MYH1 Myopathy: Immune-Mediated Myositis
Nonexertional Rhabdomyolysis

What is MYH1 Myopathy?
- Two muscle diseases caused by a mutation in the MYH1 gene:
  1) immune mediated myositis (IMM) - autoimmune disease that causes rapid onset of muscle wasting along topline and hindquarters
  2) nonexertional rhabdomyolysis (tying up not caused by exercise) - characterized by severe muscle damage without signs of muscle wasting
- Autosomal dominant mode of inheritance with variable penetrance, meaning not all horses with the mutation will develop the disease

What you can do to keep your horse healthy:
- Whether or not horses develop either disease depends upon their genetic makeup and the environment.
- Breeders can avoid producing affected offspring by utilizing the available genetic test to identify horses with the mutation.
- About 39% of MYHM horses have history of exposure to triggering factor such as infection or exposure to certain pathogens

<table>
<thead>
<tr>
<th>IMM</th>
<th>Cause</th>
<th>Treatment</th>
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</thead>
<tbody>
<tr>
<td>Muscle wasting along topline and hindquarters</td>
<td>Inherited mutation for increased susceptibility, triggering factors</td>
<td>Corticosteroids, antibiotics, dietary changes</td>
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<tr>
<td>Severe muscle pain, stiffness, reluctance to move, brown urine</td>
<td>Inherited mutation for increased susceptibility, triggering factors</td>
<td>Dantrolene &amp; corticosteroids</td>
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</tbody>
</table>

*If your horse needs medical care, contact the Large Animal Clinic at (530) 752-1393. For genetic testing, contact the Veterinary Genetics Laboratory at vgl.ucdavis.edu.*