

# EQUINE GUELPH

## Research Update



Volume 23 - 2026

Welcome to Equine Guelph's digital newsletter

### Study Supports Preventive Surgery to Reduce Recurring Entrapment Colic

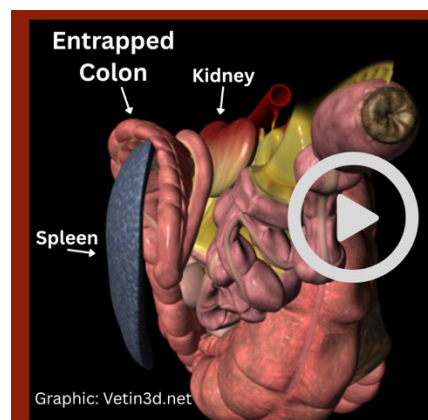
When a horse suffers nephrosplenic entrapment, a specific type of displacement colic, the risk of it happening again can be elevated. For high-performance horses, that means more than pain and emergency bills; it can disrupt training schedules and competition plans. A preventative surgery called laparoscopic closure of the nephrosplenic space has been widely used for years, but until now, no one knew how long the benefits lasted. Dr. Nicola Cribb, Department of Clinical Studies, Ontario Veterinary College (OVC), discusses new research from a five-year study at the OVC.

#### What is nephrosplenic entrapment colic?

Nephrosplenic entrapment colic is a condition where a section of the large intestine, usually the large colon, moves into the natural gap between the spleen and the left kidney. That gap is called the nephrosplenic space. Some horses can have a deeper or wider space, and if an excess of gas builds up in the large colon, it can cause displacement and the colon may slip into this trough and become trapped.

The result can be painful abdominal distension, gas accumulation, and obstruction of normal gut movement as well as enlargement of the spleen. If untreated, the condition can become life-threatening.

This type of colic is sometimes referred to as left dorsal displacement. While the colon can wander in different directions within the abdomen, this form involves movement to the left and into the nephrosplenic space, where getting unstuck on its own can be difficult, especially if the spleen becomes enlarged.



Dr. Nicola Cribb describes entrapment colic resulting from left dorsal displacement of the large colon and research on a preventive surgery.

#### Why is it serious?

Nephrosplenic entrapment often requires rapid veterinary intervention. Some horses can be managed medically, but many need surgery to correct the displacement. Horses that have experienced it once can be at higher risk of experiencing it again. That potential for recurrence is why veterinarians began recommending a preventative procedure that closes off the space so the colon cannot fall back into it.

#### Why a study of the preventive surgery was needed

Preventative laparoscopic closure of the nephrosplenic space was developed around 25 years ago; it has been widely recommended for horses who have suffered left dorsal displacement colic in order to reduce the chances of recurrence, yet important questions remained.

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12-week courses at [EquineStudiesOnline.ca](http://EquineStudiesOnline.ca)

# Research Update

## Entrapment Colic research study cont'

*"We have always been in a position where we've made an assumption that we've closed the space, it's adhered together and the horse is able to go back to exercise and carry on with the rest of its normal life,"* comments Cribb. *"But we've never really had a good method of assessment after we've done the preventative surgery, at which point we could say yes, turn your horse back out to normal exercise and continue as normal."*

Both horse owners and veterinarians wanted to know how long the protection can last. Researchers wondered whether a simple, non-invasive test such as ultrasound could confirm that the space had been effectively closed after surgery and if that closure was able to stand the test of time. Recent literature raised these unknowns, which prompted a team at the Ontario Veterinary College to design a long-term study that would follow horses' that had undergone the post-surgical procedure to find out how well the adhesions hold up.

Dr. Cribb and her team set out to evaluate the durability of closure over five years, and to compare common follow up methods, namely rectal palpation and ultrasound, against repeat laparoscopy, the gold standard way to look directly at the adhesion.

*"We were uniquely positioned to revisit horses' years after their surgery,"* noted Dr. Cribb. *"Putting the laparoscope back in allowed us to verify whether adhesions were present and robust, then compare that against our imaging and palpation findings. That's how we could say, with confidence, what really holds up over time."*

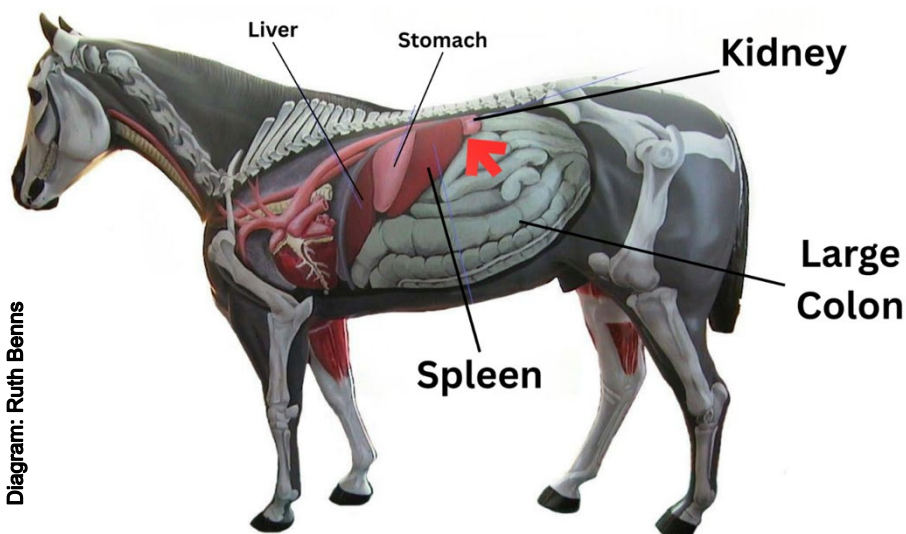


Diagram: Ruth Benns

If the colon becomes entrapped between the spleen and the kidney (Nephrosplenic entrapment colic) the horse may require surgery to correct the displacement and may be at a high risk of recurrence.

## EDUCATION

Mark your calendar

[Equine Guelph 12-week online courses:](#)

Summer Semester May 11

Fall Semester September 14

[TheHorsePortal.ca Short Online Courses:](#)

Gut Health & Ulcer/Colic Prevention

Feb 16 - 27

Sport Horse Injury/Lameness Prevention & Care

Mar 16 - 27

**On Demand short courses:**

Sickness Prevention in Horses

Horse Care and Welfare

Introduction to Body Condition Scoring

Business 101

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Careers in the Horse World for Youth

Visit [TheHorsePortal.ca](#) for free exclusive racing industry courses

**Upcoming offerings of Large Animal Emergency Rescue workshops**

Contact [slraymon@uoquelfh.ca](mailto:slraymon@uoquelfh.ca)

## When is elective closure considered?

Veterinarians consider laparoscopic closure under several conditions:

- After a confirmed episode of nephrosplenic entrapment. Horses that have had one episode can be at higher risk for another, which can be costly and dangerous.
- In horses with an anatomical predisposition - a deeper nephrosplenic space or certain conformational traits can make entrapment more likely.
- In high-performance horses. When training and competition schedules can be severely affected by repeat colic events, owners and teams may pursue prevention.
- When the horse is clinically stable and recovered from the initial episode, and the owner understands the risks, costs, and potential benefits.
- When a veterinarian confirms suitability for laparoscopy, including appropriate body condition and an abdomen free from concurrent disease.
- When prevention is chosen over repeated emergency interventions, especially if the recurrence risk can outweigh surgical risk.

## What the OVC study set out to do

The team's objectives were straightforward and practical:

1. **Evaluate the long-term durability of closure**, with follow-up at five years after surgery.
2. **Assess follow-up tools**, asking whether ultrasound and rectal palpation can predict closure quality.
3. **Develop a reproducible adhesion scoring system**, so results can be compared consistently across cases.

To accomplish this, the researchers needed to look at the adhesion itself and decide how strong and extensive it was. Since there was no equine specific scoring system, the team created one. This is an important contribution because standardized scoring allows future studies to compare outcomes reliably.

The research team built a reproducible adhesion scoring system drawing on established grading frameworks from human surgery, then adapted it for equine anatomy. The score measured three things: how mature the adhesion was (its fibrous development), how strong it felt, and how much of the nephrosplenic space it covered.

## What is your risk of colic?

Get a customized rating for your horse. Watch the dial move with every decision you have made/will make.

[Start the Colic Risk Rater](#)

## Practical checklist after an entrapment episode

1. **Confirm the diagnosis and discuss prevention.** After the horse stabilizes, ask whether laparoscopic closure can be appropriate.
2. **Plan the follow-up.** Schedule a rectal exam at four to six weeks.
3. **Map the return to work.** Re-introduce exercise gradually. Emphasize forage, hydration, routine and avoid abrupt feed changes as outlined in Equine Guelph's [Colic Risk Rater](#).
4. **When returning to travel and competition.** Minimize stressors around shipping. Keep electrolytes and water access consistent, and monitor for changes in manure quality and consistency.
5. **Keep records.** Note any colic-like signs, feed changes, and intense training days. Share your log at veterinary check-ins.
6. **Educate your team.** Make sure grooms, riders, and barn managers understand early warning signs and the post-op plan.



## How the study was designed

Twelve horses that had previously undergone laparoscopic closure were included in the OVC study. Each horse had imaging and rectal palpation before surgery, then approximately 30 days after surgery, and again five years later.

At five years, each horse also underwent repeat laparoscopy. This allowed the team to directly inspect the space and judge whether adhesions were present and strong across a meaningful portion of the area between spleen and kidney.

To learn more about what was happening inside the body, the team studied tissue from a few horses and analyzed it for changes over time. They also ran statistical tests to see if anything done during surgery, or measured soon after, could help forecast long-term success.

This approach matters to researchers. Much work has gone into finding the best technique for this surgery, but studies often lack long-term follow-up. This project is notable because it is the first to provide a five-year look, using laparoscopy in order to verify what owners and veterinarians rely on after surgery.

## What the research team found

- **Strong adhesions can persist for at least five years.** On repeat laparoscopy, most horses had mature, fibrous tissue that kept the space closed. Eight out of ten horses examined had strong adhesions covering most of the nephrosplenic space.
- **Rectal palpation can be a useful follow-up tool.** A hands-on examination at four to six weeks after surgery can provide meaningful information about whether the space feels closed.
- **Ultrasound had limitations.** Although ultrasound is non-invasive and widely available, the researchers found that the bowel often interfered with the view of the nephrosplenic space. Measurements changed over time, but those changes did not consistently match what laparoscopy later showed.

*“After the initial entrapment is corrected, some horses are simply at higher risk of doing it again,” Cribb explained. “That’s why the preventative technique was developed, to remove the ‘trough’ that invites the colon to fall in. Our long-term look shows most horses keep strong, mature adhesions for years.”*

*“Ultrasound seemed attractive because it’s non-invasive and accessible,” Crib added. “But in practice, we saw bowel interference and poor correlation with actual adhesion strength. A veterinary rectal exam remains the better indicator at that crucial four to six week mark.”*

## What this means for horse owners and high-performance programs

### Proactive decisions, practical questions:

- **Is my horse a good candidate?** Discuss the horse’s history, anatomy, and performance goals.
- **What is the timeline?** Consider when elective closure might be scheduled after recovery from initial surgery, and map out a realistic rehabilitation plan.
- **What is the follow up plan?** Plan for a rectal exam at four to six weeks. Clarify what signs would prompt additional evaluation.
- **Barn management routine.** Work with your vet to reduce sudden feed changes, manage stress from shipping and competition, and support hydration and forage intake.
- **How to track progress?** Keep a simple log of feed adjustments, training intensity, travel dates, and any signs of digestive discomfort, then share those notes at follow-ups.

## Thank you

### For supporting Research

Over 150 equine research projects have been funded since 2004 and Equine Guelph would like to extend sincere thanks to our supporters in the racing industry and donors like you who have made it all possible.



Read the lay summaries for past present & future Equine Guelph funded research studies at [EquineGuelph.ca](http://EquineGuelph.ca)

## Why this research matters for every horse owner

*“It helps us justify the use of this surgery after this type of colic and it helps owners make a decision on whether this is the right choice for their horse,” explained Cribb.*

Recurring colic can affect horse welfare and disrupt programs that depend on consistent training. Preventing repeat entrapment of the colon can help keep horses in condition and maintain confidence in planning seasons and competitions. The study’s long-term data gives owners and insurers valuable information when weighing options and assessing risk. It also provides veterinarians with scientific clarity when advising clients on whether preventative surgery for left dorsal displacement can be a suitable choice after an initial episode.

## Relevance to researchers and the wider veterinary community

From a research standpoint, this project fills a gap. Much effort has gone into developing and refining techniques to close the nephrosplenic space, yet long-term outcomes can be difficult to capture. This study is notable because it provides five-year follow-up and validates results with repeat laparoscopy, which is considered the most direct way to judge what is happening inside the abdomen. The adapted adhesion scoring system gives future investigators a practical way to compare cases, and it sets the stage to connect scoring with real-world outcomes, such as how long horses remain free of entrapment colic signs.

## What comes next?

*Our five-year study showed the adhesions can last and their quality in keeping the space closed,” said Dr. Cribb. “We want to go a step further and ask: are these preventing colic signs for this specific type of colic?”*

The researchers are interested in larger data sets tracking clinical cases over longer periods to further validate the adhesion scoring system and to see whether stronger scores line up with more time “colic-free.”

*-story by Jackie Bellamy-Zions  
Communications Manager  
Equine Guelph*



Dr. Nicola Cribb is an assistant professor at the Ontario Veterinary College with research interests in equine general surgery and orthopedics, laparoscopic and upper airway laser surgery.

## Colic Prevention Month

While some cases, like nephrosplenic entrapment, require surgical intervention, the goal of prevention is to avoid costly, life-saving procedures whenever possible. Many colic risks can be reduced through informed management. Education is your best defense.

February is **Colic Prevention Month at Equine Guelph**, but it’s always a good time to take action to reduce colic risk.

- [Colic Risk Rater](#): Identify risk factors in your barn and areas for improvement with Equine Guelph’s FREE online tool.
- [Gut Health & Colic/Ulcer Prevention](#) Short Course: Feb 16–27, 2026  
A concise, evidence-based program for your whole team.

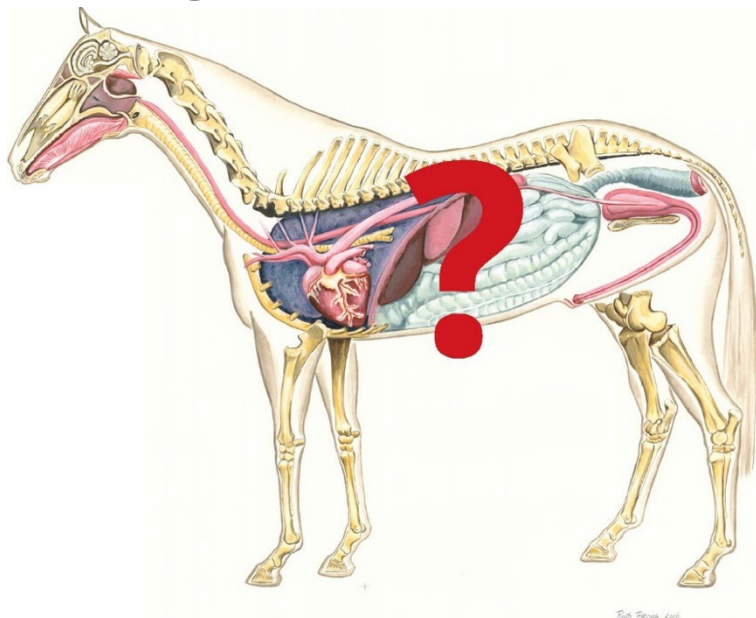
Join in during Colic Prevention Month to make informed choices that protect your horse’s health and performance.

# 2025 Research Recap

## See How Research is Helping YOU!

Check out these research story & video links:

- ✦ What do we know about Colitis in Horses?
- ✦ Be Pro-Active not Reactive with Biosecurity
- ✦ Review of Roaring and Possible New Surgical Procedure
- ✦ What Diagnostics are Available for Common and Complex Equine Lameness?
- ✦ Can Whole Food Nutrition Combat Leaky Gut in Horses?
- ✦ Rate of Penicillin Administration Affects Arterial Blood Pressure
- ✦ Lesson Horses in Canada: A Closer Look at Care, Challenges, and the Road Ahead



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Anyone wishing to excerpt Equine Guelph should contact [jbellamy@uoquelfh.ca](mailto:jbellamy@uoquelfh.ca)

A promotional graphic for 'EQUINE GUELPH HEALTHflash'. It features a woman smiling next to a horse. The text includes 'SEASONAL HEALTHCARE REMINDERS+ SPECIAL ALERTS' and 'FREE sign up today at EquineGuelph.ca'.

An advertisement for 'TheHorsePortal.ca' showing three horses (two adults and one foal) running in a grassy field. A banner at the top reads 'JOIN THE HERD'.

**When you support EQUINE GUELPH you make a difference in horse health and well-being.  
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