



MINIS

Talking Horses ISSUE 2 2010

The newsletter with news, views and practical advice

From the editor...

Our inaugural issue of Talking Minis published about 12 months ago was well received by mini enthusiasts, with many subscribing to receive future issues. If you haven't already subscribed but would like to, please email Gary at newsletters@kohnkesown.com to register your interest. Although we publish regular issues of Talking Horses Equestrian every 6-8 weeks, which you can also subscribe to, Talking Minis is an annual newsletter.

We hope that you enjoy Talking Minis 2 and find it of practical interest.

In this issue we discuss locking patella in detail, following queries from mini owners after a handy hint on the subject was included in Talking Minis 1. We include information on laminitis and founder as well as weight control in minis. A number of readers have had minis with plant poisoning over the drought, so we include the top 5 poisonous plants which could affect minis.

As usual, there's lots of handy hints and practical advice.

Have fun with your minis!

Dr John Kohnke BVSc. RDA

In this issue...

- * Patella locking - a review
- * Dangerous grasses - the laminitis 'bad ones'
- * Summer Hoof Care - some practical tips
- * Top 5 Poisonous Plants

Plus handy hints and lots more!

Are you breeding minis or plan to breed a mini foal?

'Talking Breeding' is a quarterly newsletter packed full of articles on breeding, raising foals and common breeding problems. It is applicable to all horses, including minis, and can be obtained by email Gary at newsletters@kohnkesown.com

You can obtain back issues (Talking Breeding issues 1 & 2) as well to collect them as a handy reference on breeding problems.

Handy Hint: Signs of Teeth Problems

1

If your mini appears to be eating slowly, dropping morsels of saliva-soaked feed (quidding) or even losing weight, he may have developed sharp edges on the upper cheek (molar) teeth, which is common in minis eating hay and hard feeds. Have the teeth checked by a qualified dentist or your vet. Simple rasping to remove the sharp edges to prevent him lacerating his tongue or mouth membranes as he chews will help to get him eating normally again and efficiently digesting his food.

Handy Hint: Do Not Starve an Overweight Mini

3

An overweight mini must not be starved by sudden withdrawal of feed. Minis can develop the often fatal hyperlipaemia syndrome when their nutritional intake is reduced suddenly. When feed is suddenly restricted or they are accidentally starved, their bodies mobilise fat reserves for energy. A genetic abnormality leads to the development of a complex lipo-protein compound in the liver which cannot be metabolised. This condition can be fatal in 10-12 days, often despite recognition and treatment. The condition can be triggered within 8-12 hours in a fat mini when feed is not available during long distance travelling, after snowfalls, bushfires, or very wet weather which restricts grazing, severe lameness including laminitis which also limits grazing and colic. Pregnant minis in the last 3 months before foaling increase their needs for glucose to develop the unborn foal in late pregnancy and they will mobilise fat reserves to provide energy.

Handy Hint: Prompt First Aid for Laminitis (founder)

Laminitis is a high risk disease in minis as they age, particularly those which develop a 'cresty' neck and stores of tail-butt fat. Early signs include a shortened stride, reluctance to move as if 'walking on hot stones' and leaning back on the heels, especially in the front hooves. The hooves may feel warmer than normal due to inflammation and you may be able to feel a pulsing artery behind the pastern above the bulbs of the heels - a 'digital pulse' is caused by altered blood flow with the inflamed lamellae in the hooves. Prompt first aid is essential. Call your vet for advice. Slowly walk the mini to an enclosed yard. If it is stranded in a paddock, pick it up in a trailer and transport it to the yard. Never urge or force a severely laminitic mini to walk as pedal bone rotation may occur. Wrap ice blocks in a plastic bag around each hoof and hold them in place with elastic wrap (eg Vetwrap®). Punch a hole in the bottom of the ice bag so that the water can escape as the ice melts to keep the hooves as cold as possible. They won't freeze but the cold will reduce the internal swelling and ease the pain and discomfort. Your vet may prescribe 'bute' (herbal relief is of no benefit to reduce internal inflammation). Be sure to use the exact dose rate as recommended by the vet. Repeat the ice packing 3-4 times per day. Feed the little guy some soaked hay to nibble - do not starve (refer to Handy Hint 3 on Hyperlipaemia). Keep in touch with your vet to report on progress, as founder is a crippling disease.

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Kohnke's Own®

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PATELLA LOCKING – A REVIEW

Locking of the patella (also known as patella luxation) is relatively common in minis. The patella in the mini is equivalent to the kneecap in humans. The patella is held in a groove in front of the stifle joint to act as a 'pully' for an extensor tendon which passes over the stifle on its way to the lower limb. It can become loose in the groove and slip over the inside edge of the femur to become displaced on the inner border of the stifle, virtually preventing the stifle from bending and it 'locks' into a fixed position.

THE UNDERLYING CAUSES

There are 5 main causes of patella displacement in horses. It is thought that minis are more prone to the problem because their long limb bones are compact versions of taller horses and there is often a higher risk in minis with straight hind limb conformation.

Genetic Tendency

It has been observed that certain bloodlines of minis have a higher incidence due to inherited reasons. Some mini bloodlines have smaller 'condyle ridges' on the inside edge of their femur bones - a structural development problem which also occurs in some pony breeds. This lower inside edge allows the patella to 'slip' over the inside edge of its groove in front of the stifle as the animal slightly rotates its leg when getting up when the patella is held less taut in its femoral groove.

Some lines of minis have a tendency towards upright conformation of the hind limbs and this predisposes the offspring to 'locking patella'.

Once the patella slips to the inside, it 'locks' the stifle in position. The only way to 'unlock' the stifle is to push the animal to take one backward step, which straightens the stifle and enables the tendon and patella to 'pop back' into its normal position.

Handy Hint:
Avoid Breeding Mares and Stallions with Inherited Patella Luxation

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It has been observed, and confirmed by X-rays angled across the front border of the stifle to image the inner femoral condyle, that individual minis may have less well formed and prominent femoral condyle ridges. As the condition appears to be a recessive gene in certain bloodlines, it is best not to breed a mare or stallion with a history of patella luxation. It is recommended to have the femoral condyles X-rayed to confirm the genetic abnormality. Stallions should be gelded to prevent them passing the weakness on to future generations.

Strain of the Stifle Joint

It has been documented that sprains within the stifle joint can stretch the internal stifle ligaments (cruciate ligaments) or stretch the patella flexor tendon. These types of injuries might be the result of slipping when getting up in a stable with a slippery wet floor especially after being cast against a wall, slipping over when galloping around in a wet, muddy paddock or when falling down in a float during transport. This can result in the patella becoming 'loose' within its groove and if the tibia (our shin bone) is unstable due to cruciate ligament sprain, the patella may slip to the inside of the stifle and 'lock'.

Handy Hint:
Supplement with Selenium in Young, Growing Minis

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Supplementation with selenium may be helpful to avoid 'locking' patella in young minis. A supplement, such as **Kohnke's Own Cell-Grow®** is especially formulated to meet the needs of growing horses, including minis, up to about 2 years of age. It contains selenium in organic yeast form, which is better absorbed than chemical forms of sodium selenite or sodium selenate in most prepared feeds and supplements. After 2 years of age, daily supplementation with **Kohnke's Own Cell Provide®** which is specifically formulated for ponies and minis, will help provide adequate selenium to correct low or inadequate intake from pasture and hay based diets. It is an important daily supplement which should be fed to minis grazing on areas known to have selenium deficient soils.

Low Selenium Diets

Investigation into an unusually high number of locking patella, both single and both limbs locking, in northern Tasmania which affected growing pony breeds and minis, linked soil deficiencies of the trace element selenium with the regional incidence of the problem. Many areas of Australia where high rainfall or a sand-dune base as reclaimed land have selenium deficient soils. Besides increasing the risk of locking patella in young growing horses and ponies, low selenium levels in pasture, grain and hay grown on areas with a soil deficiency, can increase the risk of poor muscle development and muscle weakness (referred to as 'White Muscle Disease' in severe cases) and abnormal joint cartilage and tendon development in growing horses or adult horse over an extended time on a low selenium diet.

Long Hind Toes

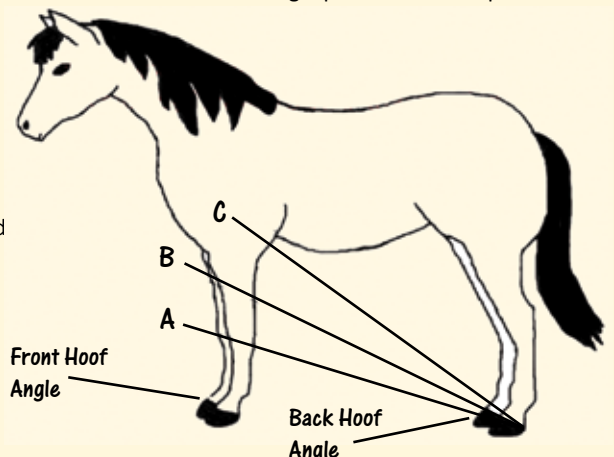
It is well known that excessive toe length on the hind legs, combined with low heel conformation, is a common cause of locking patella in minis. This is due to the mechanical effect of the long toes and low heels which results in the hock positioned more upright and the stifle joint is less angled, leaving the patella unstable in the femoral groove of one or both stifle joints.

Checking the Angle of the Hind Hooves

The front angle of the hoof wall on the hind limbs should be more upright than the corresponding slope of the front hooves, with a shorter toe and higher heels. A long toe, low heel hoof shape increases the risk of stifle lock because the stifle joint is angled back in a more relaxed position when the horse is standing, allowing the patella to be 'loose' within the stifle joint. The slope of the coronary band can be checked by placing the end of a piece of string on the coronary band on the back of the heel and then running it parallel to the slope of the coronary band to determine where it intersects on the front limb.

Line A: Optimum hind limb coronary angle, with the string line intersecting at the back of the knee, or no higher than mid way between the knee and elbow on the front limb.

Lines B & C: Lines intersect too high, indicating that the coronary angle of the hind hooves is too high, because the toes are too long and the heels are too low.



Many mini owners report that the incidence of patella locking is reduced following each time the hind hooves are shortened, but that the problem returns as the toes grow longer towards the end of the regular 6 week hoof trim.

Poor Muscle Development

Many resting, grazing or show minis do not have strong hindquarter muscle development. Once a mini is worked for harness or ring competition, the muscles respond to exercise and the increased muscle tension and strength helps reduce the risk of locking patella. If a mini continues to suffer from locking patella after trimming the hind toes and supplementing with selenium, then it is best to hand walk or trot on a loose lead up at 10° slope for 1 km twice weekly to stimulate hind limb muscle development which may help reduce patella locking.

Rapid Growth spurts

It is not uncommon for young Warmbloods in particular, and Thoroughbred yearlings to develop 'clicking' and locking patella if they have a growth spurt as a result of increased energy intake on good pasture or high energy hard feed, or 'catch up' growth after illness or an injury. It has not been observed in minis, but if it is suspected, then cutting back the energy intake and providing a balanced calcium, trace-mineral and vitamin supplement for growing horses (or minis), such as **Kohnke's Own Cell Grow®**, is recommended.

Normally the growth plate enlargement of the stifle joint bones returns to normal dimensions within 4-6 weeks and the 'clicking' sound at the walk and the patella locking ceases.

Dangerous Grasses

It is well known that lush, growing grass based pasture can contain high levels of fructan and soluble sugars which are a primary trigger for laminitis and founder in horses, ponies and minis grazing spring and summer pastures. The current higher than average rainfall in many areas has increased the incidence of founder in minis that are at pasture on a 24/7 basis.

In most cases, a simple overload of sugars into the hindgut can trigger increased hindgut acid levels and result in toxic laminitis and internal hoof damage to cause founder. Over-conditioned, young and non-working minis, especially if they are 'good-doers', are prone to laminitis as a secondary problem related to Equine Metabolic Syndrome (EMS) and insulin resistance (IR), akin to Type II diabetes in humans.

The most 'dangerous' grasses are C3 cool weather grasses which 'flush' with spring rains and warmer weather, synthesising large amounts of sugars which make them 'sweet' and attractive to grazing minis. These include **ryegrass, cocksfoot, fescues, brome, paspalum and barley grass**, a common blend of grasses sown down for horses or used for high yield 'dairy and beef' pastures in southern Australia.

In northern areas, C4 tropical grasses including **kikuyu, couch grass, early growth Rhodes grass, setaria species, buffel and other rapidly growing grasses** are 'dangerous' to grazing minis when growing rapidly under moist, warm growing conditions. Many of these contain high levels of soluble sugars and non-structural carbohydrates (NSC's) which can trigger laminitis within a few days of 24/7 access. They also contain high levels of oxalate chemicals when growing rapidly, which can interfere with calcium uptake and result in weak, brittle bones and 'big head'.

Native grasses are less likely to contain high levels of sugars and are much less 'dangerous' to a grazing mini.

Confining a mini to a tree shaded area in a paddock can also reduce the intake of sugary pasture due to the shading and water restriction imposed by the tree cover.

The Laminitis 'Bad Ones'

Handy Hint: Limit Access to High Sugar Pasture Grasses

It is important to limit daytime grazing to 1-2 hours early in the morning (before 10am) and 1-2 hours in the evening before sunset. Minis should be brought in and confined to a yard or stable overnight, with heavily conditioned minis being fed on soaked lucerne hay overnight. Lucerne has a lower sugar content as compared to common grasses. Investing in a grazing muzzle to be fitted during the day to limit pasture intake is also a practical way of minimising the risk of laminitis. Supplementation with Founderguard® or EquiSure® to help limit hindgut acid build-up, or with **Kohnke's Own Trim®** for 'cresty', overweight minis combined with a low calorie diet and short term access to pasture will help reduce the risk of laminitis.

Handy Hint: Avoid Grazing Pasture with High Capeweed/Dandelion Content

Often minis confined to weedy pastures in spring and early summer will nibble on 'sweet', sugary weeds, such as capeweed, dandelion and flatweed. Whilst capeweed can trigger laminitis, flatweed and dandelion can also cause Australian Stringhalt. It is important to limit access to eaten out, weedy areas containing a blanket covering of these weeds.



Dandelion



Capeweed

For more information, please visit our website at www.kohnkesown.com and click on the Factsheet button to find an article titled 'Safe Pastures for Horses with Laminitis'

Summer Hoof Care - Some Practical Tips

Hot summer conditions can rapidly dry out the hooves and lead to shrinkage, cracking and hardening of the sole and frog, which reduces the ability of the hoof to absorb concussion.

It is important to maintain the moisture content of the soles and frogs by wetting the hooves and applying a barrier to limit moisture variations.

Early morning dew on pasture can help replace lost moisture on a daily basis. However, in a mini confined to a stable, yard or shortly cropped pasture, this moisture replacement will be limited under hot, dry conditions.

Did you know that...

A hoof can lose up to 15% of its weight each day from moisture loss through the sole when a horse is standing on hot, dry soil, especially sandy soil in a paddock or holding yard. This can cause shrinkage and cracking of the sole, which increase the risk of bacteria entering the deeper layers of the sole under wet conditions, resulting in a hoof abscess.

Handy Hint: Dampen the Hooves and Apply a Hoof Dressing

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Under dry conditions, it is best to stand a mini on an area of dampened soil or hose the hooves in a wash bay in the evening for 10 minutes to assist overnight rehydration of the soles and frogs. Some owners allow a water trough to overflow to create a wet area, but this can waste water. After the soles have absorbed moisture, apply a thin coating of **Kohnke's Own Hoof Seal®** to the hoof wall, soles and frog. Hoof Seal is a new generation hoof preparation which provides a 'breathable' coating to the hooves which does not melt off, come off on your hands, or collect dirt or bedding. After 2-3 daily applications following remoisturisation, Hoof Seal only needs be applied to the soles and frog twice weekly to help maintain optimum moisture content and prevent the hoof cracking or becoming hard to trim. During wet weather, Hoof Seal repels excess moisture and may help discourage bacterial uptake into the soles by maintaining a protective film over the hoof.



Top 5 Poisonous Plants That Could Affect Minis

Minis are more susceptible to plant poisoning compared to larger ponies and horses because their smaller body size means that a relatively lower dose of plant toxins can adversely affect them.

Also, some owners allow their minis access to back yards and this puts them in contact with ornamental garden plants, many of which are poisonous to horses, ponies and minis.

Another risk factor for minis is that 'good doers' might be on a restricted diet and a hungry mini could pick at weeds or plant cuttings that they wouldn't normally touch.

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Avocado tree



Oleander



Paterson's Curse



Prunus spp - plums, peaches, apricots etc



Flatweed

Kohnke's Own®

Combined with a low GI diet, **TRIM** provides nutritional support to assist sugar and fat metabolism to help strip off 'cresty' necks and abnormal fat deposits.

Product of the Month

TRIM

