

Atypical Myopathy....the facts:

Atypical Myopathy is a frequently fatal condition caused by severe muscle damage, not only of the muscle of walking and posture but also of the breathing and heart muscles. The disease is seen in grazing horses and was first reported in the 1940s, but is becoming more common with many cases seen across the UK and Europe.

Horses suffering from atypical myopathy have been found to have high levels of toxin hypoglycin A, found in the seeds of sycamore trees. A similar condition is reported in humans after eating unripe Jamaican Ackee fruit. The toxin prevents the normal use of fats as energy by muscle cells causing build up within the cells and destruction of the normal muscle function with complete dependence on carbohydrates as an energy source.

The condition can affect any horse but is most commonly found in young animals, out at grass which are not receiving any supplementary feed. Those with higher body condition scores tend to be at lower risk, as do those who receive regular routine preventative health care, such as vaccination and worming. Sparse pasture with dead leaves seems to be associated with a higher risk.

As the disease progresses very rapidly and rapid treatment is crucial for improving success rates it is important to recognise signs that your horse might be affected.

- Depression
- Stiffness, weakness or lameness
- Colic
- Dark brown urine
- Muscle fasciculations (trembling)
- Sweating
- High heart and breathing rates

If you suspect your horse may be affected an emergency vet visit is required. While you are waiting for the vet to arrive horses should not be forced to walk but moving to a shelter/stable with plenty of bedding may be helpful if the horse is out. Keep the horse warm with breathable rugs and offer fresh water and hay. If the horse urinates try to catch a sample for your vet to look at.

The vet will perform a clinical exam to assess the horse. In addition, in cases of atypical myopathy blood tests will show very high levels of the muscle enzymes CK and AST along with providing other important information such as the presence of kidney damage. A urinary catheter may be passed to collect a sample. Dark brown urine, together with abnormal bloods and the clinical signs listed above are sufficient to diagnose the disease.

Unfortunately once clinical signs are evident the disease is usually in the advanced stages and there is no curative treatment at present. Survival rates are between 20-30% with intensive care. This usually requires transport to a hospital facility, however in some cases transport is not recommended or possible due to the degree of muscle damage and you should be guided by your vets' advice in this instance.

Treatment:

IV Fluids	Most important aspect of treatment. Flushes out toxic products, limiting damage to the kidneys and also maintain blood pressure.
Glucose	Provides cells with energy
Electrolytes	Keeps the levels within the body stable and avoids the development of abnormal heart rhythms.
Anti-inflammatories	Providing pain relief
Vitamin E	Some research has shown low levels in affected horses.
High carbohydrate diets	To provide cells with energy

Prevention:

- Remove horses from pasture known to be affected or which are surrounded by sycamore trees. Alternatively, fence off trees if this is not possible.
- Spring growth of seedlings is an important risk for the development of atypical myopathy. If you identify these do not graze the pasture until they have been removed. If seedlings contaminate water troughs then it is important that they are removed and the water replaced. If your horse has access to flowing water consider providing alternative sources of water during high risk periods.
- Feed supplementary hay from racks or nets.
- Provide a vitamin and mineral lick.
- Keep vaccination and worming protocols up to date.
- Horses grazing with affected animals can be blood tested to check muscle enzyme levels.

Research is currently ongoing with all cases across Europe reported to gain more information and work towards finding effective treatments and prevention of the disease.