

XLEQUINE - BETTER TOGETHER

Equine

MATTERS

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Inside this issue:

REGENERATIVE MEDICINE

We focus on regenerative medicine and its use in equine orthopaedic conditions.

Peak Performance

A look at the physical stresses and demands of the National Hunt and Flat racehorse.



Vet Focus

In each issue of **Equine Matters** we feature a brief insight into a selection of the veterinary surgeons that make up XLEquine. Featured in this issue are Chris Lehrbach, Mark Tabachnik and Gavinder Panesar...



Chris Lehrbach BVMS MVM CertES(Orth) MRCVS



Chris Lehrbach is the senior equine veterinary surgeon at Chapelfield Veterinary Partnership Ltd in Norfolk, where he is a Director.

I qualified from Glasgow Veterinary School in 1994, after which I joined a mixed practice for a year and then returned to Glasgow to complete a 3 year residency in equine orthopaedic surgery. I joined Chapelfield in 2002. My main interests include surgery, complex lameness/back pain investigations, foal developmental disorders and fertility work.

When not at work I eat as much of the world's culinary delights as I can find and I dabble in alcoholic taste sensations wherever possible. I delight in cinematic productions, both cultural classics and IMAX visual extravaganzas. And I do things that involve running, cycling and swimming until I can do it no more. Then I sit in the hot tub and marvel at Norfolk's amazingly big sky.



Mark Tabachnik BSc(Hons) BVM&S CertEP MRCVS BAEDT



Mark Tabachnik is the senior equine veterinary surgeon at Wright & Morten in Cheshire, where he is a partner.

I love my job. I qualified in 1995 and since then I have gained a Certificate in Equine Practice and am a fully qualified Equine Dental Technician. Predominantly my day job is equine dentistry. I'm lucky with the way our practice has evolved that there's more than enough work for me to spend as much time as I like inside horse's mouths. It's a fascinating specialty, which is advancing all the time. I'm also involved in running the practice. I love working as part of a team, helping those around me develop themselves and grow the business.

In my spare time I keep bees. We presently have five hives, though I'd like a lot more. When you're looking in the hives, it takes all your attention - there's a whole other world you're stepping into. Working with bees and horses are similar in many ways - you always need to be calm and steady, in control of yourself but working together with the animals for everyone's benefit.



Gavinder Panesar BVSc MRCVS



Gavinder Panesar is an equine veterinary surgeon at 608 Equine and Farm vets in Warwickshire.

After qualifying from the University of Bristol in 2007, I spent a short period in mixed practice before moving to Rossdales Equine Hospital in Newmarket where I was fortunate to work with some world renowned Equine Surgeons. Having gained valuable experience in Newmarket, my specific interests now lie in lameness diagnostics and competition horse work.

After leaving the fast paced racing life of Newmarket I decided to come back home to the Midlands where I was lucky enough to take a job at 608 Equine and Farm vets, where as a veterinary student I did all of my field based veterinary training. I now spend my time with all equids great and small from miniature Shetlands to towering Shires. I sometimes get the chance to look at lameness in other animals too! Outside of work I'm a keen hockey player and enjoy riding my ex-racehorse, Poppy.

SUMMER EDITION

XLEquine is a novel and exciting initiative conceived from within the veterinary profession. We are all independently owned, progressive veterinary practices located throughout the United Kingdom committed to working together for the benefit of our clients.

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608 Farm & Equine Veterinary Surgeons
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THE EDITOR

Welcome to the 'Summer 2014' edition of Equine Matters...

...produced by XLEquine practices.

In this issue we focus on the exciting new area of regenerative medicine including real life case examples. We look at tendon injuries, muscle diseases and provide you with an update on headshaking in horses. We have chosen to discuss the equine passport system in the UK as well as continue to provide an

insight into XLEquine with three more featured veterinary surgeons.

On behalf of XLEquine I would like to wish you all a great summer season.

Lee Pritchard BVSc MRCVS
 Calweton Veterinary Group



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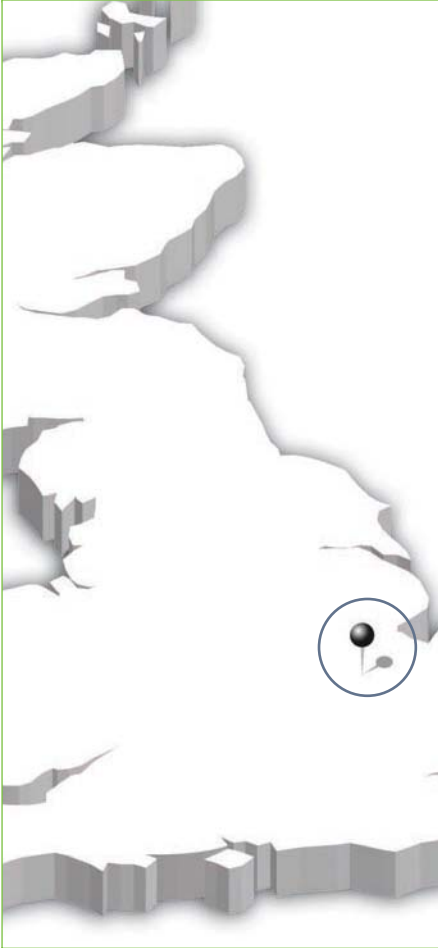
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Fellowes Farm Equine Clinic Ltd
VETERINARY SURGEONS



Veterinary Surgeon David Rutherford

XLEquine Practice Fellowes Farm
Equine Clinic



David Rutherford BVM&S CertES(Orth) DipECVS MRCVS

Tendon Injuries

Over time there have been significant advances in veterinary science and in training methods for horses and ponies, but tendon strains still represent a common injury - 43% of all injuries that occur to event horses in training.

Until recently, strains were thought to be the result of a single event where excess loading was placed on the tendon - an abnormal loading event - such as landing awkwardly after a jump. However, we now know that significant weakening occurs within a tendon during normal training and prior to visible injury. This weakening is called

'microdamage' and occurs within a tendon as a result of repetitive stretching during normal exercise. We might expect that natural healing would correct this microdamage, and this probably does occur to some extent, however due to the very poor blood supply within tendons this repair is often incomplete.

What factors contribute to accumulation of microdamage?

1) Increasing miles on the clock

The more exercise a horse has done during its lifetime, the more times their tendons will have been stretched and as a result the total amount of microdamage within a tendon increases. The total amount of exercise performed during a horse's lifetime depends largely on their age and how intensely they train and exercise. Therefore an older horse who has trained intensely will be at an increased risk of tendon strain.

2) Impaired ability to repair

Unfortunately as we get older our ability to heal injuries naturally reduces. Therefore older horses have reduced ability to repair microdamage than their younger counterparts. There are also some diseases which reduce the body's natural ability to heal, most notably Cushing's disease.

3) Discipline

More microdamage occurs when tendons are stretched to their limits or heated beyond normal body temperature, as happens during fast work or when landing after a jump. Temperatures of up to 45°C have been recorded within the tendons of galloping horses causing significant thermal damage. Therefore horses who regularly gallop flat out are at increased risk, as are those who jump. Eventers and National Hunt racehorses are clearly therefore at

greatest risk of tendon injury and we know that tendon strains do indeed occur most commonly in these two groups, but they are not alone. Horses undertaking dressage training repeatedly perform complex manoeuvres which put significant pressures on their tendons, resulting in accumulation of considerable microdamage. Even 'happy hackers' do not escape some risk.

4) Increasing weight

This one is simple - the heavier the horse, the more weight a tendon has to deal with and therefore the more microdamage occurs. This applies to both tall horses and stockier horses.

5) Genetics

Little is known about this, but it certainly appears that some horses are genetically predisposed to suffering tendon injuries. This is likely to be because either they inherently develop more microdamage than their counterparts, or because they are less able to naturally heal the damage. This is an interesting area of current research. In the future it may be possible to genetically screen horses for their individual risk of suffering a tendon injury, and therefore selectively breed for horses with a reduced risk. For the time being at least we should question the wisdom of using horses which have suffered tendon strains for breeding.

What causes microdamage to progress to serious strain?

The long tendon which runs down the back of a horse's cannon bone is called the superficial digital flexor tendon (SDFT). This tendon acts as a spring to store and release energy during fast exercise, and is the most commonly injured tendon in the horse. Laboratory testing has shown that the SDFT can be stretched to 15-17% before it is damaged. However other tests have shown that during galloping a horse's SDFT is naturally stretched by 16%, putting it at immediate risk of tearing. Therefore if significant microdamage has already occurred weakening the tendon, any additional stretch of the tendon - an abnormal loading event - could cause a strain to occur.

There are many possible reasons for an abnormal loading event, but they generally include fast galloping, landing awkwardly after jumping, working on an uneven surface, abruptly sliding to a stop in the field or spooking at a plastic bag. In summary anything where the tendon is stretched beyond its natural limit. Many of these we cannot predict or do anything about, but there is one that we can - tiredness.

During exercise, part of the weight-bearing load going through a horse's leg is absorbed by contracting muscles, and the rest by stretching tendons. When a horse exercises to the point of tiredness, its muscles fatigue and are therefore less able to contract and take up their share of the load. If the exercise then continues, the tendons must take up the part of the load which the muscles cannot, stretching them beyond their limit, and a strain occurs. We can of course do something about this. Obviously we would stop riding a horse which is exhausted, but we should give special attention to horses and ponies coming back to work after a lay off. They will have lost their fitness and therefore their muscles will fatigue more easily, giving a higher risk of tendon injury.



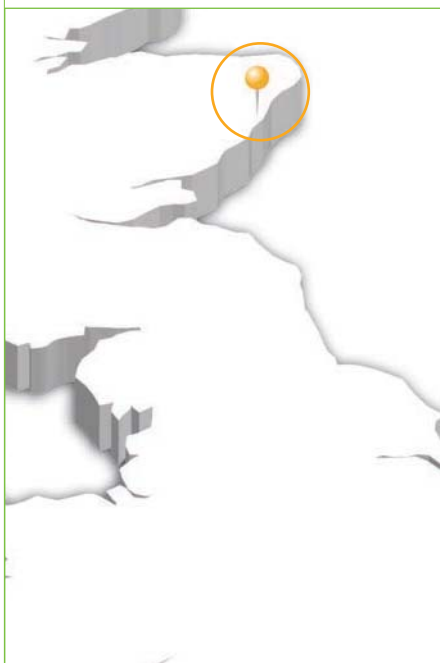
An ultrasound image of a core lesion within a tendon

In summary...

tendon injuries are common in horses, particularly those used competitively. The tendon most commonly injured is the superficial digital flexor tendon (SDFT).



A bowed tendon in the left hindlimb



Veterinary Surgeon **Graham Hunter**

XL Equine Practice **Ardene House Veterinary Practice**



Graham Hunter BVM&S GPCert(EqP) CertEP CertAVP(ESO) MRCVS

Regenerative Medicine

What do we mean by regenerative medicine? **Do we really have practical, useful techniques available so that we can safely regenerate tissue?** What can we really do and what could we use these techniques for?

Regenerative medicine refers to a 'biological' approach to treatment of damaged tissue by replacing or regenerating cells and tissues in an attempt to restore and re-establish their normal function. We are aiming to regenerate tissues by replacing the damaged with new tissue and to stimulate the body's own repair mechanisms enhancing healing. The ultimate aim is the regeneration of new tissue, which will provide better function than if the body, was left to repair itself normally with scar tissue.

In the horse, regenerative therapies have become very popular particularly in the field of orthopaedics, where they are frequently used in the treatment of lameness', particularly tendon, ligament and joint disease. In all these cases, our aim is to provide a scaffold for tissue construction followed by the correct cells, which will hopefully establish themselves correctly. All this is helped by positive anabolic stimulation frequently provided by added growth factors.

Regenerative therapies available in the UK today

- Stem Cells
- Autologous Conditioned Serum (Irap®)
- Platelet Rich Plasma (PRP)
- Urinary Bladder Matrix (ACell®)
- Bone Marrow (BM)
- Bone Marrow Aspirate Concentrate (BMAC)
- Individual Growth Factors

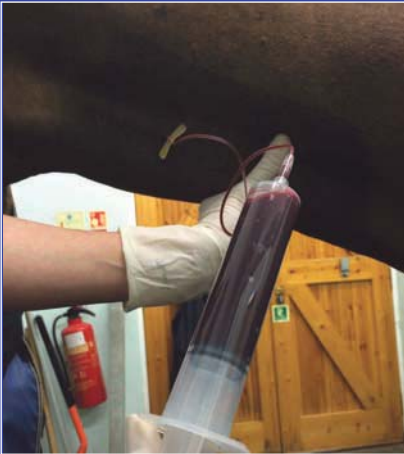
Regenerative medicine treatments include:

1) Mesenchymal Stem Cells (MSC)

MSC's represent the most significant step into what we call regenerative medicine. Stem cells are normally harvested from the horse's own sternum or pelvis. Bone marrow is drawn out from either of these locations and sent away to a laboratory where the stem cells are isolated and cultured to increase their numbers. Around three weeks later, they are injected back into the same horse's damaged tendon or ligament. This injection uses ultrasound to guide the accurate placement of the cells into the correct location. Stem cells can be isolated from fat or indeed harvested from umbilical cord blood. Bone marrow derived stem cells are considered the best and most practical source.

2) Platelet Rich Plasma (PRP)

PRP is generated through centrifuging the horse's own blood and then removing the red and white blood cells and most of the plasma, leaving a concentrated sample of platelets. Platelets are a rich source of growth factors which are injected into a damaged tendon, ligament or joint. They de-granulate and release their growth factors promoting the formation of a fibrin scaffold and encouraging new cells to migrate into the area for tissue repair. One of the main advantages of PRP is that the blood can be taken, the sample processed and treatment administered all on the same day. There is no requirement for an external laboratory.



Blood sampling prior to PRP filtration

3) Autologous Conditioned Serum (ACS)

Commercially known as Irap[®], ACS is primarily used to treat joint inflammation. Treatment involves taking a blood sample into a syringe which contains chromium sulphate coated beads. This sample is then incubated for 24 hours. After this time, the sample is centrifuged and the serum 'soup' that is present at the top of the sample is removed. This conditioned serum 'soup' is very high in anti-inflammatory proteins and growth factors and is injected into inflamed or damaged joints. It can also be frozen for later use.



Irap[®] filtration prior to joint injection



PRP kits are commercially available and allow filtering to be performed 'horse-side'

4) Urinary Bladder Matrix (UBM)

Commercially known as ACell[®], UBM is a product made from pig's bladder. The aim of this product is to provide the scaffold for tissue repair and is a powder that is reconstituted in saline and injected directly into damaged tendon or ligament lesions.

5) Bone Marrow (BM)

BM can be harvested in the same way as for stem cell collection, and then injected straight back into a damaged tendon or ligament.

6) Bone Marrow Aspirate Concentrate (BMAC)

BMAC is bone marrow that has been centrifuged to concentrate the growth factors present, and then injected into the damaged area under treatment.

7) Individual Growth Factors (GF)

Individual growth factors such as 'insulin-like-growth-factor-I (IGF-I)' have occasionally been used but are less commonly used in isolation today, as many of the above options are considered superior.

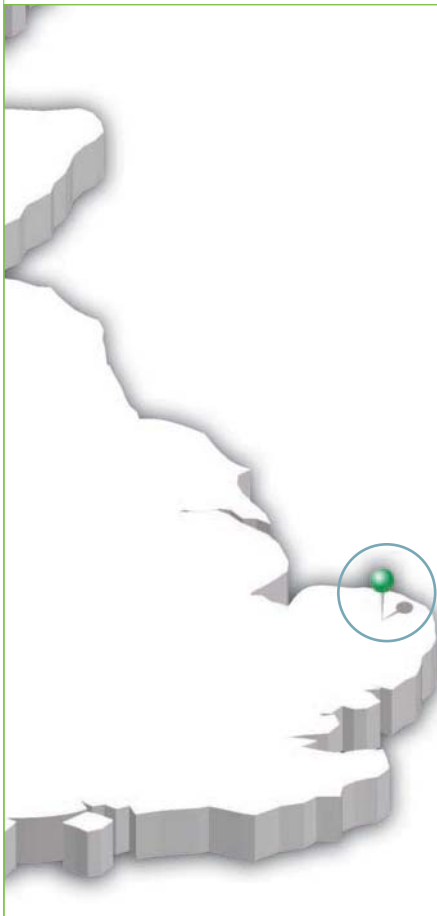
So, where and how are we using these techniques today?

Stem cells are used frequently in the treatment of tendon injuries. Tendon lesions lend themselves to this treatment very well as a core lesion in a tendon holds the cells in place very well. Generally with tendon injuries we still require a full rehabilitation program and stem cells don't actually shorten this recovery period. However, there is good evidence that the injection of stem cells into superficial digital flexor tendon lesions within one month of injury, has been shown to significantly improve the outcome when compared with rest alone. This greatly reduces the rate of re-injury in National Hunt horses. PRP is also now being used with greater frequency in tendon injuries and is currently the treatment of choice for the majority of ligament injuries, such as suspensory ligament damage.

ACS (Irap[®]) is predominantly used to aid treatment of early inflammatory joint disease. It helps to suppress the inflammatory cycle and assists healing in the joint. Unlike repeated injections of steroids, ACS may be used repeatedly without any possible detrimental effects to the cartilage. ACS is frequently used after arthroscopic surgery to assist in the healing of joint tissues. Normally three joint injections would be given two weeks apart. PRP can also be used in a joint but it should be remembered that it will be supplying more growth factors to assist healing and less of a direct anti-inflammatory effect. Indeed PRP and ACS can be used together in joint disease treatment and not just used separately. It is very important that if PRP is used in a joint that the preparation has to be exact and must minimise the number of white blood cells (WBC's) that may be left in the sample. WBC's will have a negative effect in the joint. Stem cells have been used much less in joints but have been used with success in tendon sheaths and bursae after surgical debridement, notably in the navicular bursae.

As more and more cases are treated using these biological regenerative techniques we will inevitably develop better understanding as to which technique is best for which injuries, which horses, which disciplines and what the ultimate long term benefits truly are.





Veterinary Surgeon **Laura Sharpe**

XLEquine Practice **Chapelfield Veterinary Partnership Ltd**



Laura Sharpe BVSc Cert AVP MRCVS, Chapelfield Veterinary Partnership

Muscle Diseases and Disorders

Many articles in the equestrian literature cover lameness topics involving bones, joints, tendons and ligaments. There is no doubt that injuries and diseases affecting these tissues form the majority of the causes of lameness. However, the topic of muscle disease is infrequently discussed, despite there being a number of important and relatively common conditions that affect muscles. Broadly speaking, muscle diseases are either present from birth (**genetic disorders**) or develop spontaneously during adulthood (**acquired disorders**).

The medical term for the most common muscle disorder (myopathy) is exertional rhabdomyolysis (ER). This results in a syndrome of moderate to severe muscle cramping that occurs during or immediately following exercise. ER is more commonly known as tying up, set-fast and Monday morning disease. Horses that experience ER either have an underlying myopathy or have physically overexerted themselves.



Genetic Disorders

1. Polysaccharide Storage Myopathy (PSSM)

This is a disease characterised by repeated episodes of ER that may be induced with very minimal amounts of exercise, typically within the first 30 minutes. Affected animals are stiff, painful, sweaty, and may be reluctant to move. Horses can also present with progressive poor performance, muscle wasting, weakness or back pain. Examination of a muscle biopsy is necessary to confirm a diagnosis of PSSM.

A gene mutation is responsible for some cases of PSSM and this can be confirmed on a blood test, but whilst a positive test is helpful, some horses not carrying the gene may still have PSSM or other causes of ER.

In many animals this disease can be well managed. Keeping the horse fit, lean and in regular exercise will help, and many can be used for their original purpose. Regular and prolonged periods of grazing for as long as possible also reduces the frequency of episodes. The diet should be changed from any carbohydrates to one high in fibre with additional oil if needed for energy, along with a complete vitamin and mineral supplement.

2. Hyper-kalaemic Periodic Paralysis (HYPP)

This inherited disorder results in problems with the pump that moves the electrolyte potassium in and out of muscle cells. It occurs in QHs, Paint Horses, Appaloosas and others that have bloodlines traced back to the sire Impressive. These horses tend to be well muscled, and may do well showing. Between episodes they are normal. Clinical signs during an episode include facial muscle spasms, drooling, sweating, noise whilst breathing, shoulder, neck and flank muscle trembling, an inability to lift the head and neck and some patients are unable to stand. These episodes typically last for 30-60 minutes. Sudden death during an episode can occur. Usually an episode has been noticed before the horse reaches three years old and triggers including cold, periods of fasting, heavy sedation, anaesthesia and rest after exercise.

The best way to confirm a diagnosis of HYPP is to take a hair or blood sample and have it genetically tested. Horses can be managed by feeding a diet low in potassium, feeding a grain-based feed twice daily and keeping them in light regular exercise.

3. Glycogen Branching Enzyme Deficiency

A heritable disorder found in QHs and Paint Horses. Affected foals may be aborted, stillborn or die suddenly when very young. A muscle biopsy is diagnostic and a blood test is possible to identify carriers for this inherited trait.



4. Recurrent Exertional Rhabdomyolysis (RER)

RER (figure 1) is likely an inherited trait, as it affects approximately 7% of UK racing Thoroughbreds, with young fillies being over-represented. Horses suffering from an episode of RER will have sudden onset muscle cramping, with reluctance to move, sweating and marked pain on palpation of affected muscles.

Blood sampling will reveal that muscle enzymes are significantly raised. Muscle biopsy results will help confirm a suspicion of RER. Almost all animals return to athletic function, though this can take from one week to months for full recovery. Managing a horse with RER requires minimising stress for that horse, supplying the majority of calories as fats not carbohydrates, along with keeping regular exercise and management routines consistent. A drug called dantrolene is sometimes used to help manage patients suffering frequent recurrences.



Figure 1: Muscle breakdown products (myoglobin) are present in the urine of horses with RER, causing red coloured urine and in some cases serious kidney damage

Acquired Disorders

1. Fibrotic Myopathy

This is a non-painful cause of mechanical hindlimb lameness most obvious at the walk. The affected animal can be seen to slam the foot down to the ground prematurely during each stride. It can be caused by repeated tearing of muscle fibres in the back of the thigh during excessive exercise, after pulling back abruptly and whilst tied up or during sliding stops; after intramuscular injections or it can develop due to trauma during birth. Surgical management involves cutting the tendinous attachment of the affected muscle (figure 2) under general anaesthesia (GA), which can improve the condition, although complete resolution is uncommon and recurrences can occur.



Figure 2: The tendon attachment to the muscle overlying some forceps prior to being cut in a case of fibrotic myopathy

2. Post-anaesthetic Myopathy

Horses are heavy animals and occasionally when undergoing a GA, their large mass squashes the blood supply to their own muscles, resulting in tissue damage. This results in hot and swollen muscles that are very painful to touch, with the patient having great difficulty getting up and remaining standing for any length of time, often requiring assistance. For this reason great care is taken to evenly position patients on a soft, well-padded operating table during surgery, ensuring their legs are well supported.

3. Atypical Myopathy (AM)

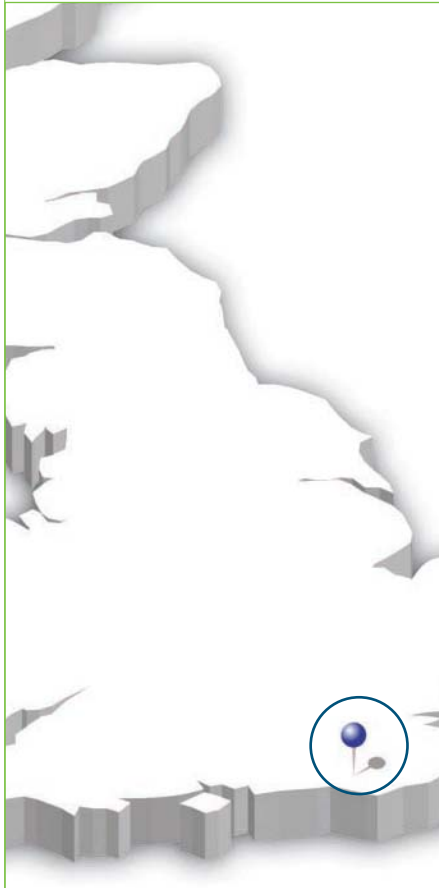
This is a highly fatal muscle disease seen in horses at pasture. According to recent research published in 2013, it is caused by ingesting a toxin present in sycamore tree seeds. Outbreaks occur in the Autumn and in the Spring following spells of autumnal-like weather. Horses that develop AM are usually kept in sparse pastures with an accumulation of dead leaves, dead wood and trees in or around the pasture and are often not fed any supplementary hay or feed. Identifying a possible cause is a huge step towards the prevention of this disease, as we can now avoid horses grazing on pasture where the seeds fall, or at least provide supplementary feed if access to seeds cannot be restricted. Treatment is difficult as severe muscle damage and kidney failure develop rapidly, with only about 10% of patients surviving.

4. Equine Motor Neurone Disease (EMND)

This condition results from a long term (chronic) vitamin E deficiency, resulting in severe muscle wastage and nerve damage. As well as marked weight loss, constant weight shifting and muscle tremors are seen and affected animals may have an abnormally high tail carriage. EMND is a rare condition, but occurs in horses without access to grass and fed poor quality hay. Treatment is with vitamin E but horses with clinical signs rarely recover.

Summary...

When we think about muscles, we generally consider the effect of injuries that involve strains or tears sustained during ridden or pasture activities. Whilst these are relatively common, there are a number of less common, but equally as important inherited disorders, along with several conditions caused by factors other than exercise, that affect muscle metabolism.

CLIFFE
EQUINEVeterinary Surgeon **Egbert Willems**XLEquine Practice **Cliffe Veterinary Group**

Egbert Willems DVM CertES(Orth) MRCVS Cliffe Veterinary Group

Case Study: Platelet Rich Plasma

Dandy, a nine year old gelding, used for eventing, had been working at canter when he suddenly pulled up lame.

The owner had noticed a swelling just below the knee and came to the clinic for further assessment.

On examination Dandy was lame on his right fore, graded 2/5. Palpation of his tendons identified a swelling of the flexor tendons in the proximal metacarpal region which was hot and painful to the touch. To further evaluate the tendons we agreed to perform an ultrasound examination. This revealed an injury to the superficial digital flexor tendon (SDFT) with a hole in the middle of the tendon called a core lesion. After discussion with the owner, it was agreed that we would try and speed up the healing process by using Platelet Rich Plasma (PRP).

PRP can be harvested from the injured horses' own blood. It can be prepared by either centrifugation or filtration and will contain more than four times the number of platelets compared to normal blood. These platelets contain growth factors that enhance and accelerate ligament and tendon healing. By injecting the PRP back into the injured section of ligament or tendon it is placed where it will be most effective.

A sterile blood sample was taken from Dandy, which was then processed to harvest the PRP. Dandy's leg in the mean time was clipped and scrubbed and a nerve block was performed so that the area of the injury was numb. When the PRP was ready it was injected into the SDFT injury. By using a special technique called ultrasound guidance, the needle was directed straight into the core lesion, this was to ensure that the PRP was placed exactly where it needed to be.

Following the injection a sterile bandage was placed on the limb and Dandy could go home the same day. He was given strict box rest for two weeks, before he was able to start a controlled exercise program, beginning with walking in hand. After six weeks Dandy was doing well, he was sound at walk and trot and a further increase in exercise was allowed. Three months following the medication a repeat ultrasound scan was made which showed that the core lesion had all but disappeared, and only very mild swelling of the tendon was seen. Dandy's owner was very pleased that she could start ridden exercise at this stage. It was

stressed that the tendons should be checked before and after every ride and that any increase in heat, swelling or lameness was a sign that the tendon was under too much strain.

It took a further five months of carefully increasing the exercise before Dandy returned to full work. Dandy's owner was really pleased with the result and was already planning her next eventing season!



Figure 1: Injury of the superficial digital flexor tendon

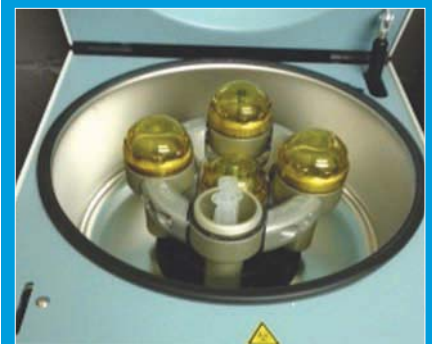


Figure 2: After collection, the blood sample is centrifuged



Figure 3: After centrifugation the platelet rich plasma (light yellow) is ready to be harvested



Figure 4: The platelet rich plasma is ready to be injected



Andrew McDiarmid BVM&S CertES(Orth) MRCVS Clyde Veterinary Group

Surgical Feature: Hindlimb Proximal Suspensory Desmitis



Suspensory ligament (SL) injuries are being increasingly diagnosed as a common cause of hindlimb lameness in horses. Desmitis is the medical term for inflammation to a ligament. The upper (proximal) area of the hindlimb SL, (just below the hock), are a typical site for desmitis. Proximal suspensory desmitis (PSD) is usually induced by repetitive stretching of the upper portion of the SL causing degeneration.

The signs associated with PSD often initially appear as a reduction in a horse's performance and over time this may increase to a slight lameness, often only noticed when the horse is ridden. The lameness is usually worse on the outside of the circle. As the condition deteriorates the degree of lameness typically gets worse. Horses that have a straight hock and stifle conformation appear to be more prone to the condition.

programme and generally resumes work approximately 8-10 weeks post-surgery. The success of the surgery varies but success rates of up to 80-90% have been quoted.

The most common complication associated with the procedure is the failure to resolve the lameness. This may be due to the presence of an additional undetected branch of the nerve or there may be another condition in the limb that co-existed prior to surgery.

It should be noted that neurectomy of the DBLPN nerve differs from forelimb palmar digital neurectomy which leaves no skin or deep sensation to the front foot. Neurectomy of the DBLPN is much more selective and is only affecting the innervation to the upper area of the SL. Horses having had neurectomy/fasciotomy are not entitled to compete in FEI competitions.

Veterinary Surgeon **Andrew McDiarmid**

XLEquine Practice **Clyde Veterinary Group**



PSD is diagnosed by gait assessment on a variety of surfaces, as well as flexion tests and nerve blocks. Selective anaesthesia of the upper area of the SL is the 'gold standard' in the diagnosis. The prognosis for an individual case is variable but generally poor. Mild acute (recent) injuries may heal but most others do not because they involve long standing degenerative changes. The protocol for treatment varies but in general they are put into two groups; medical or surgical. Medical treatment involves the use of rest, controlled exercise and extra-corporeal shock therapy. In unresponsive cases, surgery is often used. Case selection is important and horses with excessively straight upright hock and stifle conformations are not suitable candidates for surgery.



Figure 1: A horse with a straight hock and stifle conformation that is more prone to proximal suspensory desmitis

The surgery most commonly used to treat PSD is combined neurectomy (nerve cutting) of the deep branch of the lateral plantar nerve (DBLPN) and fasciotomy; cutting and opening the fascia (a type of membrane) that covers the upper SL. The surgery is undertaken with the horse under general anaesthesia on its back. The approach is via a 5-7cm long incision just behind the head of the lateral (outer) splint bone. Careful dissection is undertaken to identify the correct nerve and approximately 3-6cm of the nerve is removed. Then by careful dissection the upper margin of the fascia is identified and sectioned with a specially designed knife. The area is closely sutured prior to stapling or suturing the skin. Post-operatively the affected limbs are bandaged for approximately ten days. In a small percentage of cases a focal swelling may develop in the area beneath the skin incision. This usually resolves quickly. The horse then enters a gentle controlled exercise

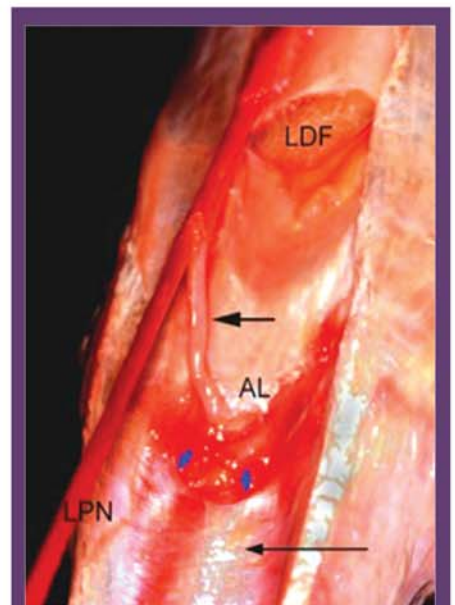


Figure 2: Dissected specimen of deep structures of the upper cannon region, viewed from the back. Outside of the limb to the left. The skin, and flexor tendons and blood vessels have been removed.

Short black arrow = deep branch of lateral plantar nerve. The nerve can be seen entering the suspensory ligament just above the fascia

LDF = deep digital flexor tendon;

AL = check ligament that has been removed to expose the suspensory ligament

LPN = lateral plantar nerve

Long black arrow = fascia, and small blue arrows point to its upper margin

Louise Pailor REVN RVN Animal Health Advisor MBVNA Wright & Morten Veterinary Surgeons

General Anaesthesia - Bramble's Story



Veterinary Nurse	Louise Pailor
XLEquine Practice	Wright & Morten Veterinary Surgeons



When any of our horse, pony or donkey friends have to undergo an operation under general anaesthesia it is a very daunting thought. For those of you who have been lucky enough not to experience a horse or pony having surgery, would you know what to expect?

The equine vet is always the main person the owner remembers as they are performing the surgery or anaesthesia, but what about the people often behind the scenes caring for your loved one before and after the surgery? From admission to discharge our job is to make the patients stay as comfortable and as stress-free as possible. By performing certain procedures before the surgery we can dramatically reduce the anaesthetic time of the patient on the table, thus decreasing the risk of any complications during or following the operation.

This is Bramble's story

My Name is Bramble and I am a 15 year old donkey working for the Donkey Assisted Therapy Centre (DAT) in Manchester.

The DAT is part of The Donkey Sanctuary which has several centres throughout the country. We offer assisted therapy to local children with assisted needs and we also get to visit hospices and residential care homes. I love my job as it's very rewarding and I get lots of attention and patting!

When I began to develop pain in one of my back legs I went to visit a vet who after a full lameness work up (nerve and joint blocks, radiographs and scans) decided that I needed to have surgery on my stifle joint.



Figure 1: Accurate weight can be measured using a weighbridge



Figure 2: Blood samples taken prior to surgery assess organ function and infection status



Figure 3: Clipping hair around the surgical site is important to aid prevention of infection



Figure 4: Placement of an intravenous catheter enables immediate access to the blood stream if necessary

I returned to the clinic the day before my surgery to allow me to calm down following my journey and be evaluated by the veterinary team. I was greeted by some veterinary nurses in blue uniforms who made a fuss of me and then put me on a weighbridge (figure 1). This was so they could get an accurate weight and work out the correct dosages of all the anaesthetic drugs, antibiotics and painkillers I was going to need.

One of the vets then gave me a thorough examination to check I was fit and healthy for the anaesthetic, this included listening to my heart and lungs and taking my temperature. A blood sample was then taken (figure 2) and sent to the in-house laboratory to check my organs were healthy and I wasn't carrying an infection. The nurses clipped the hair off a large area around my stifle (figure 3) and a small patch on my neck. The neck clip is where my intravenous catheter was going to be inserted. Doing this the day before reduces the time that I will be under the anaesthetic. Surgical sites are always clipped to decrease contamination. For the rest of the day I got to relax in my stable with my friend Cocoa, another donkey that had come with me to keep me from getting too stressed. Because I am a donkey I was very lucky as horses and ponies have to be starved for 8-12 hours before surgery but I still got dinner and some lush barley straw! Horses need to be starved for longer to reduce the volume of the gastrointestinal system so that it doesn't put additional pressure on the lungs and affect breathing. Horses and donkeys can have access to water up to the morning of the surgery.

The following morning I had to skip breakfast and one of the vets checked me over again. The lovely ladies in blue gave me a brush

and picked my feet out. I had to be as clean as possible for my debut in theatre! They then rinsed my mouth out. This is so when they put the tube down my throat to help me breathe during the operation, there isn't any food material dragged down into my lungs. One of the nurses then scrubbed the clip patch on my neck and inserted a little tube called a catheter into my jugular vein (figure 4). This is always done aseptically (in a sterile manner) so to prevent infection in or around my vein. A tail bandage was applied to my tail to keep it tidy and out of the way and then I was good to go!

I was given a 'pre-med' via the catheter which made me feel very relaxed. My head collar was swapped for a soft rope halter; this is because the buckles on headcollars can sometimes cause facial paralysis if they dig into one of the facial nerves whilst we are anaesthetised. Two of the nurses and a vet came in the padded knock down box with me whilst I had my anaesthetic drugs, which made me want to lie down and have a little sleep.

Following my surgery, once I was awake enough to walk safely, I was carefully taken back to my stable. My awaiting buddy Cocoa was keen to hear all about my experience although unfortunately for him I couldn't remember a thing.

Once I had completely recovered from my anaesthetic I was offered small amounts of hay and warm bran mashes throughout the afternoon until the vets and nurses were happy I was passing faeces. The nurses visited every hour to check that I was okay and not in too much pain. They took my heart rate, respiratory rate and my temperature and occasionally I was rewarded with a gingernut biscuit - how did they know they were my favourites?

I stayed at the clinic for three days following my surgery to receive antibiotics and pain relief and then I was allowed back home to join my friends and rest for a few weeks. I hope to return to helping the children and elderly soon.

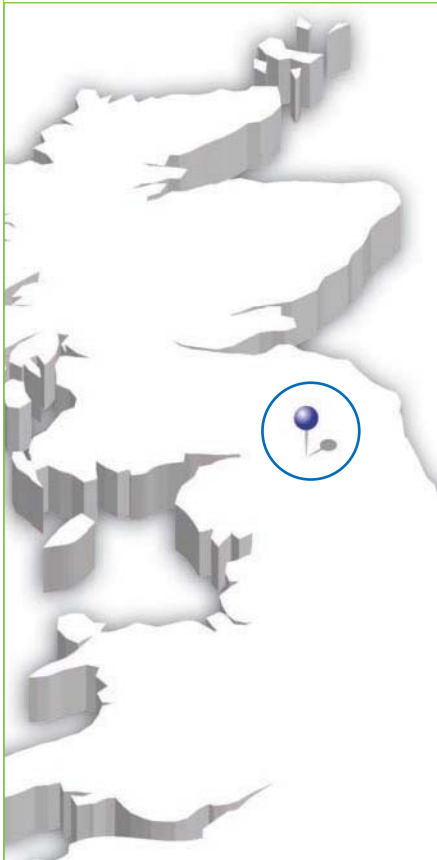
I can confirm that Bramble is doing well following his surgery and his rehabilitation is still ongoing. Some surgeries can be done under sedation and local anaesthesia and don't require a general anaesthetic. All vets will endeavour not to anaesthetise horses where possible as statistically mortality rates are high compared to cats, dogs and humans, but it is often the only way we can perform certain operations and procedures. Our aim is to return your horses, ponies or donkeys fit and well following any surgical procedure to give them the best possible chance of recovery and return to the life they led before.



Colin Mitchell BVM&S CertEP MRCVS, Scott Mitchell Associates

Peak Performance: Racing

Scott
& Mitchell
Associates
VETERINARY
SURGEONS



Veterinary Surgeon Colin Mitchell

XLEquine Practice Scott Mitchell Associates



Horse-racing exists in various forms, meaning the nature of the injuries can vary depending on the type of horse and the race training involved.

Flat racing takes place on grass turf, or on all-weather surfaces, and the minimum distance is five furlongs (5/8 of a mile). Horses can race as two or three year olds with most horses entering flat racing as two year olds.

Opinions vary on whether racing at this age is too young, however there is considerable evidence to suggest that exercise at this age helps to condition the musculo-skeletal system to withstand work in later life.

National Hunt racing takes place on turf, over obstacles, and the minimum distance is two miles. The obstacles are either hurdles or steeplechases. Hurdles are smaller and if the horse strikes the hurdle, it will give way on impact. National Hunt horses are usually older and larger framed. National Hunt horses carry a greater weight.

Point-to-point racing is the amateur branch of steeplechasing. There are also National Hunt flat races, which are run over two miles. Horses enter National Hunt racing through racing at point-to-point level, or National Hunt flat racing.

Injuries can be broadly categorised into:

Training injuries

These are difficult to quantify, as mild lameness may go undetected and a vet may not be called to every injury.

- Examples of these in National Hunt horses include: tendonitis, suspensory ligament strains and back pain.
- Examples in flat horses in training might include: knee and fetlock joint disease, splints, sore shins and stress fractures.

Racecourse injuries

These are reliably documented by the British Horseracing Authority and can be sub-divided into National Hunt and flat injuries. Others in this category are related to falls and collisions with other horses, for example, pelvic injury and lower limb cuts/lacerations.



Scanning the pelvis of a racehorse

As well as the musculo-skeletal system, training places great demands on the horse's cardiovascular and respiratory systems. It is not uncommon for trainers to use heart rate monitors and GPS systems to see exactly how much work a horse is doing when training. This also allows their recovery from exercise to be monitored, which is often used as a valuable aid in assessing fitness.

Obstruction of airflow from the nostrils to the lungs can have serious implications on performance and stamina. The lungs also need to be free of disease to allow transfer of gases. Lung disease can be a significant cause of poor performance.

Traditional practices of withholding food prior to exercise, high cereal-based diets, prolonged periods of stabling with minimal access to forage/turn-out are all factors which can lead to stomach ulcers. However, with gastroscopy readily available and increased awareness of the condition, many trainers have developed regimens to manage the problem. Indeed, some trainers with horses suffering from recurrent stomach ulcers or persistent airway inflammation can train a horse to racing fitness from the field.

Unlike other sports, racehorses also need to cope with the presence of other horses around them whilst they gallop and jump. The successful racehorse must be physically fit and conditioned to race, but must also have a mental toughness and willingness to gallop hard and be in front of all the other horses.



Peter & Joanne Mayland, Racehorse Trainers

Racing - how does training and talent influence 'peak performance'?

Racing takes place over a distance of 5/8 mile flat sprints to four mile National Hunt races. The preferred distance of a horse will often be dependent on breeding and age. Training of the horse will take up to four months, starting with walking and trotting before gradually building up to galloping. When a horse is racing it has to be at the peak of fitness to get the maximum performance on the day.

Often a racehorse will be worked fast on the build up to a race and on the day before will only be given gentle work; so

on the day of the race, the horse is full of energy.

A racehorse will need good conformation so that it can tolerate large amounts of work, a nice long galloping stride to cover the ground quickly, enthusiasm for work and the determination to be in front.

A well-bred racehorse with good conformation, at their peak of fitness, over a distance that is preferred and with a good attitude should win lots of races!!!

If only it was that easy...



Peter Mayland DWCF

What role does farriery play in achieving racing 'peak performance'?

During racing, the horse will gallop at nearly 35mph. When shoeing, several factors have to be taken into account including conformation, foot balance, break-over point and heel length. Additional factors are considered with the Thoroughbred foot as they have a tendency to be thin walled with flat soles and poor horn quality. The aim is to achieve equal weight distribution across the foot to reduce stress on the limb.

During training, a mild steel shoe is fitted to give protection and support to the foot. Approximately two days before racing, an

aluminium shoe (racing plate) will be fitted level with the hoof wall to reduce injuries from the horse striking himself.

Aluminium plates are lighter than mild steel and this helps reduce fatigue. There is some truth in the saying, 'an ounce on the foot is a pound on the back'. Concussion is also reduced as the plates are softer than mild steel. Racing plates are designed to be nailed onto the foot with plate nails which are finer and reduce damage to the thin hoof wall. The design of the plates will offer good grip and give the horse more confidence and a better performance.



Lee Clark BSc MCSP SRP CKTI ACPAT, British Team Physiotherapist at London 2012 Olympic Games

Physiotherapy and racing

The role of physiotherapy in racing is the same as within other disciplines, but it is particularly important and challenging due to the extreme physical stresses placed on the horse. The primary aim of physiotherapy is injury prevention and we do this by assessing and monitoring the condition of the horse's musculoskeletal system.

With various forms of treatment, often similar to those we use on human athletes,

we attempt to optimise the function of the body to reduce the stresses placed upon it, which may also improve performance.

If the horse should sustain a joint or soft tissue injury, physiotherapists are trained to help treat these. This is done by minimising scar tissue, regaining flexibility, promoting strength and stability, and speeding up healing times to return the horse to training quicker and reduce the risk of recurrence.





Lesley Barwise-Munro BSc BVM&S CertEP MRCVS, Alnorthumbria Veterinary Group

Remedial Farriery: What does it mean and how can it benefit the horse?

The foot provides the connection between the horse and the ground. The hoof capsule encases three bones, a series of ligaments and tendons, two synovial structures, a digital cushion, cartilages of the foot, blood vessels and nerves.

The hoof capsule protects the internal structures and does not allow for any expansion through a result of injury. Therefore creates significant pain due to a build up of pressure.

Mechanically the foot has three main functions; shock absorption, support and grip when the limb is bearing weight. It also provides propulsion when the limb leaves the ground. The effect of abnormal conformation or inappropriate foot trimming and farriery can cause uneven loading, poor biomechanics and result in an increased risk of injury to structures in the foot and higher up the limb.

A skilful farrier can control the position of the foot at rest and in flight. Each horse must be considered individually in order to select the type of shoe and trimming procedure that should improve a faulty gait.

Faulty gaits in mature horses can rarely be totally corrected but can be influenced by the rider's ability and correct saddle fitting. However appropriate remedial farriery will help to modify and improve the gait and allow a horse to achieve its full potential.

Most horses that have poor conformation will require foot balancing at each trimming as concussion and uneven weight bearing can influence the rate of hoof wall growth enough to create an imbalance. Correct foot balancing and shoeing will reduce the harmful effects of a faulty gait creating abnormal weight bearing.

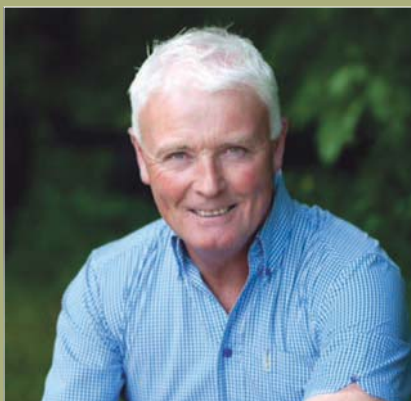
Success of remedial farriery requires a team approach between vet and farrier. The vet examining and diagnosing the cause of the lameness, which may be in the upper limb and advising the owner about the relevant treatment. At the same time the vet should also recognise the value of corrective farriery as part of a multimodal approach to every lameness problem.

The sequence of events often starts with the owner recognising the horse is either lame or not performing in its particular discipline as well as it should be. The equine vet takes the history of progressive events from the owner. The horse is then clinically assessed at rest and at various gaits on the circle, straight line, soft and hard surfaces and where possible ridden as well. Once an accurate diagnosis of the cause of lameness has been made (most often with the use of nerve blocks and diagnostic imaging) the most appropriate approach to treatment in combination with remedial farriery can be applied.

Veterinary Surgeon **Lesley Barwise-Munro**
 XLEquine Practice **Alnorthumbria Veterinary Group**



Lesley Barwise-Munro, Alnorthumbria Veterinary Group



Jim Ferrie, F.W.C.F

Routine farriery

Routine farriery is the trimming and shoeing of the sound horse with a normal foot. This should be done every 4 - 6 weeks. The aim of trimming is to make the shape of the foot and the angle of the hoof pastern axis as near normal as possible.

The foot should be trimmed so that the pastern and hoof axis form an unbroken line. The horse should be examined at rest from the front, side and behind the limb and foot. It should also be watched walking on a firm level surface. This should be done before and after trimming. Trimming and shoeing must be modified for each individual foot and each horse.

The shoe should be fitted to the foot and not the foot fitted to the shoe. The branches of the shoe should extend beyond the wall about 5mm at the heel and quarter to allow for foot expansion and the heel of the shoe should extend about 6mm beyond the heel of the hoof. The shoe should be accurately centred on the foot. Shoes can be applied hot or cold, but the hot method is preferred as more accurate shaping of the shoe can be carried out.

Remedial or corrective trimming and shoeing

This is an important part of the treatment of almost all lameness in horses. Gait abnormality or a misaligned hoof (known as poor foot balance) may not be the direct cause of a problem but they will almost always be contributing factors. If not corrected the full benefit of other forms of treatment may not be realised.



Conditions that require and techniques for remedial shoeing

General

- Solar bruising
- Corrective shoeing is imperative to shift weight-bearing forces away from the damaged area of the foot.
- Rim pad cut out over bruise to prevent weight bearing on affected area.
- White line disease
- Pare out affected wall and use acrylic patches.
- Penetrating injuries
- Foot paring.
- Radiography and contrast study to decide depth of penetration and structures affected inside the foot to determine whether surgical intervention is needed.
- Shoe with a hospital plate (figure 1) in order to hold dressings in place ensuring good hygiene and protect the foot whilst recovering.



Figure 1. Hospital plate

- Hoof wall cracks
- Treatment varies with hoof cracks - location, depth, horse use and presence of exposed sensitive laminae and infection.
- Generally a Heartbar shoe is used.
- Stabilize the cracks with screws, staples (figure 2) or hoof filler.



Figure 2. Stabilisation of a hoof wall crack

Forelimb conditions and remedial farriery

- Caudal hoof pain - elevation of the heels to unload the flexor apparatus.
- Coffin joint arthritis - early breakover shoe with beveled ground surface to alleviate the strain on the joint capsule and collateral ligaments.
- Sidebone (unilateral) - medial graduation and lateral support shoe to minimize concussion to the affected lateral (ungual) cartilage.
- Sidebone (bilateral) - elevate the heels with an early breakover shoe.
- Low/High Ringbone - observe foot fall and mirror with a shoe.
- Check ligament and deep flexor tendon strains - elevate the heels initially and lower gradually at 4 weekly intervals.
- Superficial flexor tendons and suspensory ligament strains - extend the heels caudally to prevent excessive lowering of the fetlock.
- Laminitis - each case viewed on its own merit. Some form of frog support shoe is required, either steel/alloy/or glued Heartbar. Always shoe with reference to recent x-rays (figure 3).
- Angular limb deformities - (Valgus/Varus) either carpus or fetlock-glued or nailed extension shoes to support the site of deviation.



Figure 3. X-rays of a laminitic foot



Hindlimb conditions and remedial farriery

- Brushing - trailered heel shoe, to widen gait, stance, and stride.
- Bone spavin/osteoarthritis of the hock in one or both hind limbs. This condition causes a decreased foot flight arc in the anterior (beginning) phase of the stride. Pain on the inside aspect of the hock joints leads to a stabbing action of the foot when contacting the ground. Lateral support shoe to destress medial hock and rolled toe shoe with plantar support.
- High Suspensory Desmitis - square toe egg bar, for early breakover and prevent fetlock overstraining.

In summary

Remedial farriery is an essential part of maintaining a sound horse as well as treating a lame one. The farrier must have adequate training and experience. It is vital that the vet and farrier work together for the best results. Remedial farriery techniques continue to develop further as the understanding of equine biomechanics and limb anatomy are advancing with new imaging techniques. Combined with traditional x-rays and ultrasound scanning helps the team get the most accurate diagnosis and the most appropriate treatment for individual cases.

Behavioural Problems in Horses

Behavioural problems in horses can be very complex and very stressful for owners to deal with. Any approach to a behavioural problem should always start with consulting your vet. As well as taking a thorough history of the problem, they will also be able to do a careful, clinical examination of your horse to check for any underlying physical problems that may be causing pain.

Aggression

Horses are not usually aggressive animals. Herds stay together because they get along well. When a horse shows aggression, it is generally as a result of a threat from either the environment in which the horse is placed or from within the animal itself, (for example an animal in pain). Aggressive behaviour can manifest in a number of ways the most common being kicking and biting.



Why do horses become aggressive?

- **Survival** - fighting may occur if resources such as food, water or shelter are limited especially in domestic situations.
- **Pain and Fear** - both states of emotion are often closely linked and stem from a physiological response. The hormone adrenaline is produced increasing heart rate, increasing blood glucose levels and flow of blood to muscles. Often there is a switch from fear to aggression when an animal cannot follow its fear programme and escape so it turns to attack instead as a form of defence.
- **Hormonal influences**
- **Frustration** - when an animal is single-mindedly set on doing something and cannot due to circumstances it becomes agitated and so frustrated often leading to aggression.
- **Instinct** - a mare with a newborn foal may be aggressive to other horses or humans when trying to protect her foal.



Veterinary Surgeon **Julia James**

XLEquine Practice **Larkmead Veterinary Group**



Stable vices

Horses have evolved to travel vast distances, spending two-thirds of their time grazing and to be part of a herd socializing with other horses. Modern management often means that horses are not kept in this way and sometimes stereotypical behavioural problems can arise as a result. Many of these behaviours are termed 'stable vices', examples of which are below.

- **Weaving** - the horse moves its head and neck, and sometimes its feet from side to side.
- **Crib-biting** - the horse grabs on to a horizontal surface with its front teeth, often the top of the stable door or fence, pulls back, arches its neck and grunts as it sucks in air (figure 1).



Figure 1

- **Windsucking** - this is similar to crib biting without the horse grabbing on to anything.
- **Box Walking** - the horse paces around and around its box.
- **Separation Anxiety** - the horse becomes very distressed and agitated when another horse leaves its yard or field.

Unfortunately once these behaviours become 'learned', even when changes are put in place to improve the horse's environment they may never stop. Prevention often involves trying to maintain as much turn out time and/or exercise as possible to minimise boredom in the stable. Horses are sociable animals so keeping them in a group is also beneficial. Nutrition can play a part too so it is important to make sure horses have enough long stemmed forage in their diet (hay/grass) alongside hard feed if required.

Other abnormal behaviours

Headshaking

This is a serious neurological condition that can affect your horse's welfare. Characteristic signs are seasonal, worsen with exposure to light and vary from the classic repetitive up and down movements of the horse's head, to nostril clamping and face rubbing.

Affected horses can become extremely distressed, unmanageable, cause themselves serious injury and be a danger to their owner. Research is still being carried out to try and understand this complex condition and its treatment in more depth. It is thought that some or all affected horses are suffering from a condition called trigeminal neuropathy (nerve pain) and as such an infraorbital nerve block is often performed for diagnosis (figure 2). People with similar syndromes report a sudden pain across the face not unlike an electric shock.

There are no consistently effective treatments available for headshakers although there are a number of options that are worth trying, some of which can help significantly. Anything from changing the environment (avoiding bright light - turnout at night, dark stable in the day, avoid warmth or wind on the face), UV mask or nose nets. Some medication may help but it is expensive and can cause drowsiness. Surgery targeting the nerve may also help.

Figure 2



Hepatic encephalopathy

This is another neurological condition that can be seen in horses with severe liver disease. Horses may yawn, be depressed or aggressive, circle compulsively, or press their heads into walls or the ground. Horses that are exhibiting signs of hepatic encephalopathy may be dangerous to handle and require immediate veterinary care.

Narcolepsy-like behaviour

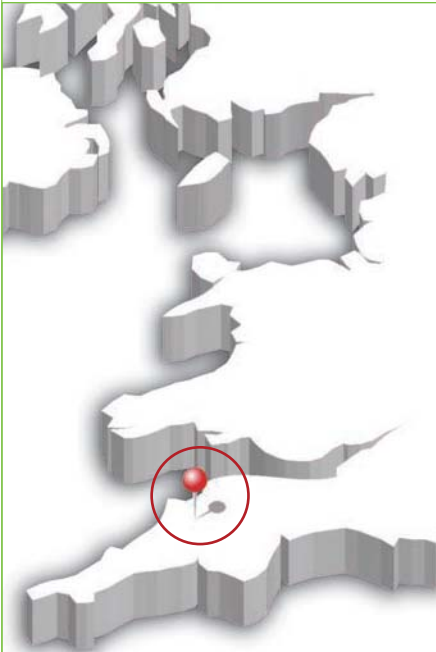
Narcolepsy was first identified in 'fainting' Suffolk foals in 1924 and has since been characterised as a rare sleep disorder presenting as cataplexy (loss of muscle tone and excessive sleepiness). Narcolepsy-like behaviour refers to collapse or falling asleep at an inappropriate time. This is often seen when a horse has been deprived of sleep i.e. as a result of a condition causing chronic pain. Successful resolution of this abnormal behaviour relies on the treatment of the underlying cause.

Procedure aversion

This is specific to veterinary treatment but essentially manifests as a behavioural intolerance to procedures such as injections etc. In an ideal world all youngsters should be well handled. If rehabilitation is necessary, techniques such as classical conditioning, desensitisation and counter conditioning based on positive reinforcement should be used.

Summary

Behavioural problems in horses can often be a manifestation of underlying disease and as such it may be the only obvious sign of a health problem. It is important for the welfare of the animal to prove that it is a true behavioural problem (as opposed to branding an animal as badly behaved or difficult), when a painful underlying condition is present.



Veterinary Surgeon **Nathalie van Heesewijk**
 XLEquine Practice **Penbode Equine**



Figure 1: An example of a passport

Nathalie van Heesewijk BVSc MRCVS, Penbode Equine

Horse Passports Explained

According to European legislation, every horse, pony or donkey in England must legally possess a passport (figure 1). This is a paper document which contains information on your horse's age, breed and pedigree, appearance, microchip number, as well as the vaccination and medication history.

Passports are important to:

- identify an animal
- name you as the legal owner of the animal
- prevent the sale of a stolen horse
- prevent horses treated with certain medicines from entering the food chain
- keep record of the vaccination status of your horse
- allow you to enter competitions.

When do I need to get a passport?

Legally, a foal must have a passport issued either before it reaches six months of age or by the 31st December in the year it's born, whichever is later. However, a passport can be issued at any point in your horse's life.

How do I get a passport for my horse?

A vet will need to fill out a passport request form in the presence of your horse. You can choose which Passport Issuing Organisation (PIO) you would like to register your horse with. There are numerous authorised PIOs, and each have their own requirements such as drawing a silhouette (figure 2) or DNA testing your horse as part of the passport application process.

Where do I keep the passport?

The passport should always be kept with the horse: keep it at the yard and bring it with you when you travel with your horse. A passport is valid for life. Should you lose it, contact your PIO to get a duplicate copy.

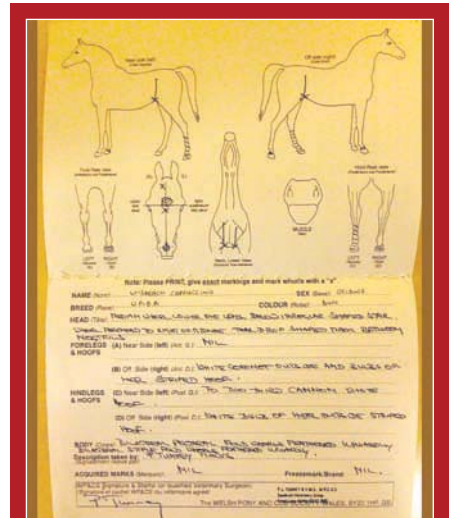


Figure 2: Passport requirements

When do I need to record medicines given to my horse?

Horses and other equidae are officially considered food producing species: every time a drug is administered to your animal, it must be recorded onto their passport. Certain drugs such as phenylbutazone ('bute' or Danilon) are completely prohibited in food producing species.

However, there is an option to sign your horse out of the food chain. This can be done by signing 'section IX' of the passport. Once signed, your horse will never be able to re-enter the food chain, even if he changes ownership. Once section IX is signed, drugs administered do not legally have to be recorded on the passport anymore.

What about Microchips?

All horses born after July 2009 must be microchipped. This can be performed at the yard by your vet. Each horse is attributed a unique number which can be traced back to you.

What happens when I buy a horse?

Contact the PIO within 30 days of purchase to let them know the horse has changed ownership. The passport must be handed over to you at the time of purchase so as to stay with the horse. Also remember to contact the microchip company if different to the PIO. If you are buying a horse that has no passport, contact the Trading Standards Office before purchase.

VET VIEWPOINT...

WE ASK THE OPINIONS OF OUR VETS ON THE CURRENT HORSE PASSPORT SYSTEM

Sybil Dryburgh BVSc MRCVS
Castle Veterinary Group



Passport legislation was introduced to allow the continued supply of Phenylbutazone to horses in the UK, which was threatened with a ban. Phenylbutazone remains available so passports have succeeded in that respect.

If the passport system is to prevent Phenylbutazone from entering the food chain then it has failed. Checks at abattoirs indicate that Phenylbutazone continues to be detected in some equine carcasses.

If passports are to accurately identify horses then success has been limited. Any horse can be 'passported' at any age for anybody and passports are available on the 'black market'. Updated legislation has improved the situation but lack of enforcement means that existing laws are routinely ignored without consequence.

If every UK horse was correctly microchipped, with a passport and registered through a central database which recorded the administration of banned substances, we could have confidence in both food safety and horse identification which would be worth paying for.



Is the current passport system in the UK good enough?

Paul Hallum BVMS BSc MRCVS
Calweton Veterinary Group



In order to answer this question I think we need to ask 'What is the purpose of passports?'. Passports are a legal requirement for all horses, ponies and donkeys; their aim is to regulate medicines so they do not end up in the food chain and to prevent the sale of a stolen animal (as the passport aims to prove its identity).

Clearly if these are the aims of the passport system, the current system in place is inadequate. The problem arises due to the number of passport issuing organisations; if a single authority and a central database were used then horses would not be able to have multiple passports and medications could be recorded within the database. However, until this is put in place I'm afraid the system will remain flawed and the aims of the passport system will not be achieved.

Julian Rishworth BVetMed MRCVS Minster Vets

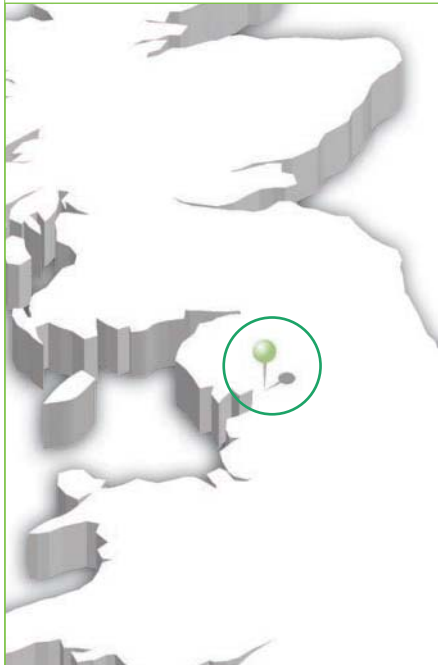


would be able to communicate adequately between themselves and it took them until 2009 to realise microchipping was a good idea. They have never properly backed a central database and after two failed attempts, we are still in limbo.

What is required? A single issuing agency with a unified passport, (the same document for every horse) with a single database to which all interested parties can have inspection access. Once these basics are in place, there needs to be proper enforcement of the regulation, not the current toothless option being administered by local councils. There can still be an over-stamping option to keep the relative breed societies happy, but these have shown themselves hopeless at administering the issuing of passports. The statistical information such a system would yield would easily justify the administrative costs.

Clearly the answer is no. Respective governments can't take any pride from their handling of horse passports. Weatherby's showed them how to do it in 1999 with compulsory microchipping, unified passport layout and a central database to back these up, administered by a single agency.

The government decided that 60+ issuing agencies, each with their own ideas,



Veterinary Surgeon Jane King

XLEquine Practice Westmorland Veterinary Group



Nose nets can reduce contact of irritants with the nose

Jane King BVetMed MRCVS, Westmorland Veterinary Group

Headshaking Syndrome in Horses

What do we mean by headshaking?

Headshaking sounds such an innocuous term but it can make the affected horse's life a misery and render them unrideable. Horses may shake their heads for a variety of reasons: for example as an evasion or to escape from pain in the mouth, back or elsewhere. In some, it may be a response to stress or in anticipation of food or exercise. All of these are voluntary actions as the horse is choosing to toss his head. Headshaking syndrome is different; it is an involuntary action.

Characteristics of headshaking syndrome:

- sudden violent vertical downward flick of the nose
- repetitive involuntary behaviour
- sneezing, snorting
- runny eyes, runny nose
- seasonal
- more common in geldings
- rubbing nose and muzzle on foreleg
- some show photophobia, squinting in bright sunlight.

There is a huge spectrum in the severity of signs shown, from the occasional twitch to horses who are obviously very distressed and can become dangerous to ride or will rub the sides of their faces so hard they will damage themselves. The condition is thought to be akin to trigeminal neuralgia in people (severe facial pain). The site of the pain (muzzle and nose) is not the source of the pain, which is within a branch of the nerve deeper in the horse's head. The trigeminal nerve is a sensory nerve receiving information from the head and sending messages to the brain. In headshaking syndrome the nerve overreacts misinterpreting sensory stimuli as painful, hence the sudden violent reflex action. The action may be triggered by sunlight, rain, wind, pollen or flies. Sunlight is a key trigger and most of the others are also more likely to be present in the spring and summer.

How can we diagnose headshaking?

Your vet will take a careful history including how long you have owned the horse, when signs started and if there are any triggers. They will want to perform a full clinical examination to rule out any obvious physical causes. If it is safe to do so, the vet may want to see the horse ridden or exercised to see the behaviour. The characteristics of the condition means the vet may make the diagnosis from his examination alone but sometimes, local anaesthetic may be injected either around the infraorbital nerve or further back in the head behind the eye. The idea is to see if numbing the nerve eases the signs; this may be done to help decide if the horse is likely to respond to surgery.

Treatment options available:

- minimise triggers and avoid riding in bright sunlight if possible;
- use a nose net, this reduces contact of irritants with the nose but also dampens down the nerve response by the contact of the material with skin;
- magnesium supplements;
- pulsed steroid therapy;
- human drugs such as cyproheptadine, tegretol and gabapentin;
- acupuncture;
- surgery is performed at specialist centres where they insert a coil around the nerve;
- sadly, some horses with the condition deteriorate and may have to be put to sleep on humane grounds or because they become difficult to handle.

Is there a link to Equine Herpesvirus?

Some researchers have suggested a link to equine herpes virus (EHV). EHV does like to persist in nerve tissue and has been found in parts of the trigeminal nerve at post mortem of headshakers. Research is ongoing in this area.



pony pages

Welcome...
TO THE SUMMER 2014
XLEQUINE PONY PAGE



Top Tips

Tips for keeping legs sound

from Jane White BVetMed MRCVS, St Boniface Veterinary Clinic

- ✓ Do not overfeed - too much food leads to weight gain and may increase the risk of laminitis or equine metabolic syndrome.
- ✓ Being overweight increases the load on the legs - regular use of a weigh tape can help to spot any changes.
- ✓ Plan ahead - injuries are more likely to happen when tired so get your pony fit before the school holidays. Sore backs may also present as lameness so check your tack fits well and is in good condition.
- ✓ Make sure the farrier is booked for regular foot trimming/shoeing.
- ✓ Pick out feet and check legs for any heat, swelling, wounds and lumps daily.
- ✓ Check the field regularly for anything that might cause injury to legs, e.g. litter, broken fencing, sharp edges on water troughs.
- ✓ Check with your vet that your pony's tetanus vaccination is up to date.
- ✓ Ponies will run about to escape biting, buzzing insects so use fly repellents and 'anti-bug' rugs. Provide shelter when possible.
- ✓ Avoid fast work and over jumping when the ground is hard.
- ✓ Brush off any sweat marks or wash and dry thoroughly.
- ✓ To avoid sore skin keep boots clean and supple.

If you have any questions about your pony's health speak to your vet.



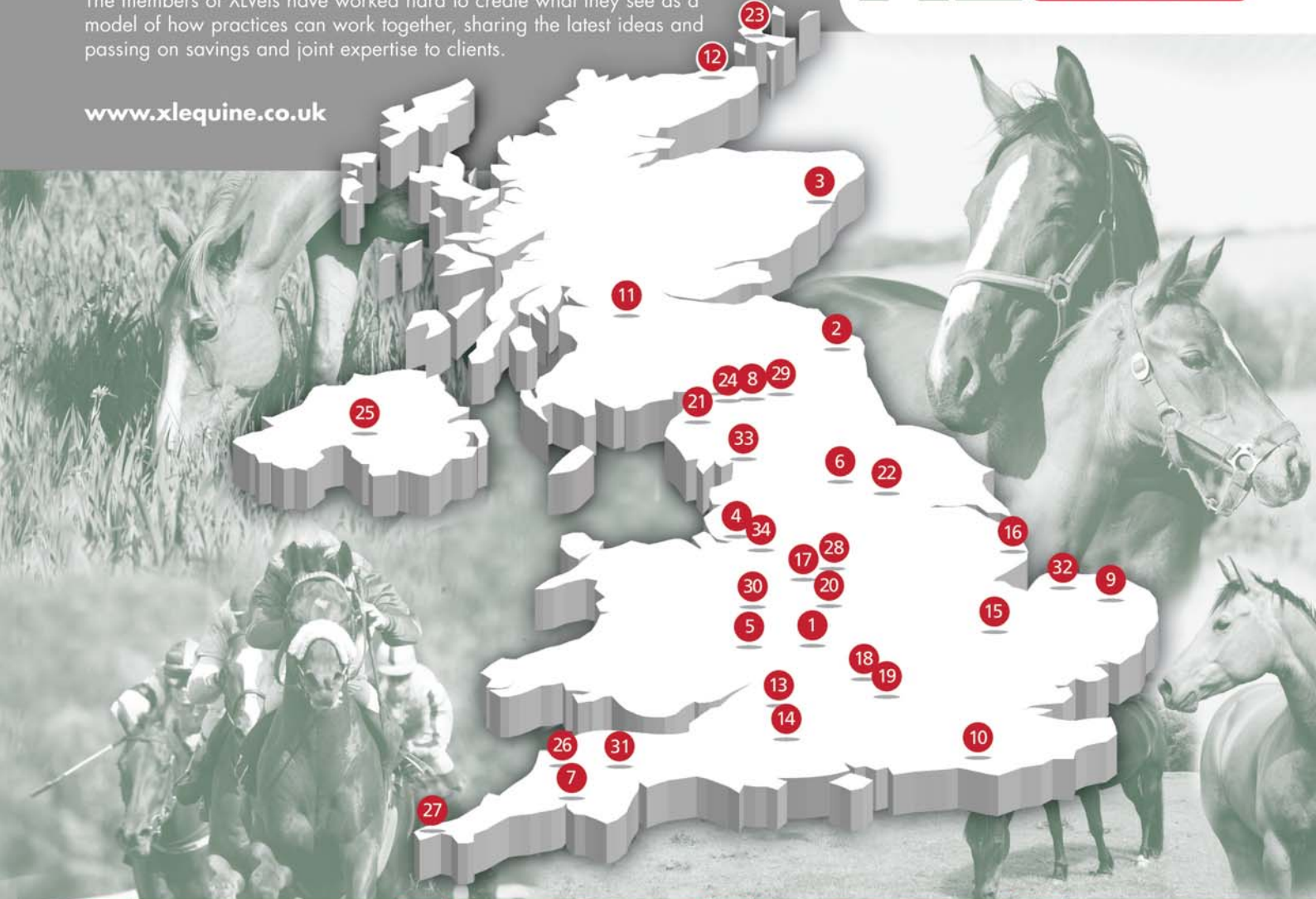
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