Case-Control Study of Pasture- and Endocrinopathy-Associated Laminitis in Horses

Thank you for participating in the Case-Control Study of Pasture- and Endocrinopathy-Associated Laminitis in Horses, supported by the AAEP Foundation and Prascend® (pergolide mesylate), manufactured by Boehringer Ingelheim Vetmedica, Inc. Please complete the following survey for each of the 3 horses in the set (laminitis case, healthy control, and lameness control). It is very important that we collect accurate data, so please visit our study website at www.vetmed.tamu.edu/laminitis or contact the Study Coordinator, Dr. Michelle Coleman, if you have any further questions or concerns.

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Principal Investigator:
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Veterinarian Information

1. Veterinarian Name: ________________________

2. Veterinarian Address: ________________________
   ________________________

3. Veterinarian Phone Number: ________________________

Please continue to the next page →
Horse Information

4. Horse Name (Barn Name): __________________________

5. Owner Name: ________________________________

6. Sex (circle one):
   A. Male/Stallion
   B. Gelding
   C. Female

7. Age (years): ______

8. Breed (circle one):
   A. Thoroughbred
   B. Quarter Horse/Paint/Appaloosa
   C. Arabian
   D. Morgan
   E. Draft
   F. European warmblood
   G. Standardbred
   H. Saddlebred
   I. Tennessee Walking Horse
   J. Other Gaited Breeds
   K. Miniature
   L. Other
   M. Pony, if specific breed known, please specify: ______________

9. This horse is (circle one):
   A. Laminitis case
   B. Healthy control
   C. Lameness control: (please specify diagnosis: ________________________)

Please continue to next page →
Horse Information – con’t

10. Date of onset of clinical signs: ___/____/_____ mo/day/yr
   (for laminitis and lameness cases only)

11. Date of examination: _____/___/____ mo/day/yr

   ***For laminitis cases and lameness controls, evaluation must be performed within 4 weeks of the onset of clinical signs***

12. Has this horse had laminitis previously? (circle one)
   A. No
   B. Yes***
   C. I don’t know

   ***Horses with previous history of laminitis will NOT be included in the study. If you answered YES, do NOT collect further data.***

13. Obel grade (LAMINITIS CASES ONLY, circle one):
   A. Grade 1: at rest the horse alternatively lifts feet but no lameness observable at walk while there is a short stilted gait at trot in a straight line on a hard surface and turned carefully at the walk carefully

   B. Grade 2: the animal does not move freely at walk but moves with a “stiff” gait; at trot on a hard surface there is a short stilted gait, and it turns with great difficulty. A foot can be lifted off the ground without great difficulty. Reluctant to trot on a hard surface, turning with great difficulty.

   C. Grade 3: the animal is reluctant to move at walk on any surface, it is difficult to lift a limb; and it might be virtually non-weight-bearing on one limb.

   D. Grade 4: the animal will not move without coercion; it is particularly reluctant to move from a soft to hard surface; and it is almost impossible to lift a limb.
Morphometry

**Please refer to study website or CD for details on collecting measurements and obtaining an accurate body condition score.**

14. What is the horse’s body condition score (1-9)**: ____________
   (please find the body condition score chart on the website or CD)

15. What is the horse’s maximal height at withers**: ______________ inches
   (measured from the ground to the highest point of the withers)

16. What is the horse’s maximal abdominal circumference**: ______________ inches
   (measured circumferentially around the horse’s abdomen at a point 1/3 the distance from the tuber coxae or hip to the point of the shoulder)

17. What is the horse’s neck circumference at the midpoint of the neck**: ______________ inches
   (measured circumferentially at a point half-way between the poll and the highest point of the withers with the neck in a neutral position)

18. What is the horse’s heart-girth circumference**: ______________ inches
   (measured circumferentially around the horses girth at a point just behind the elbow and behind the slope of the withers).

19. Does the horse have evidence of generalized adiposity/obesity? (circle one):
   A. No
   B. Yes

20. Does the horse have evidence of regional adiposity/obesity? (circle one):
   A. No
   B. Yes

21. If there is evidence of regional adiposity, where is the adiposity located?
   (circle all that apply):
   A. Neck
   B. Tail head
   C. Ventral abdomen
   D. Flank
   E. Thorax
   F. Periorbital

Please continue to next page →
Activity Level/Use

Questions 22-25 pertain to activity and use during the 12-week period prior to the onset of clinical signs for cases and lameness controls, and current period for healthy controls.

22. What is the primary use of horse? (circle one):

for the 12-week period prior to onset of clinical signs for laminitis cases and lameness controls and for current period for healthy controls.

A. Companion or Retired
B. Not yet under saddle
C. Breeding
D. Working (e.g., ranch work, cart horse, etc.)
E. Pleasure
F. Racing
G. Competition/Show English
H. Competition/Show Western
I. Show, in hand
J. Competitive driving
K. Endurance
L. Polo

23. Is the horse on a regularly scheduled exercise program? (does not include turnout)

for the 12-week period prior to onset of clinical signs for laminitis cases and lameness controls and for current period for healthy controls.

A. No
B. 1-2 times/week
C. 3-4 times/week
D. 5-6 times/week
E. > 6 times/week

24. Please characterize the intensity of activity as (circle one):

for the 12-week period prior to onset of clinical signs for laminitis cases and lameness controls and for current period for healthy controls.

A. Pastured or not exercised regularly
B. Low level of activity (Occasional competition, pleasure riding, etc.)
C. Moderate level of activity (Regularly competing in non-strenuous events)
D. High level of activity (intensive exercise and training such as racing, endurance, etc.)

25. Did the horse have a change in activity during the 2-week period prior to the onset of clinical signs? (refers to past 2 weeks for healthy controls)

A. No
B. Yes: increased activity level
C. Yes: decreased activity level

Please continue to next page →
Housing Management

Questions 26-33 refer to the indicated period of time prior to the onset of clinical signs for laminitis cases and lameness controls, and for the period prior to examination for healthy controls.

26. During the 3 months prior to the onset of clinical signs, approximately how many hours per day was the horse stalled?: _______ hours

27. During the 3 months prior to the onset of clinical signs, approximately how many hours per day was the horse in a pasture/paddock greater than 1 acre with grass? _______ hours

28. During the 3 months prior to the onset of clinical signs, approximately how many hours per day was the horse in a pasture/paddock less than 1 acre with grass? _______ hours

29. During the 3 months prior to the onset of clinical signs, approximately how many hours per day was the horse in a drylot (with no grass)? _______ hours

30. Did the horse have a change in stabling during the 14 days prior to the onset of clinical signs?
   A. No
   B. Yes

31. If there was a change in stabling in the 14 days prior to the onset of clinical signs, please specify the change:
   A. Increased turnout
   B. Increased time in stall
   C. Decreased grass exposure during turnout

32. If there was a change in stabling in the 14 days prior to the onset of clinical signs, how many days prior was this change made? _______ days

33. The barn floor where the horse was stalled at the time of onset of clinical signs was (circle one)
   A. Concrete
   B. Dirt
   C. Sand
   D. Limestone
   E. Macadam/asphalt
   NA. Not applicable (horse is never stalled)

34. How many acres is the paddock or pasture where the horse is normally maintained (i.e., prior to onset of lameness)? _______ acres

35. What is the average total number of horses that are in the paddock/pasture in which the horse is normally maintained (including this horse): _____________ horses

Please continue to the next page
Questions 36-45 refer to the normal pasture/paddock prior onset of clinical signs for laminitis cases and lameness controls, and the current pasture/paddock for healthy controls.

36. During the 3 past years, have cases of pasture-associated laminitis been reported among other horses housed in the paddock/pasture where this horse is normally maintained? (circle one):
   A. No
   B. Yes
   C. Not applicable or do not know

37. During the spring and early summer, the paddock/pasture where the horse is normally housed could be generally described as (circle one):
   A. Having high grass (>6 inches maximal height above ground)
   B. Having moderate height of grass (4 to 6 inches maximal height above ground)
   C. Having mild height of grass (2 to 4 inches of maximal height above ground)
   D. Having limited height of grass (1 to 2 inches of maximal height above ground)
   E. Having no grass growth (< 1 inch of maximal height above ground)
   F. The horse is not pastured

38. During the spring and summer, are the pastures or paddocks where the horse is normally maintained mowed to control grass height? (circle one):
   A. No
   B. Yes
   C. Not applicable or do not know

39. Are the pastures mowed to control weeds and unwanted grasses? (circle one):
   A. No
   B. Yes
   C. Not applicable or do not know

40. If so, how many times per year on average are the pastures mowed to control weeds and unwanted grasses? ________ times per year

41. Are the paddocks or pastures where the horse is normally maintained fertilized annually? (circle one):
   A. No
   B. Yes
   C. Not applicable or do not know

42. If so, how many times per year are the pastures/paddocks fertilized: ______ times per year

43. Are herbicides applied annually to the pastures or paddocks where the horse is normally maintained? (circle one):
   A. No
   B. Yes
   C. Not applicable or do not know

44. If so, what is the maximal pounds/acre of herbicides that are applied to the pastures or paddocks each time ________________ pounds/acre

45. If yes, how many times per year are herbicides applied on average? ______ times per year

Please continue to the next page →
Feeding Practices/Diet

Questions 46-48 refer to the horse’s diet prior to the onset of clinical signs for laminitis cases and lameness controls, and current diet for healthy controls.

46. What kind of concentrate/grain and how much did the horse receive daily prior to the onset of clinical signs?
(Please fill in the shaded boxes with the pounds per feeding or number of feedings per day for each type of feed the horse is fed)

<table>
<thead>
<tr>
<th>Type of grain/concentrate</th>
<th>Pounds per feeding</th>
<th>Number of feedings per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweet feed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pelleted feed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oats</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

47. What kind of hay/roughage did the horse receive daily prior to the onset of clinical signs?
(Please fill in the shaded boxes with the flakes per day of each type of hay the horse receives)

<table>
<thead>
<tr>
<th>Type of hay/roughage</th>
<th>Flakes per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal Bermuda grass</td>
<td></td>
</tr>
<tr>
<td>Alfalfa</td>
<td></td>
</tr>
<tr>
<td>Timothy grass</td>
<td></td>
</tr>
<tr>
<td>Orchard grass</td>
<td></td>
</tr>
<tr>
<td>Oat hay</td>
<td></td>
</tr>
<tr>
<td>Bahia</td>
<td></td>
</tr>
</tbody>
</table>

48. Did this horse have a change in diet during the 14 days prior to the onset of clinical signs?
(please circle one):
   A. No change in diet
   B. Yes, recent increase in roughage/hay
   C. Yes, recent decrease in roughage/hay
   D. Yes, recent increase in concentrates
   E. Yes, recent decrease in concentrates
   F. Unknown

Please continue to next page →
Physiological Factors and Recent Transportation

49. Has this horse ever been diagnosed with any of the following conditions? If so, please indicate the year of initial diagnosis in the shaded box for all that apply.

<table>
<thead>
<tr>
<th>Condition</th>
<th>What year was condition first diagnosed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cushing’s disease (PPID)</td>
<td></td>
</tr>
<tr>
<td>Insulin resistance</td>
<td></td>
</tr>
<tr>
<td>Hirsuitism</td>
<td></td>
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<tr>
<td>Equine Metabolic Syndrome</td>
<td></td>
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<tr>
<td>Obesity</td>
<td></td>
</tr>
</tbody>
</table>

50. At the onset of clinical signs, was this horse pregnant? (circle one):
   - A. No
   - B. Yes
   - C. Not applicable (male/gelding/unknown)

51. At the onset of clinical signs, was this horse lactating? (circle one):
   - A. No
   - B. Yes
   - C. Not applicable (male/gelding)

Recent Transportation

52. Has this horse been transported > 4 hours within the 14 days prior to the onset of clinical signs (or in the past 14 days for healthy controls)? (circle one):
   - A. No
   - B. Yes

53. If yes, please specify how many hours the horse was transported: ________ hours

54. If yes, please specify how many days prior to the onset of clinical signs the horse was transported: ________ days prior to the onset of clinical signs

Please continue to next page ➔
Hoof Care

Questions 55-57 refer to the period prior to the onset of clinical signs for laminitis cases and lameness controls, and the current period for healthy controls.

55. Please indicate the type of farriery the horse normally received prior to onset of signs (circle one):
   A. All four feet trimmed only
   B. Front feet shod, hind feet unshod
   C. All four feet shod
   D. The horse has not received any farrier care in the past 6 months

56. Please indicate the frequency of farriery the horse normally received prior to onset of signs:
    __________ (in weeks)

57. Approximately how many weeks prior to the onset of clinical signs did the horse receive farrier work? __________ (in weeks)
Recent Corticosteroid Administration

The following questions pertain to specific corticosteroid administration during the 30 days prior to the onset of clinical signs for laminitis cases and lameness controls, and the past 30 days for healthy controls.

Dexamethasone

58. Did the horse receive dexamethasone in the 30 days prior to the onset of clinical signs?
   A. No
   B. Yes

If so, then please answer questions 59-62. If not, then skip to question 63.

59. What was the dose in milligrams per day? __________ mg/day

60. How many days was the horse treated? __________ days total

61. How many days prior to the onset of clinical signs was the last dose administered? ________ days

62. How was the dexamethasone administered?
   A. Intramuscular
   B. Intravenous
   C. Subcutaneous
   D. Oral
   E. Intra-articular

Please continue to next page →
Prednisolone

63. Did the horse receive prednisolone in the 30 days prior to the onset of clinical signs?
   A. No
   B. Yes

If so, then please answer questions 64-67. If not, then skip to question 68.

64. What was the dose in miligrams per day? __________ mg/day

65. How many days was the horse treated? __________ days total

66. How many days prior to the onset of clinical signs was the last dose administered? __________ days

67. How was the prednisolone administered?
   A. Intramuscular
   B. Intravenous
   C. Subcutaneous
   D. Oral
   E. Intra-articular

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**Triamcinolone**

68. Did the horse receive triamcinolone in the 30 days prior to the onset of clinical signs?
   A. No
   B. Yes

*If so, then please answer questions 69-72. If not, then skip to question 73.*

69. What was the dose in miligrams per day? __________ mg/day

70. How many days was the horse treated? __________ days total

71. How many days prior to the onset of clinical signs was the last dose administered? __________ days

72. How was the triamcinolone administered?
   A. Intramuscular
   B. Intravenous
   C. Subcutaneous
   D. Oral
   E. Intra-articular
**Methylprednisolone**

73. Did the horse receive methylprednisolone in the 30 days prior to the onset of clinical signs?
   A. No
   B. Yes

*If so, then please answer questions 74-77.*

74. What was the dose in miligrams per day? __________ mg/day

75. How many days was the horse treated? __________ days total

76. How many days prior to the onset of clinical signs was the last dose administered? __________ days

77. How was the methylprednisolone administered?
   A. Intramuscular
   B. Intravenous
   C. Subcutaneous
   D. Oral
   E. Intra-articular

Thank you for completing this survey. Your time and dedication is appreciated and important to the future of laminitis research. As always, please contact us with any further questions or concerns.