



COLIC RESEARCH PANEL REPORT

Equine Colic Research Symposium

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Panel Members

Drs. Frank Andrews, Anthony Blikslager, Barrie Edwards, David Freeman, Marco Lopes, Sandy Love, Tim Mair, Al Merritt, Jim Moore, Rustin Moore, Chris Proudman, Gerald Schusser, Louise Southwood, and Nat White.

The panel met on August 5th in Quebec City to discuss the future direction of research on equine colic. The group addressed the following tasks and questions:

1. List the most important diseases and priorities based on the need for research.

Although no specific diseases were identified as being the most important, specific areas of study were identified as being important in directing future research. There was general agreement that one focus should be epidemiology with separation of simple colic from the more fatal diseases. Surveys should be completed to examine all diseases on a large scale (should be an international effort) with an emphasis towards determining risk factors for simple colic, after which interventional studies could be performed to alter nutrition and management practices to determine if they reduce colic incidence. Surveys for fatal diseases should collect clinical data as well as horse and management information to try and identify risk factors for specific diseases such as large colon torsion. Information collected from these studies should include clinical recognition of systemic inflammatory response syndromes, ischemia, obstruction, and endotoxemia. Information about the response to treatment and mortality also needs to be included in these surveys.

Specific recommendations

- Large surveys should include all diseases.
- Need to include investigations on management, nutrition, and exercise.
- Use web-based studies to start the data collection.
- Must have clerical assistance for data acquisition.
- Partner with funding agencies to allow organization of a broad-based study.

- Develop nested studies within the broad-based study.
- Set up an international study to get groups together to help with funding.
- Include all types of horses in these surveys, including working horses.
- Develop consortiums with letters of intent to document relationships for funding and research.
- Approach NAHMS as an efficient way to utilize manpower for surveys.
- Convince horse owners of the need for colic-related research.
- Determine the future use of live animals in research.

2. **What areas or projects lend themselves to collaborative research?**

- Efforts should be made to identify plasma/tissue samples that could be used by different laboratories. This would involve setting up repositories for samples at different research centers and having projects defined specifically to use these samples.
- There are concerns about requesting funding for synergistic projects that utilize resources from other sources or programs.
- Determine feasibility of a commissioned project at \$250,000 per year per research center
 - Is it possible to set up a common serum bank for testing?
 - What data sharing would be useful for research areas?
 - Are laboratories willing to take part of a project designed to take advantage of the current work at each laboratory?
 - Get funding for labor to help collect the data.

Phased approach for survey research:

- Develop a Web-based approach using pilot studies.
- Schedule planning meetings to review data.
- Involve multiple centers with nested projects involving specific diseases.

Clinical trials are needed:

- Need guidelines established and followed. AAEP can be involved with developing guidelines so studies are correct and uniform.
- Consider system as used in pediatric hospitals for clinical trials: decision made by 'owner'/guardian.
- Need enough people who will follow through on studies. A philosophical leap will be needed to start using blinded studies.
- Possible trials for current treatments.
 - Lidocaine
 - Polymixin
 - Antibiotic use

3. **What are the priorities or the next steps needed for equine colic research? What should come first?**

Areas of Study and Disease categories were listed. The following is the result of cumulative scores with each panel member having 3 choices.

Areas of Study

- a. Pathophysiology=13

- b. Epidemiology/Prevention=12
- c. Treatment=8
- d. Diagnosis=3
- e. Prognosis=3
- f. Clinical Monitoring/Critical Care=0

Disease Categories

- a. Simple colic =12
- b. Strangulation=10
- c. Enteritis/Colitis=10
- d. Obstruction=6
- e. Ulceration=1
- f. Peritonitis=0

4. How much will it cost in the next five years to solve the riddle of equine endotoxemia, ileus, diet associated colic etc.?

Epidemiology research is less expensive.

Funding should support programs:

- \$30,000 DVM PhD student
- \$25,000 PhD expendables
- \$55,000 per technician = 1 tech per four graduate students.
- Total estimate direct program costs per year = \$250,000.

5. What are the most important messages for horse owners trying to prevent colic?

- Recognition of colic.
- Set a protocol for diet, exercise, and water.
- Change their pessimistic view of colic treatment. We need to provide information about benefits of current treatments and improvement in results.
- Get a veterinarian to look at a horse with colic.
- One source for colic information from AAEP- promote Web site.
- Educate and promote information about insurance-
 - mortality and major medical.
 - Information about surgical insurance (specifically, what it doesn't cover).
- Plan for colic emergency
 - Health plan includes what to do with each horse before the emergency.
- Lay publications about research successes that have helped horses with colic.
- Be aware of effects of analgesics that owners give on the farm.

6. What can the foundations and agencies that fund colic research do to help researchers?

- Pool resources to fund multicenter studies.
- Increase the amount of overhead provided.

- Accept the true cost of personnel, including portions of faculty salary.
- Provide fringe benefits for personnel completing research.
- Recognition that it is difficult to fund studies without funding programs.
- Educate the foundation boards about all costs needed to do research.
- Educate horse industry as to the cost of research.
- Need research fellowships and continuous funding to maintain personnel.
- Support post doctoral fellows for 5 years [\$45,000 salary and \$20,000 for supplies per year].
- Have parallel experiments on human related problems.
- Identify industries that have a research goal related to the researcher's interest.

7. List of priorities from each panel members at the end of the panel. Where should equine colic research be directed?

- Prevention: how can we prevent this?
- Research on dietary determinants.
- Influence of diet.
- Diet on colic.
- Pathophysiology of diseases Ischemia.
- 10 year study to determine risk factors.
- Risk factors especially nutrition.
- Better methods to study pathophysiology or diagnostics for epidemiologic studies, particularly for parasites.
- Long term studies for risk factors and prevalence.
- Long term epidemiology improved evidenced base for RX.
- Basic mechanism of injury and repair.
- Evidenced based studies for clinical trials.
- Long term funding with epidemiology for prevention. The term endotoxemia needs be changed to SIRS or other name to relate the reaction.