

OWNER CHECKLIST

Updated: May 2022

Thank you for participating in the **Muscle Diseases in Horses Survey!** Please gather the following information (if applicable) regarding both your case/affected and control/unaffected horses prior to starting the survey.

OWNER AND VETERINARIAN INFORMATION:

- First/Last name
- Valid e-mail address
- Valid phone number
- Street address
- Permission to contact veterinarian

HORSE INFORMATION:

- Barn name
- Breed
- Registration information (if applicable)
- Identifying marks on horse (i.e. hot brands not associated with registration) (if applicable)
- Year of birth
- Gender
- Length of ownership
- Activities horse is used for
- If deceased:
 - Year of death
 - Cause of death

REGISTRATION INFORMATION (IF APPLICABLE):

- Registered name
- Breed association name
- Registration number
- Permanent tattoo number / Freeze brand number
- Other identifying marks (i.e. hot brands associated with registration)

DIET INFORMATION:

- Weight/amount of Hay
- Type of Hay
- Weight/amount of grain
- Brand and type of grain
- Supplements
- Hand grazing information (if applicable) (i.e., minutes spent hand grazing)
- Previous diet information if changed in the last 12 months

EXERCISE AND TURNOUT:

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- Exercise information (i.e. day/minutes spent exercising; types of gaits)
 - Days/minutes spent exercising
 - Types of gaits used during exercise session
 - Exercise intolerance (if applicable)
- Hours spent in stall, pasture, and/or dry lot (if applicable)

CLINICAL SIGNS OF TYING UP (RHABDOMYOLISIS):

CASE/AFFECTED HORSES:

- Does it occur?
 - Seen by veterinarian?
 - Dark, coffee-colored urine?
- Timing of episodes: 90 days to 12 months
 - How many episodes over that time period
- Tie up while at rest (without exercise) or during exercise
 - How many episodes
 - Muscle enzymes measured (creatine kinase (CK) or aspartate transaminase (AST))
 - Number of times CK and AST have been measured
- Times bloodwork was performed (i.e. during or after episodes of tying-up)
- Three most recent bloodwork values for CK (if selected that this has been measured in bloodwork)
 - Dates collected, bloodwork values, and if taken while at rest
 - Highest bloodwork value for CK
- Three most recent bloodwork values for AST (if selected that this has been measured in bloodwork)
 - Dates collected, values, and if taken while at rest
 - Highest bloodwork value for AST
- Tying-up treatment (if applicable)

CONTROL/UNAFFECTED HORSES:

- Does it occur?

CLINICAL SIGNS OF MUSCLE FASCICULATIONS:

CASE/AFFECTED HORSES:

- Do they occur?
- Has your horse seen a veterinarian for fasciculations?
- Location of muscle fasciculations
- If the fasciculations are symmetrical

CONTROL/UNAFFECTED HORSES:

- Do they occur?

CLINICAL SIGNS OF MUSCLE ATROPHY:

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CASE/AFFECTED HORSES:

- Does it occur?
- Has your horse seen a veterinarian for atrophy?
- Muscle(s) affected (see [Basic Muscle Anatomy in Horses](#))
- If the atrophy is symmetrical
- If horse was vaccinated less than 4 weeks before the atrophy began (if applicable)
- If horse (and horses on farm) had signs of a respiratory illness less than 4 weeks before the atrophy began (if applicable)
 - Cause of respiratory illness
- If atrophy has resolved

CONTROL/UNAFFECTED HORSES:

- Does it occur?

CLINICAL SIGNS OF LAMENESS (FOR CASE/AFFECTED AND CONTROL/UNAFFECTED HORSES):

- If lameness has occurred within the last 12 months
- Reason for lameness (if known)
- Has your horse seen a veterinarian for lameness?
- Which limb is affected?
- Questions for each affected limb selected in the previous question:
 - Cause of lameness
 - Change during exercise?
 - Change under saddle or harness?
 - Status of condition (i.e. improved, worsened, or no change)

GAIT ABNORMALITIES (FOR CASE/AFFECTED AND CONTROL/UNAFFECTED HORSES):

- Is their back sore?
- Gait abnormality diagnosis by veterinarian (if applicable)
- Neurologic disease diagnosis by veterinarian (if applicable)

ADDITIONAL QUESTIONS (FOR CASE/AFFECTED AND CONTROL/UNAFFECTED HORSES):

- Muscle biopsy performed? (Case/Affected horses only)
- Genetic testing performed?
 - Muscle disease horse was tested for
 - Genotype result for horse
- Clinical signs (tying-up, fasciculations, atrophy, lameness) experienced by relative of horse
 - Relationship to horse
- Additional information about your horse

AFTER SURVEY ([Instructions here](#)):

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UPLOAD TO DROPBOX:

- Bloodwork Values (From the Past 12 Months)
- Genetic Testing Results (PDF)
- Muscle Biopsy Results (PDF)
- Photos of your horses
 - Left side
 - Hind side
 - Right side
 - Episodes of tying-up, if available
- Videos of your horses
 - Walking towards and away from camera
 - Trotting towards and away from camera (with horse trotting at least 50% of the distance both directions)
 - Trotting in large circles of lunging with a direction change
 - Turning in small circles with a direction change
 - Walking backwards
 - Episodes of tying-up, if available

MAIL TO THE UNIVERSITY OF MINNESOTA:

- Participants within the United States of America:
 - Sample of hay
 - Sample of grain
 - Sample of supplement(s)
 - Blood or hair roots sample (30-40 hair roots)
 - Sample submission sheets for both case and control horses from survey
- Participants outside the United States of America (see instructions [here](#)):
 - Blood or hair roots sample (30-40 hair roots) (hair roots sample only from UK participants)
 - Sample submission sheets for both case and control horses from survey