

# Stamping out laminitis

An equine sanctuary has eradicated cases of laminitis through a blood testing programme. **Charlotte Ricca Smith** finds out more

It is generally top competition yards with big budgets that have access to the best equine nutrition and health care, but an animal sanctuary in Essex is leading the way when it comes to managing laminitis.

Until two years ago, laminitis was one of the biggest health problems at Remus Memorial Horse Sanctuary, near Ingatestone.

Now, thanks to the latest research and a meticulous management strategy carried out by its hard-working staff, the disease has been eradicated.

"Laminitis was a huge concern to us, as no matter what we did, we couldn't stop it," says Sue Burton, who set up Remus in 1983.

"We restricted food and grazing, but we still had incidences of it.

"Every summer we turned our horses and ponies out, and one by one they came back in again, as they went down with laminitis."

The turning point for the charity was the introduction of blood tests which can detect Cushing's disease – now known as pituitary pars intermedia dysfunction, or PPID – and equine metabolic syndrome (EMS). ▶



Research has revealed that around 90 per cent of cases of laminitis are caused by these two endocrine (hormone) conditions (see 'Feeling hormonal', far right).

### Sugar ban

There are a number of ways to test for PPID, but the most commonly used blood test is one that measures the levels of adrenocorticotrophic hormone (ACTH).

The test for EMS is similar to a diabetes test for humans – two blood samples are taken, before and after a horse is given glucose, to test whether he is resistant to insulin.

"Now, any horse over 10 years old is routinely tested and new horses that come in are tested straight away," says Sue. "Once we could find out the cause of laminitis we knew how to solve it."

Out of the 75 horses in the sanctuary's care, 24 have PPID and 21 have EMS – but none of them exhibit the usual signs of laminitis associated with these conditions. So what is Sue's secret?

"It's not rocket science and it doesn't cost a fortune, it is just general good management and ensuring they don't eat things that are high in sugar," says Sue. "The most expensive bit is testing the horses, as we have them tested monthly until the condition is under control and then it is done annually."

### The role of medication

Medication also plays a key role in controlling the medical conditions. The horses and ponies with PPID are given a product which helps to normalise hormone secretion from the pituitary gland into the bloodstream.

Those with EMS receive a drug given to people with Type 2 Diabetes, which allows muscle cells to absorb glucose, independent of insulin.

Alongside veterinary intervention, Sue runs a tight ship at Remus, ensuring the wellbeing of her horses well into their 30s and 40s.

Indeed, until recently Sue had two horses that had made it into their fiftieth decade.

"We are a no sugar yard and all of the equines are on a high-fibre diet – so that means no treats



Sue says blood testing (below left) has helped the sanctuary beat laminitis



such as carrots or apples and no molasses," states Sue. "We use sugar-free products from Dengie and work closely with a nutritionist."

"The horses with EMS are taken off grass so we can control what they eat, but we have big shavings paddocks so they still go out and socialise and enjoy the sun on their backs."

Sue also feeds haylage, which is made for Remus by a local farmer.

With high numbers to feed, she found quality control difficult when hay was delivered weekly, and some of the horses suffered from colic.



Medication helps control the hormonal conditions

While some vets advise horses with EMS to avoid haylage as it can be high in fructose (sugar), there are certain types, such as those made from Timothy hay, that have low fructan levels.

Remus has its own weighbridge, which means the horses can be checked regularly to ensure the weight stays off.

And all of the horses are kept as active as possible, using simple measures such as spreading haylage around the field, to ensure they work for their feed.

However, as they are retired, none are ridden, which explains why Sue has never sat on a horse in the 30 years or so she has been running Remus.

"Riding has just never interested me," she reveals. "I'm happy looking after and caring for the horses instead. I'm 51 now and I was 17 when I started [the sanctuary], so I don't suppose I will ever get on one now."



The equines are weighed every week

## Feeling hormonal

Nine out of 10 horses suffering with laminitis will have one of two endocrine problems: Equine Metabolic Syndrome (EMS) or pituitary pars intermedia dysfunction (PPID) – more commonly known as equine Cushing's disease.

EMS has become increasingly recognised over the last decade. It is commonly associated with chronic obesity, however there is often abnormal fat deposition, with fatty tissue in specific areas such as the crest of the neck, the shoulders and the rump.

EMS is also characterised by recurrent laminitis and insulin resistance. The hormone regulates how the body uses and stores glucose and fat after eating food high in sugar or starch (such as spring grass).

Many body cells rely on insulin to take glucose from the body for energy.

Scientists have found that fat cells actively produce hormones, which impair the actions of insulin. Therefore, excessive fat cells can lead to insulin resistance.



A cresty neck is a sign of EMS



Laminitis is not as simple as eating too much grass

The body compensates by producing more insulin, which leads to hyperinsulinaemia. This can cause Type 2 diabetes in people and laminitis in horses.

According to Andy Durham of Liphook Equine Hospital, Hampshire, who is involved in the Talk About Laminitis Scheme (see box, page 86), certain breeds such as native ponies are genetically predisposed to EMS – and therefore laminitis – because they put on weight more easily. However, it's not as simple as eating too much grass.

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**"The reason we see an increase in cases of EMS and laminitis in the spring is because higher levels of sugars in grass cause a rise in levels of glucose"**

higher level of sugars in grass cause a rise in levels of glucose," he says. "This can exacerbate their existing insulin resistance and increases the risk of laminitis. But grazing on its own is unlikely to cause laminitis if there is not an underlying endocrine [hormone] problem."

PPID predominately affects older horses and occurs due to an abnormality in the pituitary gland.

This results in an increased production of hormones, including ACTH and cortisol – which under normal conditions are produced in response to stress.

It is these excessive levels that causes the signs associated with PPID, which include laminitis, muscle wasting, an increased thirst and a long, curly coat.



Increased levels of hormones result in a curly coat in PPID sufferers

**"Those with EMS are taken off grass so we can control what they eat but they go out in big shavings paddocks"**

Horses with EMS are kept in a purpose-built turnout paddock



## Horse sense Laminitis

### Supportive management

Managing PPIT is quite different from EMS, as weight loss can often be a problem as opposed to obesity.

When condition is an issue, Sue gives the horses a high calorific feed such as Dengie Alfalfa Pellets, which can be made into a mash for older animals with dental problems.

Regular dentistry, worming and hoofcare also play an important part in Sue's management of PPID.

"We had one pony that came in to us as typical veteran," says Sue. "He hadn't been neglected but his owners had put him out in the field and it meant they hadn't noticed things, such as the fact he couldn't eat his hay properly because he had mouth abscesses.

"When he arrived here we took his coat off and he was skin and bone underneath.

"We tested him for Cushing's and his ACTH levels were off the scale.

"He was put on medication and fed hourly, and within a few months he was a different pony and his ACTH levels were back down to within a normal level."

As well as watching what the horses eat, Remus does all it can to ensure its residents' comfort and mental wellbeing.

The sanctuary has a 'laminitic barn', with wood-chip flooring, a solarium and heat lamps to help boost the immune system and deep

cushioned stables all with rubber matting below the bedding.

The team carries out holistic work with the horses, such as aromatherapy, reiki, shiatsu and self-selection herbs. Herbs grow on hedgerows, which horses would naturally forage for in the wild, but we have taken that away from equines by domesticating them.

**"I'm not saying holistic work cures horses or ponies, but it puts them in a better place mentally to deal with ill health"**

Sue believes you can tell what is wrong with a horse by which herbs they choose to eat.

Music is also played on the yard, to create a calm atmosphere.

"I'm not saying holistic work cures them, but it puts them in a better place mentally to deal with ill health," says Sue.

"Stress is such big part of a horse's life and it can be a trigger for

laminitis. Our main goal is to do all we can try to reduce stress levels, so the horses and ponies can deal better with the physical issues they have." ■



## Talking About Laminitis

Talk About Laminitis is a national initiative which aims to improve the awareness and understanding of the underlying endocrine causes of laminitis.

Its website features useful information on both EMS and PPID – visit: [www.talkaboutlaminitis.co.uk](http://www.talkaboutlaminitis.co.uk).

Until the end of October 2014, horse owners can benefit from free ACTH testing, so owners of laminitic horses and ponies can determine if PPID is the cause. The scheme covers the laboratory costs – you will still need to pay for a vet to perform the blood test.

If your horse tests positive for the disease it can then be treated and managed appropriately to avoid future painful and debilitating episodes.

"There is no reason to wait for your horse to have recurrent laminitis," says vet Andy Durham. "It is best to test on day one of the first episode to see if, as most likely, there is endocrinology underlying the attack."

Your free test voucher can be downloaded via the Talk About Laminitis website and you can follow the campaign updates via Facebook.

● For more information about Remus Horse Sanctuary, visit: [www.remussanctuary.org](http://www.remussanctuary.org).



Heat lamps in the laminitic barn boost the immune system