Explaining Laminitis and its Prevention ©

Robert A Eustace BVSc Cert EO Cert EP FRCVS
The Laminitis Clinic, Mead House, Dauntsey, Chippenham, Wilts. SN15 4JA. England

Chapter 6 - Feeding and Management

Predisposition to laminitis

Some breeds of horses and ponies have a different carbohydrate metabolism to others. For example, Thoroughbreds are much less efficient at absorbing nutrients from their diet than native ponies, cobs or Warmbloods. The latter breeds are said to have “thrifty” genes enabling them to survive in times of little food. This essentially means that they run to fat more easily when food is plentiful. If they are allowed to become overweight they are more likely to become glucose intolerant, insulin resistant and develop Metabolic Syndrome thus leading to recurrent attacks of laminitis.

This does not mean that all “good doers” are going to get laminitis. However they are more likely to get laminitis if their management is inadequate. The human predisposition for hereditary bad management is certainly proven. What can be said, is that a fat animal is more likely to develop laminitis following challenge with excess food than a lean or fit animal. If an animal is suffering any of the conditions listed in Chapter 5 then it is has a greater than normal risk of developing laminitis, i.e. it is a high risk animal.

Prevention

One of the most important attributes of a skilled horsemaster is to be able to keep the animal at the correct weight. I like to be able to feel a horse's ribs easily and yet not be able to see them. In addition the animal should not have a thick, hard cresty neck. This crest is fat. Another place where mares tend to accumulate fat is in front of the udder. Geldings develop an abnormally thick and pendulous sheath due to the laying down of fat under the skin. More than once have I been called to see an animal which has suddenly developed a swelling, only to find it is a fat depot which the owner has only just noticed! Some animals have a cresty neck without a very obese body, nevertheless the crest can be reduced in size by a rigid diet without emaciating the animal. This appearance combined with lack of energy and a dry brittle hair coat can be due to thyroid insufficiency. However this is rare in horses and can easily be tested for from a blood sample.

It requires good management to keep a horse's weight approximately the same the year round. The owner, whilst in daily contact with the animals, cannot always appreciate their gradual change in shape! Be guided by someone who sees the horse only intermittently; the farrier is probably best placed. To be a little more scientific about weight watching it is helpful if a WeighTape is used every time the farrier attends the horse. These measurements should be written down somewhere where they will not be lost, even if it is on the wall of the shoeing box. You will then have a record of whether your animal is expanding or contracting and you can alter the diet accordingly!

Grazing

It is certainly not easy to manage some native ponies at grass during the growing seasons of Spring and Autumn. This is particularly true if they are the garden ornament variety which do no work at all. The secret is to have the animal at the correct body weight before turn out. The guideline of not being able to see their ribs yet being able to feel them easily is worth remembering. If the animal is in this condition before turn out in the Spring you have a somewhat greater safety margin if he should consume too much grass one day. During the growing season the best way of managing pony grazing is by strip grazing with an electric fence. Most ponies will respect an electric fence although you do come across the odd hooligan who either barges straight through it or rolls underneath it. The latter can be stopped by using the mesh type of electric fence while the barger may be deterred by using a higher pulse voltage. If this is not feasible the other way to restrict a pony's grazing is to fit a Best Friend grazing muzzle for most of the time at grass. The muzzle should either be fitted by clipping onto the nose band rings of a head collar or by weaving the poll strap of the muzzle through the cheek piece rings in the head collar. A word of warning, make sure there is nothing in the field the pony is likely to get hung up on. Taps on old baths used as water troughs are particularly dangerous. I have seen two horses die after getting hooked up on taps and fracture their necks or drown.

A sensible precaution is to get most of the grass on a new field eaten off by cattle and sheep before turning ponies out. When horses and ponies are grazed for long periods on bald pastures, particular attention must be given to regular worming and dropping picking. Although time consuming, alternate daily gathering of droppings will really help to reduce pasture contamination with worm eggs.

Heavily contaminated or horse sick pastures can produce a sufficiently massive worm challenge to kill young or susceptible individuals. No amount of wormer will save the animal in this situation.

There seems to be a liking for stabling ponies during the day and turning them out at night in the belief that they will eat less at night. I can assure you this is not the case. By all means graze the pony at night but take the necessary precautions of strip grazing or muzzling just as you should during the day.

There are grass mixtures available which produce a sward of low-nutrient grass which is much safer to feed native ponies.

There is nothing intrinsically dangerous about feeding grass to laminitis or founder cases, I often use haynets full of cut grass at the Clinic as part of the patients' diet. Once people have had an animal suffer an attack of laminitis they tend never to allow it further access to grass. This is usually unnecessary and involves animals being shut up for long periods without exercise; this is not good for them. What makes grass rather dangerous as a feed is;
1. There is rather a lot of it about.
2. Greedy animals can eat great quantities in a relatively short time.
3. The nutritional quality of the grass can change markedly from one fortnight to the next without appearing very different to the naked eye.

Remember there is usually a `flush' of grass in the Autumn as well as the Spring. I am usually busiest at the Clinic in September and October.

Feeding

There is no great mystery although there is plenty of mythology surrounding the feeding of horses and ponies which have suffered laminitis or founder. The basis of feeding is to feed a high fibre diet low in carbohydrate with sufficient good quality protein, combined with a suitable supplement to ensure all the necessary micronutrients are provided. Unless horses and ponies are in very hard work they do not need hard feed at all, they can perform quite satisfactorily on a forage diet. It is certainly sensible to avoid all hard feed ie, cereals, nuts, coarse mixes (whether heating or non-heating), extruded cereal diets etc to any animal that is in a high risk group or has suffered laminitis previously. There seems to be a trend to ‘green’’ the marketing of horse feed, with companies producing meadow mixes, herbal mixes, pasture mixes. These are best avoided if they contain cereals, as most do.

People always ask me how much of this and that they should feed their horse or pony. It is just not possible to say because individual animals' metabolism, their environment and use are so different. This should be born in mind when following the feeding directions on the outside of bags of horse feed. I use a diet based on the following; a mixture of grass or hay, oat straw, alfalfa, sugar beet pulp and Formula^4 Feet supplement. The grass and hay provide the bulk of the food whilst the alfalfa is used to provide minerals and protein necessary for good horn production. Research at the University of Edinburgh has shown that the minerals in alfalfa are in a protein-bound form which the horse can absorb: this is not always the case with mineral supplements such as limestone or bone flour. Further work has shown that alfalfa fed horses developed better hoof horn quality than horses fed a more traditional English hay diet. Formula^4 Feet has been developed at the Laminitis Clinic and subsequently independently researched at the University of Berlin, a famous keratin research institute. Formula^4 Feet provides over 65 essential micronutrients not only to improve horn quality and promote insulin tolerance but also acting as an excellent general supplement and feed balancer.

Bran is often recommended as an aid to dieting ponies. I never use it. The addition of bran to the diet over a long period is to be avoided as it is high in phosphorous and will result in a feed with too low a calcium:phosphorous ratio. Bran mashes may be used for their laxative properties for 24 hours following an acute overeating episode. This use of bran is acceptable but chronic bran feeding is not recommended. Usually the veterinary surgeon will administer a mixture of liquid paraffin and Epsom salts by stomach tube to help evacuate the bowel and prevent the uptake of bacterial toxins before feeding the bran mashes. I have found a mixture of alfalfa and chopped straw very useful for dieting ponies. The task of selecting feeds has been made much easier for horse owners by the advent of the Laminitis Trust Feed Approval Mark. I do not recommend the feeding of haylage to horses and ponies, even so called high fibre haylage.

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Only the feeds which carry this symbol have been examined and approved by the Scientific Committee of the Laminitis Trust. Please support the companies which have approved feeds. They are supporting laminitis research by their licence fees.

APPROVED BY
THE LAMINITIS TRUST
Reg Charity No: 1049266

Only feeds which carry this Approval Mark have been passed by the Laminitis Trust and are safe to feed to your horses and ponies according to the recommendations by the Trust written on every bag.

Figs. 50 & 51 show what can be achieved by using Trust Approved feeds to provide a steady weight loss. A fat Shetland would only need 0.5 kg (about 1.25 lbs) of Hi Fi twice a day with 0.75 kg of hay also twice a day. A handy tip to help keep horses and ponies occupied for longer in the stable when they are on a diet is to spread the hay throughout the bed rather than dump it in one pile or put it in a haynet. It takes them much longer to find and eat the hay. This presupposes excellent stable management. Some animals occupy themselves trying to eat a swede hung from the stable roof.

There are several factors which make the feeding of horses these days more difficult than it need be. One is the pressure from friends to try the latest fad in horse feed. The marketing of horse feed pressurises the horse owner to feed more and more. Another factor is the ridiculous and damaging tendency of most show judges only to award rosettes to animals which are grossly overweight.

A fat 15 hands cob may only need 0.5 kg (1.25 lbs) of Alfa A, 0.5 kg (1.25 lbs) of Hi Fi and 2.5 lbs of hay twice a day, and nothing else but water, if it is to lose weight. It will have to be kept off grass during this period whilst it loses weight. When such a pony has been dieted to a satisfactory bodyweight, access to one to two hours grass daily, in addition to the hay and Hi Fi, is likely to be enough to maintain condition. Fat animals need to be dieted, not starved. Starvation or too drastic a reduction in feed can lead to a condition known as hyperlipidaemia. This occurs commonly in fat ponies, particularly fat Shetland ponies and most commonly in fat Shetland ponies in the last third of pregnancy. If the energy value of the diet is suddenly reduced the animal will mobilise fat reserves to provide the missing energy. In cases of hyperlipidaemia the mobilisation gets out of control with excessive quantities of liquid fat being released into the blood stream. Hyperlipidaemia is often fatal.

Only the feeds listed below are currently approved by the Laminitis Trust

mmf Masham Micronized Feeds

Speedi-Beet
Fibre-Beet

SPILLERS®

Happy Hoof
Hi Fibre Cubes

Dengie
Superior quality horse feed

Hi Fi Lite
Alfa A Lite
Alfa- Beet
Healthy Hooves

Figure 50. No wonder Tommy got laminitis! Very overweight with a thick crest.

Figure 51. After 3 months on a diet of 3 lbs hay, 2.5 lbs Hi Fi daily, Tommy is ready for life in the fast lane.