HYPERLIPAEMIA IN DONKEYS

A disease caused by too much fat in the blood.

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Donkeys, as well as some native pony breeds, are particularly susceptible to hyperlipaemia, a disease caused by too much fat in the blood. This occurs when donkeys stop eating or when their appetite is significantly reduced.

These types of equines are designed to live in harsh environments where vegetation may be sparse and of poor quality, necessitating walking for up to 16 hours a day in search of food. As a result they tend to put on weight and gain excess fat reserves when living on relatively lush pasture and with limited exercise. Unfortunately when these animals stop eating for any reason hyperlipaemia may develop.

> All donkey owners should be aware of hyperlipaemia in donkeys as it carries a high risk of death even when recognised and treated promptly.

THE DISEASE PROCESS

When a donkey stops eating enough it goes into a state of 'negative energy balance' (more energy being used up than is being taken in). The essential organs still require a food supply, so the body tries to use energy that is stored as fat deposits. The result is that free fatty acids are circulated to the liver to be converted to glucose for use by the body. This system is controlled by complex hormonal events, which should shut down the amount of fat released from fat stores as the liver produces the glucose for the body.

However, donkeys and small ponies are not able to efficiently turn off this fat release and the blood soon fills up with excess fat in circulation. This circulating fat can be measured in the blood as triglycerides by a vet. Large amounts of fat cause the liver and kidneys to degenerate and fail and eventually all the organs in the body fail. The result is irreversible organ damage and death.

See blood samples below, with image one showing a hyperlipaemic blood sample in comparison to image two showing a normal blood sample.

WHAT CAUSES **HYPERLIPAEMIA?**

A number of risk factors have been identified as contributing to this condition. It is known that a female donkey is at higher risk than a male, especially when there are high energy demands such as if she is pregnant or lactating. Overweight and obese animals are at higher risk than those in average condition but even thin donkeys are at risk.

Donkeys that have lost significant weight in the preceding weeks should be monitored carefully as they are at a much higher risk of developing this disease. When managing your donkey's weight, care should be taken not to crash diet as this will put your donkey at risk.

Stress will cause a donkey to reduce its feed intake and can be brought on by many stressors such as:

- Pain
- Loss of a companion
- Sudden dietary change
- Transport
- Social mixing
- Bad weather
- Sudden weight loss.

Any underlying disease can set off other problems such as:

- Dental problems
- Colic
- Liver conditions

- Choke.

SIGNS OF **HYPERLIPAEMIA**

> A dull donkey is a veterinary emergency. Delays in treatment can reduce your donkey's chance of survival.

Subtle changes in behaviour are very important early indicators of possible disease problems. So the key to spotting this condition is to know how your donkey normally looks and behaves so you can spot any subtle changes.

INITIAL SIGNS OF HYPERLIPAEMIA MAY INCLUDE:

- Dullness
- Reduced appetite or just lack of interest in certain foods
- Bad breath (halitosis)
- Reduced production of dung or mucus-covered dung

THESE SIGNS MIGHT PROGRESS TO:

- Excessive build-up of fluid in the body's tissues (swelling under the belly)
- Signs of liver and kidney failure, such as: reduced or absent urine production, head pressing, circling or lack of coordination (ataxia)

SIGNS IN LATER STAGES INCLUDE:

- Collapse
- Seizures

If the condition progresses to this stage these signs are often followed by death.

Because the signs are so vague initially, donkey owners must act upon even minor signs, as delays in treatment can reduce the chances of successful outcome.

HOW CAN HYPERLIPAEMIA **BE PREVENTED?**

Hyperlipaemia may not occur for some time after a stressful event.

Hyperlipaemia is a very serious condition and prevention is undoubtedly better than cure. Steps you can take to reduce the risk include the following:

- Where possible avoid or minimise stressful events – make changes slowly, plan ahead, prepare or train your donkey for new situations. See our Transporting donkeys resource for further information.
- Do not let your donkey get over-fat, monitor feed intake carefully, especially with pregnant and lactating mares. If they are overweight follow advice in our Monitoring your donkey's weight resource.
- Underweight donkeys are also at increased risk of hyperlipaemia so try to maintain your donkey in a healthy condition and use fibre based supplementary rations where possible. See our Feeding and managing the underweight donkey resource for more information.
- Provide shelter in bad weather and provide rugs for old or thin donkeys. Follow advice in our Caring for the older donkey resource for more information.
- Watch when new members are introduced to the group. Make introductions gradually over several days and even weeks to avoid bulling and minimise stress. This is particularly important when animals, other than donkeys, are introduced as donkeys are frequently the bottom of the pecking order when living with horses, ponies or mules.

WHAT CAN BE DONE FOR A DONKEY WITH HYPERLIPAEMIA?

The key to dealing with hyperlipaemia is to reverse the negative energy balance before the fat released into the bloodstream has time to cause organ failure.

> If you suspect your donkey is unwell, you must ask your vet to visit.

Hyperlipaemia can develop as the result of other medical issues so treating these promptly may help reduce the risk. In the meantime, offer your donkey some clean water to drink and most importantly encourage them to eat.

TO ENCOURAGE YOUR DONKEY TO EAT TRY:

- Fresh grass
- Taking your donkey to a hedgerow where it can be allowed to access non-poisonous plants
- Grate apple or carrot
- Ginger biscuits
- Any other foodstuff you know your donkey enjoys - this is one time when sweet treats may be called for

To test for hyperlipaemia your vet may take a blood sample to check for visible fat in the serum. If your donkey will not eat they may need to be fed liquid food via a tube, passed up their nose and into their stomach. In severe cases your donkey may require an intravenous fluid drip. Depending on the cause of the hyperlipaemia, your vet may give anti-inflammatory or antibiotic medication. If your donkey needs to be hospitalised their companion must go too. This is to avoid separation stress for either donkey. It is a good idea to have sufficient insurance to cover this possibility.

COMPANIONS, BONDING AND DEATH

Donkeys form strong bonds with their companions and it is essential that surviving donkeys are allowed to remain with the body of their friend until they have lost interest. Ignoring this advice can lead to significant distress and anxiety among any surviving donkeys. They may show persistent wandering, pacing and braying, as they look for the missing donkey. They may go into a hyperlipaemic crisis as a result of the stress.

Please allow at least an hour before the body of the donkey is removed. Closely monitor the bereaved companion(s) for several weeks afterwards as bereavement stress can manifest itself up to three weeks after the death of a friend and result in hyperlipaemia. See our Dealing with death resource for more information

Extra attention and time spent with your donkey(s) will help, but don't be tempted to offer a lot of extra treats, which can be habit-forming and may lead to obesity. If you do decide to obtain a new donkey companion then consideration should be given to getting one of a similar age and size, whose behavioural and physical needs will match the needs of your existing donkey(s).

MORE **INFORMATION**

We are not able to offer medical advice but our veterinary team offer a free peer-to-peer service for vets to discuss veterinary care and treatments based on individual cases.