emergency surgery to correct twisted intestines, strangulating lesions, or severe obstructions.

Even after successful surgery, many horses remain at risk. One of the greatest dangers following severe colic is ***endotoxemia***—the absorption of bacterial toxins from a damaged intestine into the bloodstream. Once these toxins circulate throughout the body, they can trigger overwhelming inflammation, shock, organ dysfunction, laminitis, and in severe cases, death.

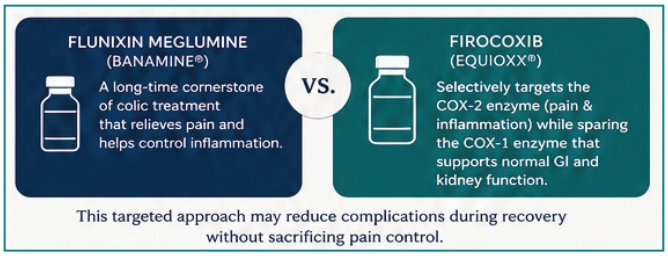
Controlling pain is essential, but equally important is limiting the inflammatory cascade that follows intestinal injury.




## Investigating a New Approach

Grayson-funded researchers Dr. Anthony Blikslager and Dr. Amanda Ziegler at North Carolina State University conducted a multi-center clinical trial comparing flunixin meglumine with ***firocoxib (Equioxx®)*** in horses undergoing surgery for colic.

Unlike traditional NSAIDs, firocoxib selectively targets the ***COX-2 enzyme***, which is primarily responsible for pain and inflammation. This more targeted approach may help preserve the beneficial functions of the ***COX-1 enzyme***, which plays an important role in maintaining normal gastrointestinal and kidney health.




To ensure objective results, the study was conducted as a randomized, blinded clinical trial, meaning neither veterinarians nor researchers knew which medication individual horses received during treatment.

## What the Research Found

The results were encouraging. Researchers found that both medications provided similar levels of pain control following surgery. Horses receiving either treatment maintained comparable heart rates and comfort levels during recovery.

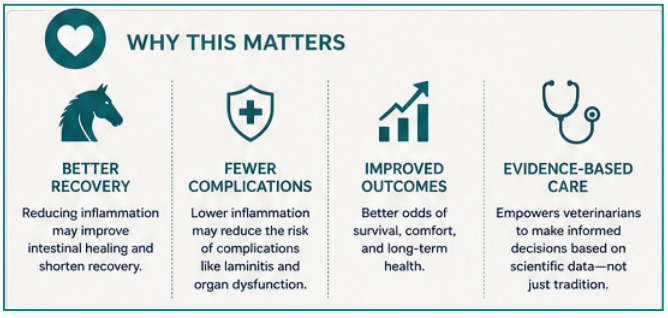
*Dr. Anthony Blikslager and Dr. Amanda Ziegler*
*North Carolina State University*

However, horses treated with ***firocoxib showed significantly lower levels of plasma sCD14,*** a biomarker associated with endotoxemia and systemic inflammation, 48 hours after surgery.

These findings suggest that while both drugs effectively control pain, firocoxib may offer additional benefits by reducing evidence of toxin-related inflammation during recovery.

**Why This Matters**

For horse owners, this research highlights the importance of continually evaluating and improving veterinary treatments. Medications that have been used successfully for decades remain valuable tools, but scientific research allows veterinarians to refine treatment protocols and identify opportunities to improve outcomes even further.




For horses recovering from colic surgery, reducing inflammation and supporting intestinal healing may have important implications for recovery, comfort, and long-term health.

**Research That Challenges Assumptions**

One of the most valuable aspects of veterinary research is its ability to challenge long-standing assumptions.

For many years, flunixin was viewed as the unquestioned standard for colic management. This study demonstrates that newer therapies may offer comparable pain relief while potentially improving other aspects of recovery.

These discoveries help veterinarians make more informed, evidence-based decisions and ultimately provide better care for their patients.

**The Grayson Impact**

Research funded by the Grayson-Jockey Club Research Foundation helps ensure that equine medicine continues to evolve. By supporting studies like those conducted by Drs. Blikslager and Ziegler, Grayson is helping veterinarians identify safer, more effective treatment strategies for one of the most common and devastating conditions affecting horses.

Every advancement moves the industry closer to better outcomes, improved recovery, and healthier lives for horses facing serious medical challenges. Because when it comes to colic, saving lives means never stopping the search for better answers.

This project was particularly powerful because it demonstrates that Grayson isn't just funding new treatments—it's funding research that helps veterinarians determine which existing treatments provide the best outcomes for horses when every decision counts.

**Key Takeaway**

Colic remains one of the most serious medical emergencies in equine practice, but research continues to improve how veterinarians care for these patients. By evaluating the effectiveness of existing therapies and identifying opportunities to enhance recovery, Grayson-funded research is helping ensure that horses receive the safest, most effective treatment possible.

Grayson-Jockey Club Research Foundation

Research update from Holly White,
*Director of Development*