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## DISEASES OF MINIATURE HORSES

Miniature horses are wonderful little creatures full of spirit and intelligence with all the fun and joy of a larger horse packed into their pint sized bodies. Miniature horses are extremely versatile and, on the whole, quite sturdy and resilient but they are predisposed to a range of specific diseases that are different to their larger 'cousins'. This fact sheet aims to help highlight some of these conditions and aid owners and breeders in early recognition and prevention.



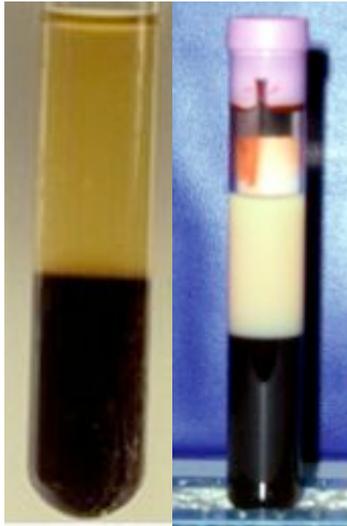
### *Hyperlipaemia*

Hyperlipaemia is a condition of miniature horses, donkeys and ponies caused by a negative energy balance (too much energy leaving the body and not enough energy going in). This results in a disturbance of fat metabolism leading to accumulation of large amounts of triglycerides (break down products of fat) in the blood. Minis, donkeys and native ponies appear to be particularly susceptible as they have a degree of 'insulin insensitivity' which leads to poorer control of their sugar and fat metabolism.

In primary hyperlipaemia, this negative energy balance can be due to pregnancy, lactation, feed restriction or simply due to stress. Secondary hyperlipaemia occurs due to anorexia as a result of another underlying disease causing illness and inappetence.

The main clinical signs of hyperlipaemia are inappetence, lethargy and dullness and depression. Other common signs include weakness, diarrhoea and ataxia (wobbliness) along with any other clinical signs of the underlying disease in the case of secondary hyperlipaemia.

Hyperlipaemia can be diagnosed by simple gross analysis of a blood sample. Blood taken from affected horses is 'milky' in appearance due to the high levels of fat products in the blood and, when left to clot, develops a thick white layer on top of the red blood below (Fig. 1).



**Fig. 1:** Normal equine blood sample on the left with clear, yellow serum compared to a blood sample from a horse with hyperlipaemia showing milky, opaque serum.

Survival of a horse with hyperlipaemia depends on early recognition of the subtle signs and prompt treatment. Sadly, survival can be as low as 50% even with intensive care, but can be as high as 75% in cases caught early. It appears that the main factor determining the outcome of secondary hyperlipaemia is the severity of the underlying disease.

Treatment is centred on rapid correction of the negative energy balance and resolving any concurrent disease. Hyperlipaemic horses often require intravenous fluids to correct dehydration and other electrolyte imbalances as well as providing energy, usually in the form of dextrose (a simple sugar). Nutritional therapy, often in the form of high carbohydrate feeds made into gruel and administered via a stomach tube, is a vital aspect of hyperlipaemia treatment. Nutritional support corrects the negative energy balance, increases glucose in the blood stream, promotes the release of insulin and helps to inhibit further break down of fat.

Prevention of hyperlipaemia can be easily achieved by ensuring that your minis enjoy the appropriate amount of nutrition year round and by paying special attention to the nutritional need of your pregnant and lactating mares. Special attention must also be given to ill minis or those that you feel may need a restricted diet.

### ***Equine Cushing's Disease and Metabolic Syndrome***

While both of these diseases occur in all sizes of horses, it is ponies and minis that are particularly susceptible to Cushing's disease and Equine Metabolic Syndrome (EMS).

Cushing's is seen over the age of 15 years and is due to hyperplasia (overgrowth) of the pars intermedia (middle part) of the pituitary gland, which is located in the brain. The most common features of Cushing's disease are recurrent laminitis and "hirsutism". Hirsutism is a failure of normal coat shedding and often presents as an abnormally long and curly hair coat. Although hirsutism is classic for Cushing's, it should be remembered that not all ponies with Cushing's have hirsutism. Unusual fat redistribution especially above the eye, chronic recurrent infections, muscle wasting and a pot-bellied appearance are also seen with Cushing's. Minis with Cushing's require particular attention to their nutrition, dental and hoof care along with worming management.

Minis with equine metabolic syndrome are often younger when diagnosed (5-15 years) and are usually the 'good-doers' who seem to gain weight on thin air. Large regional fat deposits are seen around the crest of the neck (known as a 'cresty neck'), the base of the tail, the shoulders and sometimes in the prepuce of geldings and around the mammary glands of mares. As with Cushing's, recurrent laminitis is a primary feature of this disease. The link between the laminitis and EMS is not fully understood but again, insulin resistance appears to play a major role.

For further information on both of these diseases please refer to our [Equine Cushing's Disease and Equine Metabolic Syndrome fact sheet](#).

### ***Colic in the Mini***

No other word in the English language conjures up such angst and dread in the hearts and minds of horse owners than the word 'colic'. Miniature horses are no more susceptible to colic than larger breeds but the type of colic they develop is often quite different. Minis are particularly at high risk of developing feed impactions and 'faecoliths' (rock-like faecal balls), most likely due to their disproportional small intestinal diameter when compared to the size of feed particle ingested. They also have a tendency to produce drier faeces and this, coupled with the challenges of providing good dental care to ensure food is chewed properly, makes them more likely to get impactions. In studies of surgical colics in miniature horses feed impactions and faecoliths account for greater than 60% of all cases. Colic in the mini is also very challenging from an early recognition point of view due to most minis being quite stoic so they don't readily showing overt signs of pain. From the vet's point of view, colic in minis can be challenging as one of the most important diagnostic tools, the rectal exam, is not often achievable due to size constraints. But conversely, ultrasound and even radiography of the abdomen to achieve a diagnosis is much easier to achieve in a mini compared to a larger breed.

For further information on colic please refer to our [Colic fact sheet](#).

### ***Dental Disease***

Regular dental care is just as important in the miniature horse as it is in larger breeds of horse, if not more important as poor dental care is one of the main risk factors for the development of surgical colics due to feed impactions and faecoliths.

Dental overcrowding is also a major problem of minis, predominantly those aged between 3 and 5 years old. Due to the minis' small head but relatively large teeth, they are particularly predisposed to tooth root problems and an early sign of potential problems in young animals are large and persistent 'eruption bumps'. Eruption bumps are hard swellings of the lower edge of the jaw underneath the cheek teeth as well as on the side of the face just above where the upper cheek teeth would be. If these 'bumps' are particularly large and causing extensive swelling and pain, it could be an indication of dental problems to come. Overcrowding of cheek teeth is easily diagnosed by oral examination using a full mouth gag and by taking radiographs of the head. If the veterinarian deems there to be a significant problem, pre-emptive corrective measures can be done.

Minis commonly have malocclusion problems where the alignment and position of the upper teeth does not match the bottom teeth. This can often be seen as an over-bite

(‘parrot mouth’) or an under-bite (‘sow mouth’) of the incisors or as the development of hook and ramps of the cheek teeth. As mentioned before, routine and regular dental care is extremely important in the mini. Teeth should be attended to at least once per year and may require more frequent visits if necessary.

For further information on dental disease, please refer to our [Dental fact sheet](#).

### ***Tracheal collapse***

This unusual condition of unknown cause is almost exclusively seen miniature horses. Typically the trachea is flattened top to bottom and the collapse usually involves quite a large length of the trachea. It is seen in all ages of minis and usually occurs without any other concurrent respiratory condition. Minis with mild collapse show signs of difficulty breathing only when exercised or stressed, whilst more severe cases display breathing problems simply at rest. The characteristic respiratory noise displayed by a mini suffering from tracheal collapse is described as a ‘goose-honk’. Cyanosis (blue discoloration of the gums) due to a lack of oxygen can occur in very severe cases. Diagnosis is made on the basis of history, clinical signs, endoscopy and radiography. Treatment is usually supportive with prognosis varying on the length of the trachea involved.

### ***Breeding associated problems***

One of the most serious issues associated with breeding minis is ‘dystocia’. Dystocia means difficulty giving birth and is potentially life threatening to both mare and foal. As well as being significantly more prone to dystocia than larger breed horses, minis are also more likely to experience mare and/or foal death during a difficult birth. Furthermore, correctly predicting foaling dates can be difficult in minis as accurate, early pregnancy diagnosis per rectum is often hard to achieve and many mini mares don’t show classical, overt signs of imminent birth such as their udder ‘bagging up’ and then ‘waxing up’. As a guide, if the foal has not been delivered within 20 minutes of the start of labour, you should contact your vet immediately.

For more information on parturition see our fact sheet ‘[The Foaling Mare](#)’

As mentioned previously in this article, pregnant and lactating mares are very prone to hyperlipaemia if a negative energy balance occurs due to a lack of appropriate nutrition. It is extremely important to take special care of breeding mini mares ensuring they are on a rising plane of nutrition leading up to birth and that they continue to be on a high energy diet throughout lactation.

***Miniature horses are wonderful little animals full of their own special qualities. Mini owners should remember that they can suffer from all the same conditions as their larger ‘cousins’ but some conditions are more prevalent and more concerning in minis than others.***