

SUMMER EDITION 2015

XLEQUINE - BETTER TOGETHER

Equine

MATTERS

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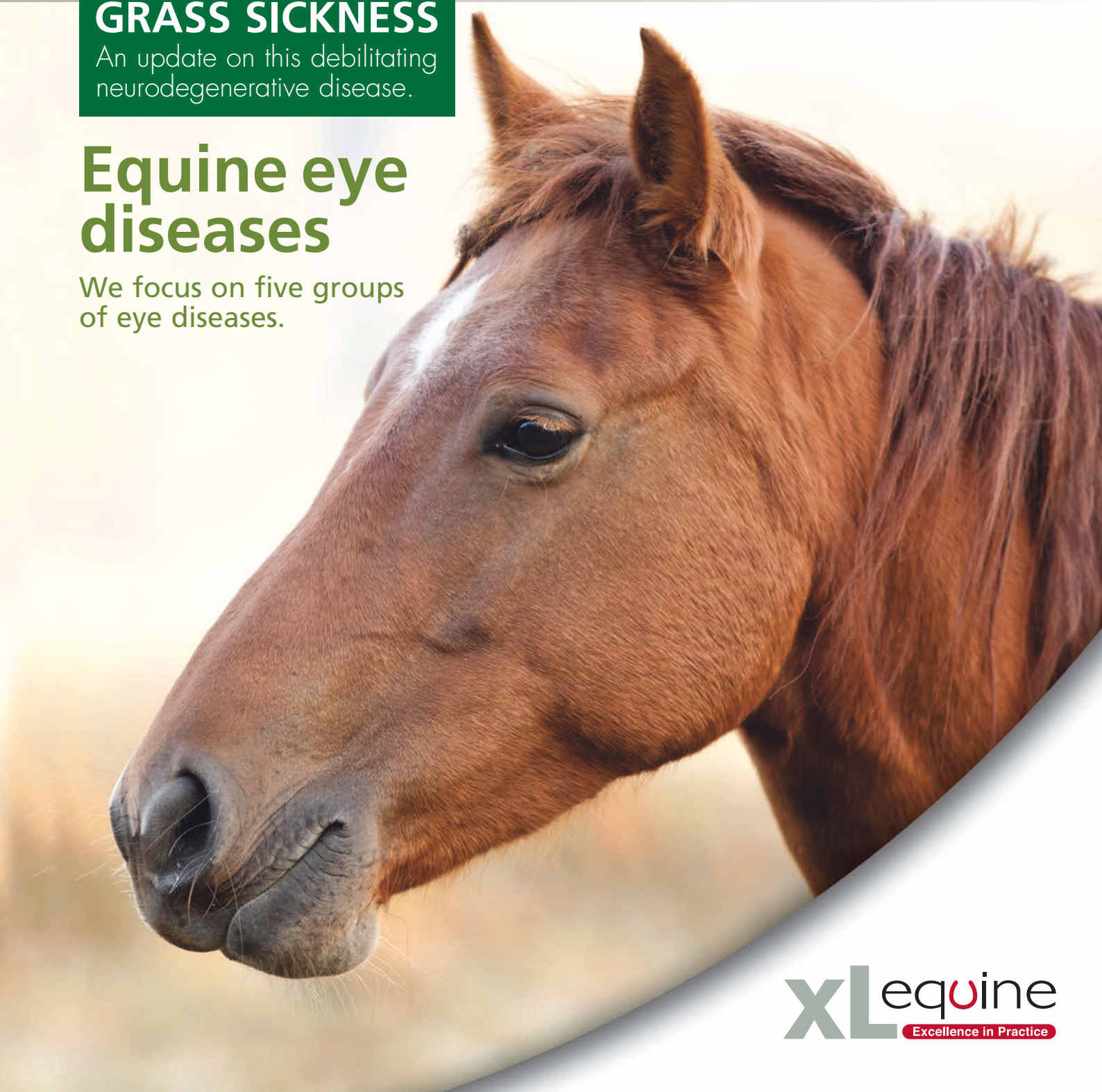
Inside this issue:

GRASS SICKNESS

An update on this debilitating neurodegenerative disease.

Equine eye diseases

We focus on five groups of eye diseases.



xLequine
Excellence in Practice

Vet Focus

In each issue of **Equine Matters** we feature a brief insight into a selection of the veterinary surgeons who make up XLEquine. Featured in this issue are Heather Urquhart, Andrew McDiarmid and Imogen Burrows...



ScarsdaleVets
Equine

Heather Urquhart BVMS CertAVP(EP) MRCVS

XLEquine
Excellence in Practice

Heather Urquhart is a senior assistant equine veterinary surgeon at Scarsdale Vets in Derby.

I qualified as a vet from Glasgow University in 2005, and spent a brief spell in practice in East Yorkshire before joining the Scarsdale Equine team in 2007, where I have remained ever since.

I enjoy all aspects of equine practice, but have a particular interest in dentistry, preventative medicine and wound management. I spend a large amount of my working day as a first opinion ambulatory vet treating horses and ponies of all shapes and sizes. I completed my advanced veterinary practice certificate in equine practice in 2013, and am hoping to complete a further certificate in equine dentistry next year. I also organise EquineSkills courses and other client talks at Scarsdale.

Outside of work I enjoy walking my 2 dogs and riding and eventing my horse.



clydevetgroup
Equine Hospital

Andrew McDiarmid BVM&S CertES(Orth) MRCVS

XLEquine
Excellence in Practice

Andrew McDiarmid is the head of Clyde Veterinary Group Equine Hospital referral service in Lanark.

I qualified from Royal (Dick) Veterinary School in Edinburgh in 1988. After undertaking a 2 year internship (houseman) at Liphook Equine Hospital I returned to Edinburgh University to undertake a 4 year residency in equine orthopaedics. I remained at the university for a further 6 years as the head of large animal orthopaedics before leaving in 2000. In 2002 I moved to Lanark to join the newly formed Clyde Veterinary Group.

I have been very fortunate throughout my career to have been involved with many high profile horses including an Olympic gold medal winning horse, a Royal Ascot winner and racehorses which have won at the Cheltenham festival. My greatest achievement was in 1996 when I had treated 6 horses who then went on to win at the same race meeting at Kelso race course.

My specialist interests are in lameness and orthopaedic surgery and I have published numerous vet journal articles as well as several book chapters. Currently my particular interest is in orthopaedic surgery and novel techniques to improve successful joint surgeries.

Outside of work my life is taken up with my 2 children. In the winter months I am a keen curler and enjoy going skiing.



CLIFFE EQUINE 

Imogen Burrows BVetMed CertAVP(EM) MRCVS

XLEquine
Excellence in Practice

Imogen Burrows is a senior assistant equine veterinary surgeon at Cliffe Equine Clinic in East Sussex.

After qualifying from the RVC in 2000, I gained experience in equine practice in Lincolnshire and Northamptonshire, before relocating to Sussex in 2006.

Whilst at Cliffe Equine, my interest in equine medicine has developed, which has led me to achieve an equine medicine certificate in 2013 and become an RCVS Advanced Veterinary Practitioner in Equine Medicine this year. I head the equine medicine team at Cliffe and particularly enjoy anaesthesia, respiratory and gastrointestinal investigations, plus ophthalmology and I have a keen interest in equine reproduction with a busy AI caseload.

I am a passionate educator both in and out of the veterinary profession. I run a technical scuba diving company with my husband, and any spare time is used diving, hiking up mountains or renovating our new house!

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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THE EDITOR

Welcome to the 'Summer 2015' edition of Equine Matters...

...produced by XLEquine practices.

In this issue we focus on osteochondritis dissecans in horses, equine grass sickness and equine neurological diseases as well as the exciting collaboration with the Gambia Horse and Donkey Trust. We look at eye disease in horses with a focus on recurrent uveitis and a surgical feature on eye removal.

We have chosen to discuss the growing concern of obesity amongst horses and ponies 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 CertAVP PGCertVPS MRCVS
 Calweton Veterinary Group



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Veterinary surgeon **Graham Hunter**

XLEquine practice **Ardene House Vet Practice Ltd**



Wedges can be used to improve breakover and reduction of compressive forces

Graham Hunter BVM&S GPCert(EqP) CertEP CertAVP(ESO) MRCVS,
Ardene House Vet Practice Ltd

Navicular disease

Navicular disease is a poorly understood complex disease of the horse's feet. It strikes fear in the hearts of horse owners because although our knowledge about this disease has improved, it can still be a devastating and career limiting diagnosis. In the last few decades with the application of advanced imaging techniques our understanding of pathology in the horse's foot has improved to a level that we now understand this disease a lot better.

Previously when we only had x-rays to image the navicular bone we were using the term navicular disease to describe a huge number of different pathological processes involving many of the other structures of the navicular (podotrochlear) apparatus. This led to the evolution of the term 'navicular syndrome' as it was clear that it was not a single disease and that many other structures were involved in foot pain, and in particular in 'heel pain'. With the use of advanced imaging such as MRI even this term gets used less often as we can more accurately describe the nature of damage to individual structures.



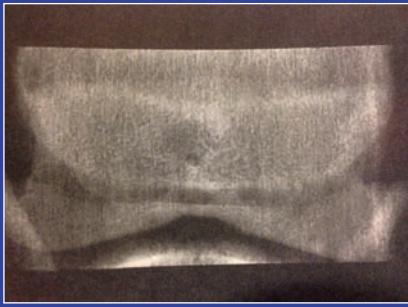
Navicular disease can affect a variety of breeds, although it is mainly seen in Quarter Horses (above), Warmbloods and Thoroughbreds

Clinical presentation

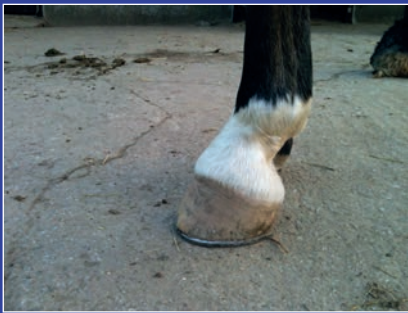
Navicular disease can present in different ways. It can be seen as slowly progressive bilateral forelimb lameness or occasionally as a severe unilateral lameness. Common owner complaints would include a loss of action or performance, an unwillingness to jump, or an inability to lengthen the stride. Lameness can also appear after a period of forced rest. The onset of this condition is usually seen in horses around 7 to 9 years old but occasionally is seen in younger horses. Navicular disease can also affect a great variety of different breeds although it is predominantly seen in Quarter Horses, Warmbloods, and Thoroughbreds. It can also be seen in a great variety of different foot shapes from a flat-footed Thoroughbred to an upright boxy foot of a Warmblood.

What causes navicular disease?

Historically, this disease was thought to be caused by impaired or damaged blood supply to the navicular bone resulting in damage to the bone itself. This theory has probably been largely disproven in favour of a biomechanical theory. This idea revolves round the concept that abnormal compressive forces around the navicular apparatus results in low grade cumulative injuries or less commonly a one off sudden traumatic injury. These abnormal forces result in a variety of different injuries to the navicular apparatus, which if not treated early and correctly, triggers a degenerative process that results in serious pathology to the navicular bone and chronic lameness. It has been shown that the shape of the navicular bone, which is heritable can predispose some horses to navicular disease.



Radiography has historically been the primary method of diagnosing cases of navicular disease



Note the front wall, heel and pastern are all parallel



Dynamic and static foot balance should be assessed and treated

Diagnosis

A full lameness examination should be performed which may include lunging, observation under saddle, flexion and extension and frog pressure tests. A physical examination including the use of hoof testers will also be carried out. Your vet may at this point be highly suspicious of foot pain. The location of pain within the foot can be evaluated with the use of nerve blocks and blocks of the coffin joint and navicular bursa.

If pain in the foot is confirmed, a radiographic examination will be performed next. After shoe removal and foot preparation, numerous x-ray views of the foot will be taken to check for the presence, number, shape, size and location of specific degenerative changes and an assessment will be made of bone definition and regularity, and new bone growth.

Bone scans (scintigraphy), CT or MRI scans may also be performed. MRI will be most commonly used to more accurately assess the tendons, ligaments and give us vital information about the bone that can't be seen on x-ray, such as bone necrosis, fibrosis or haemorrhage. Bursoscopy is occasional done to directly see the fibrocartilage at the back of the navicular bone and the deep digital flexor tendon and any adhesions between them.

Treatment options for navicular disease

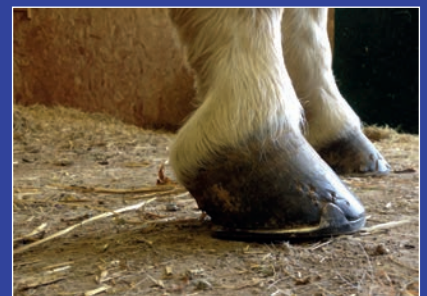
Corrective farriery is the mainstay of treatment with our first goal being to get the foot back in perfect balance. As some cases can have 'long toe, low heel' conformations and others could have small upright boxy feet, there is no single way to trim and shoe navicular disease cases. Every horse is an individual.

We can say however that we want to ensure a straight hoof pastern axis and correct side-to-side balance. We want plenty of support for the caudal heel to expand and contract, and nails shouldn't be put too far back. The break over point should be as far back as possible to encourage early take

off and reduce the stress on the navicular apparatus. Your vet and farrier may decide together that egg bar shoes, natural balance shoes or heart bar shoes are appropriate. They may decide your horse needs graduated shoes or wedges or possibly just a wide web shoe with a little extra length. Solar packing may be advised.

Additional medical treatments may be used. This may include anti-inflammatory painkillers such as phenylbutazone or steroids may be injected directly into the navicular bursa. Your vet may recommend bisphosphonate drugs, such as clodronate, which helps to reduce further weakening of the navicular bone. Isoxuprine can be used as a vasodilator to improve blood flow to the foot although this treatment has gone somewhat out of fashion. Short-term pain relief can be obtained by using extracorporeal shock wave therapy (ECSWT).

In advanced cases, chemical or surgical intervention of the pain conducting nerves may be warranted. Freezing the nerves with liquid nitrogen or injecting alcohol, sarapin or even cobra venom around the nerves to the foot to alleviate pain, have been reported. Surgical procedures can be performed involving severing supporting ligaments (desmotomy). Pain relief can also be achieved by directly cutting the nerves (neurectomy) to the heel/foot. This can give up to 18 months relief before sensation appears to come back.



A broken-back hoof pastern axis can cause low grade cumulative injury



Solar packing provides support and reduces the stress on the navicular apparatus



X-ray guided medication of the navicular bursa



Fellowes Farm Equine Clinic Ltd
VETERINARY SURGEONS



Veterinary surgeon **David Rutherford**

XLEquine practice **Fellowes Farm Equine Clinic Ltd**



David Rutherford BVM&S CertES(Orth) DipECVS MRCVS
Fellowes Farm Equine Clinic Ltd

Osteochondritis dissecans in horses

Osteochondritis dissecans (OCD) affects 5-25% of all horses, but it is most common in Thoroughbreds and Warmbloods and rare in ponies. It occurs when the joint surface of young growing horses does not form properly, causing the cartilage and bone underneath it to be irregular and weak. This can lead to the development of cartilage and bone flaps, which either remain partially attached to the bone or break off and float around the joint. These loose fragments irritate the inside of the joint causing joint swelling and moderate lameness. Age at the development of signs can vary but 18 months to 4 years is most common – often joint swelling and lameness initially occurs when a young horse begins work for the first time. OCD can occur in all joints, but is most common in the stifle and hock.

OCD is caused by a combination of factors:

- Genetics - OCD is at least partially inherited.
- Rapid growth and large body size
- Nutrition - diets high in energy or with a mineral imbalance (usually low copper)
- Hormonal imbalances - insulin and thyroid hormones
- Trauma - possibly a specific injury or just during 'normal' exercise

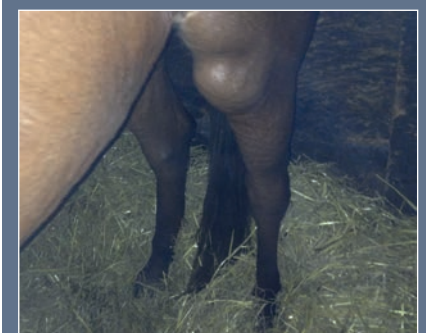
OCD might be suspected when a large young horse develops lameness and a swollen joint, and is easily confirmed with x-rays. Often loose bone fragments can be seen, or if just the cartilage is involved, we just see a flattened area on the joint surface. OCD is commonly present within the same joint in the other leg even if there are no signs, so x-rays of the other leg should always be taken.

Occasionally, OCD might be treated by joint medication alone, but the optimum treatment is the removal of loose bone fragments and diseased cartilage by keyhole surgery (arthroscopy). A camera the size of a pencil is inserted into the affected joint through a 1cm incision. The joint is distended with sterile saline solution or carbon dioxide gas, and the joint surface can be examined using the image projected onto a television monitor. The loose fragments and soft diseased cartilage are located and removed using grasping instruments placed through a second small incision. Any soft bone under the fragments can then be scraped away before the joint is flushed clean and the skin sutured closed. Arthroscopy is usually performed by specialist equine surgeons under general anaesthetic in an equine operating theatre, but it is occasionally possible for surgery to be undertaken in the standing sedated horse. It is not a cheap undertaking with the cost of investigations, surgery and immediate aftercare being approximately £2500-3500.

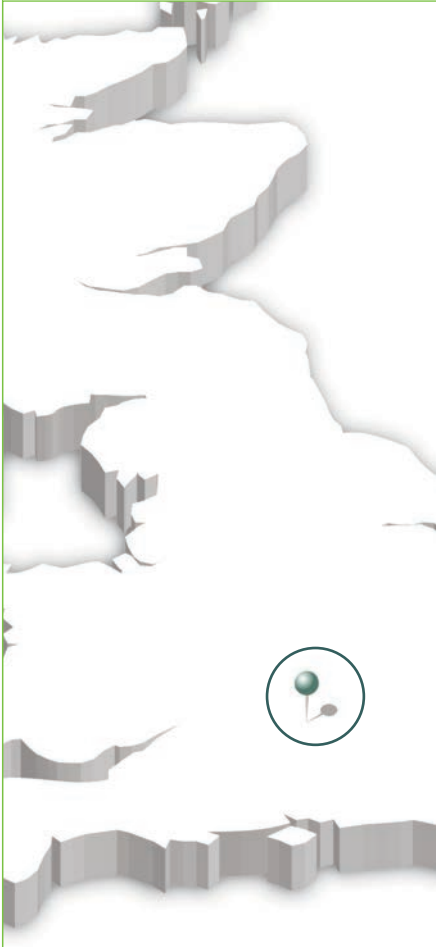
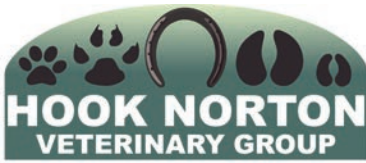
After surgery horses will typically be stable rested for about 3 weeks and then undertake a steady return to exercise over the next few months. Often the affected joint(s) will be injected with cortisone and lubricants 4-6 weeks after surgery to remove any residual inflammation. Alternatively biologic therapies such as platelet rich plasma (PRP) or stem cells can be injected to help stimulate healthy cartilage to cover the exposed bone surface. The prognosis for a full athletic career following OCD surgery is good to excellent in most cases with the best results achieved with smaller injuries and when horses are treated at a young age.



X-rays of a horse's stifle show an OCD fragment at the front of the joint before (left) and after (right) surgery to remove it



Stifle effusion associated with an OCD lesion



Veterinary surgeon **Sally Hodgson**

XLEquine practice **Hook Norton Veterinary Group**



Sally Hodgson VetMB BA BSc MRCVS,
Hook Norton Veterinary Group

Peritonitis in horses

What is peritonitis?

The peritoneum is the thin membrane that lines the abdominal cavity. Its job is to secrete the small volume of peritoneal fluid that lubricates the abdomen. The term 'peritonitis' means inflammation of the peritoneum. The cause may be mechanical, chemical or infectious. Mechanical causes include trauma, breeding or foaling accidents and abdominal surgery. Chemical peritonitis arises from irritation from leaking body fluids such as urine, lymphatic fluid, blood, pus or gut contents, and from drugs administered into the peritoneal cavity. Leakage of urine from a ruptured bladder or abnormalities of the lymphatic drainage from the intestines (lymphangiectasia) are seen almost exclusively in very young foals (Figure 1).



Figure 1: Lymphangiectasia

Secondary bacterial infection usually accompanies mechanical or chemical causes. Other causes of infectious peritonitis include abscesses within the abdomen, parasite migration and some viral infections.

Clinical signs

Symptoms of peritonitis include colic, dullness and inappetence. The abdominal wall is often tensed or 'guarded' and is painful to external palpation. The horse may be reluctant to move. Examination by a vet will usually find decreased gut motility, dehydration and fever. Chronic cases may show weight loss, ventral oedema and exercise intolerance. Some will have excessive amounts of peritoneal fluid, which causes the abdomen to swell up and makes the horse look bloated. Peritonitis can be confirmed or ruled out by taking a sample of peritoneal fluid through the body wall with a needle, a procedure called a peritoneal tap or 'belly tap'. The peritoneal fluid can then be examined to determine the types and numbers of cells present and the

protein levels. This information helps the vet to determine whether or not peritonitis is present, and in some cases can help identify the cause.

Normal peritoneal fluid is clear and straw-coloured. Cloudy or dark/red peritoneal fluid is abnormal. It is also very useful to send a sample for culture and sensitivity testing. This identifies the type of bacteria involved and checks which antibiotics should treat them and which they are resistant to.

Treatment

Pain relief and intravenous antibiotics (most commonly penicillin, gentamicin and metronidazole) are essential for the treatment of septic peritonitis. Antibiotic treatment must be started straight away, and may need to be altered depending on the results of culture and sensitivity testing of the peritoneal fluid sample. Peritonitis caused by abdominal abscesses need antibiotic treatment for weeks to months depending on the types of bacteria involved. Aggressive intravenous fluid therapy may be needed to correct dehydration. Abdominal drainage and lavage can help to remove bacteria and toxins from the abdominal cavity in severe septic peritonitis. (Figure 2).



Figure 2: Abdominal drain/tapped abscess

Prognosis

The prognosis varies depending on the cause. If the primary cause (e.g. ruptured bladder) can be identified and corrected, the prognosis for survival is reasonably good, however survival in horses with septic peritonitis after abdominal surgery is less than 50%. If there is a gastrointestinal rupture the prognosis is very grave indeed.



Veterinary surgeon **Poppy Mitchell**

XLEquine practice **Wensum Valley Veterinary Surgeons**



Poppy Mitchell VetMB BA CertAVP MRCVS,
Wensum Valley Veterinary Surgeons

Equine wound management

Horses, due to their nature, are particularly prone to suffering traumatic injuries. The majority of these are superficial and heal with basic care but others require veterinary treatment to promote healing. Large and complex wounds can take weeks or months to heal and therefore anything that delays the wound healing process should be avoided. Wounds of the lower limbs can be particularly awkward to manage due to poor circulation, a lack of soft tissue between the skin and bone, movement due to proximity to joints and contamination from the environment.

First aid

If you find your horse with a wound the most important thing to do is to keep calm so that you can restrain and calm your horse. If the wound is actively bleeding use a thick absorbent dressing pad to apply direct pressure; cohesive bandage can be useful in helping to hold the pad in place. Having a well-stocked first aid kit easily accessible makes moments such as this much easier.

Wounds that should be immediately examined by a vet include those close to vital structures (joints (**Figure 1**), tendons,

the eyes, chest or abdomen), wounds that are bleeding profusely, cover a large area or are through the full thickness of the skin. If you are ever in doubt do not hesitate to call your vet for advice; photographs sent via email or mobile phone can be very helpful at this stage.

NEVER put yourself at risk by trying to examine or clean a wound on a stressed or painful horse, leave this job to the vet who will administer sedative prior to examining and treating the wound.

How quickly can wounds heal?

The greater the size and complexity of the wound, the longer it will take to heal. Whilst it is impossible to increase the

overall speed of wound healing, good wound management makes sure that it is not slowed down for any reason.

What can slow wound healing?

Wound healing can be affected by multiple different factors associated with the wound and the individual horse or pony:

- Inflammation and swelling (**Figure 2**)
- Infection: Infected tissues and the presence of pus or necrotic (dead) tissue.
- Excessive granulation tissue: Granulation tissue forms to fill in the wound and provide a surface for the skin cells to migrate over but it needs to be controlled when there is too much.
- Drying of the wound
- Multiple trauma sites
- Age of the horse: Older horses are slower at healing than younger horses
- Disease status of the horse: Horses already suffering from other diseases e.g. Cushing's disease have delayed wound healing

How can we help wounds to heal?

1. Cleaning the wound and removal of damaged tissue

All traumatic wounds are contaminated with foreign material, such as dirt and bacteria, from the hair coat, environment and in some cases the item that caused the wound. Thorough cleaning removes the debris, pus and discharge therefore reducing the risk of infection and promoting wound healing. It is essential that any product used during this process does not inhibit wound healing. Whilst cleaning a wound it is essential to wear gloves to prevent bacteria transferring into it from your hands.

Whilst water is satisfactory for removing the gross contamination it should not be used beyond this point as it can damage cells and cause swelling of the tissues; ideally a large volume of warm saline (2tbsp salt in 1 litre of water) should be used. Antiseptic solutions e.g. chlorhexidine (Hibiscrub®) can be added to provide additional action against bacteria.

Removal of dead or dying tissues is essential for efficient wound repair. The presence of unhealthy tissue means that the healing response is focused on removing this as opposed to healing and it increases the risk of infection.

2. Anti-inflammatory medication

Anti-inflammatory medications, e.g. phenylbutazone not only provide essential

pain relief for the injured horse but also help to reduce inflammation and swelling.

3. Antibiotics

Once the protective barrier of the skin has been damaged the tissues beneath are considered to be contaminated and there is a risk of infection establishing. Whilst antibiotics are important to help control established infections they are often not required for wounds that are treated quickly. Your vet will decide whether antibiotics are required.

4. Suturing wounds

Wounds that are most suitable for suturing (stitching) are those with clean, healthy edges and are free from infection (Figure 3). As a general rule, a vet should see a wound within 6 hours to determine whether suturing is possible, however this can vary with the type and location of a wound (Figure 4).

5. Bandaging

Bandages consist of several layers each of which help to provide a regulated, moist environment ideal for wound healing. Bandaging a wound also prevents further contamination, protects from additional trauma, helps to reduce or prevent swelling and when necessary immobilise the wound.

The wound product and dressing pad selected should depend upon the type of wound and the stage of healing. In many cases a hydrogel and a non-adhesive,

absorbent dressing pad are ideal and these should be kept in any first aid kit. Other products available include medical grade manuka honey, silver-impregnated dressings and ketanserin however it should be stressed that prior to using any product it is best to seek advice from a vet.

Layers of cotton wool or gamgee held in place by conforming bandage help to ensure the bandage applies an even pressure and absorbs blood and discharge. The thickness of the absorbent layer can vary significantly and is quite considerable when immobilisation of a limb is required. The final layer, a cohesive or elastic adhesive bandage, helps to support the overall structure of the bandage and makes it harder-wearing.

Conclusion

Whilst the majority of wounds that horses suffer heal in a straightforward manner this is not always the case. Having a well-stocked first aid kit can help to reduce the stress when needing to perform first aid. If you are ever uncertain whether your horse needs to be examined by a vet calling for advice is essential; sending a photograph can be very helpful at this time. There are many factors that can slow the rate of wound healing which can be addressed through a combination of wound management techniques.



Figure 1: Wounds overlying joints should be examined by a vet; fortunately for this horse the knee joints were not affected and he made a full recovery



Figure 2: Sometimes it is obvious when a wound requires intensive treatment. The swelling of this wound prior to treatment meant that the treatment period was considerably lengthened



Figure 3: Wounds suitable for suturing have clean, healthy edges and are free from infection



Figure 4: The wound in Figure 3 after suturing



Veterinary surgeon **Emma Houghton**

XL Equine practice **Endell Equine Hospital**



Emma Houghton BVetMed Cert AVP(EM) MRCVS,
Endell Equine Hospital

Equine grass sickness

Equine grass sickness (EGS) is a debilitating and usually fatal degenerative disease of the neurological system affecting grazing horses, ponies and donkeys.

The UK has the highest incidence of EGS worldwide with studies showing there are specific high-risk areas throughout the country. EGS was first reported in 1909 in Scotland and since then numerous theories have been proposed for the cause. Research in the past 20 years has been directed towards the association with *Clostridium botulinum* type C and its neurotoxins. Studies have shown that horses with EGS have lower antibody

titres to *C. botulinum* type C. In addition, it has been shown that horses with higher antibody titres have a reduced risk of developing the disease. It is not believed to be the ingestion of the preformed *C. botulinum* type C neurotoxins which result in the pathogenesis of EGS but that a combination of risk factors triggers the production of *C. botulinum* type C neurotoxins by bacteria present within the gastrointestinal tract.

Risk Factors

Increased risk of disease has been shown with:

- Grazing at pasture
- Recent movement to a new yard or changed field within the previous 2 weeks
- Change of feed type within the previous 2 weeks
- Previous occurrence of cases at yard
- Increased soil nitrogen content, pasture disturbance or higher herbage within pastures, in particular *Ranunculus* species (buttercups)
- Age: peak incidence in 2-7 year old horses
- Good body condition score
- Use of an ivermectin anthelmintic
- Weather: cooler, drier weather and irregular ground frosts

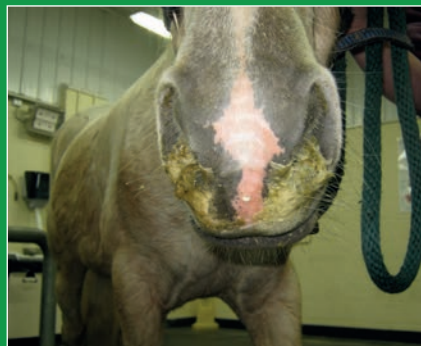


Figure 1: Dysphagia with food and saliva emerging from both nostrils

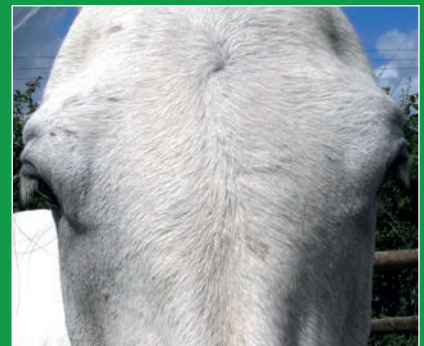


Figure 2: Ptosis (drooping) of both left and right upper eyelids

Clinical signs

Within the literature, extensive reference is made to EGS presenting clinically as one of three forms: acute, subacute and chronic. These are classified according to the duration of disease however there is an inevitable overlap between these sub-classifications because disease duration is dependent on severity, interventional factors, supportive care and elective euthanasia.

The following clinical signs can be seen in all cases of EGS:

- Dullness
- Anorexia
- Mild to moderate colic
- Difficulty swallowing: (dysphagia) (Figure 1)
- High heart rate
- Drooping eyelids (ptosis) (Figure 2)
- Patchy sweating (Figure 3)

- Muscle twitching
- Dry, mucus covered faeces per rectum

Acute EGS (1-2 days):

- Mild to moderate abdominal pain
- Large volumes of nasogastric reflux
- Small intestinal distension per rectum or identified by an ultrasound scan (Figure 4)

Subacute EGS (2-7 days):

- Similar to acute cases but typically only mild abdominal pain
- Nasogastric reflux is not usually present

Chronic EGS (>7 days):

- Weight loss leading to a greyhound, tucked up appearance
- Weight shifting of the hindlimbs, leaning back against the walls
- Inflammation and dryness of the nostrils



Figure 3: Patchy sweating seen across the body

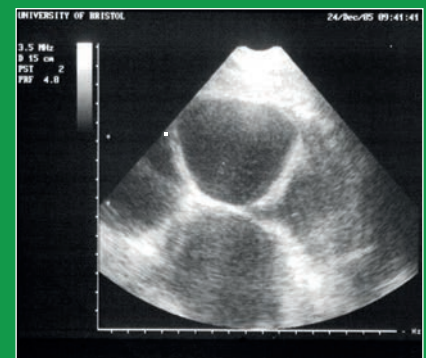


Figure 4: Distended small intestine can be identified ultrasonographically

Diagnosis

A presumptive diagnosis is usually made based on the nature and progression of clinical signs, recent clinical history, epidemiological information and the ruling out of other differential diagnoses.

Gold standard diagnosis is based on examination of nerve bundles found within an intestinal biopsy that is taken during an exploratory colic surgery. Unfortunately, this

is often a post mortem examination as a suitable ante mortem test is still unavailable.

One test to aid diagnosis is the reversal of ptosis (drooping eyelids) following administration of (0.05%) phenylephrine eye drops. Unfortunately, the sensitivity and specificity of these tests are not significant enough to be used solely in the diagnosis of EGS.

Treatment

Acute and subacute cases are associated with a 95% mortality rate. However, fluid therapy, analgesia and regular stomach tubing can be initiated until a definitive diagnosis can be achieved. At this stage, euthanasia is recommended.

Chronic cases of EGS should be carefully evaluated prior to euthanasia as up to 40% can survive with appropriate nursing care. The positive criteria to consider for chronic cases includes:

- Ability/willingness to drink and swallow feed
- Absence of continuous moderate to serious colic signs

Treatment of chronic EGS:

The major concern for the chronic cases of EGS to overcome is the profound inappetence exhibited. A picnic of highly palatable, good quality feeds that are high in protein and energy should be provided. Feeding preferences of these horses often change regularly so different options should be available for them.

In some cases, horses can be hospitalised and administered nutrition by either continual flow system or within the fluids intravenously. There is not sufficient evidence to show whether these regimes will improve the outcome of the case but they will reduce

weight loss and consequently increase the time available for spontaneous improvement in appetite to be made.

Nursing care:

- Pain relief as necessary
- Regular hand feeding
- Regular short walks/turnout periods at grass
- Antibiotics in cases where there is evidence of feed inhalation to prevent the development of inhalational pneumonia

The nursing care of these cases requires dedication, commitment and time from the owner. It can take weeks to months for improvements to be made and it is difficult to predict whether the horse will survive despite these efforts.

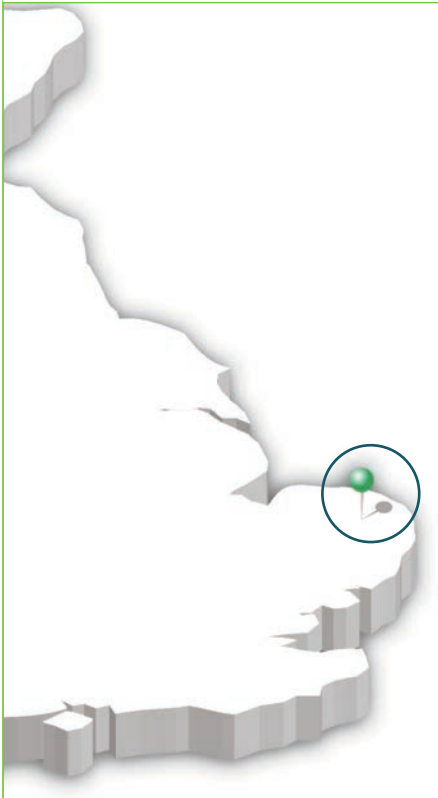
Research studies have shown that the severity of swallowing difficulty, colic, inappetence and rhinitis (inflammation of nasal passages) is greater in non-survivors. Cases which regain their appetite and their body weight will often return to the same level of strenuous exercise. However, even in these cases, residual signs such as some difficulty swallowing, intermittent colic and coat changes can persist.

Prevention/vaccination

Last year, the Animal Health Trust, in collaboration with the Universities of Edinburgh, Liverpool and Surrey, launched a randomised, placebo-controlled field trial for a potential vaccine. To qualify for inclusion with this trial, horses must be kept at premises that have been affected by at least one EGS case within the preceding three years. Horses are assigned to one of two groups:

- A vaccine group vaccinated with C Botulinum Type C toxoid vaccine
- A placebo group receiving inactive placebo injection

The vaccine programme consists of three injections at 21 day intervals, followed by a booster vaccine at 12 months. The horses remain under the care of their normal veterinary practice and all visits, vaccines, health checks are paid for by the trial. The vaccine trial, if successful will provide a major breakthrough in EGS prevention. If you have suitable cases for enrolment you are encouraged to contact the EGS vaccine field team at the Animal Health Trust (equinegrassickness@aht.org.uk or telephone 01638 555399).



Veterinary surgeon **Aoife Byrne**

XLEquine practice **Chapelfield Veterinary Partnership Ltd**



Aoife Byrne DrMedVet MRCVS, Chapelfield Veterinary Partnership Ltd

Equine eye diseases

The safety of a horse and its ability to do its work depends heavily on its vision. Whilst many horses can cope fairly well with compromised vision, especially where this develops slowly, visual compromise will not necessarily preclude the animal from being ridden.

In spite of this, there are many horses that work well even though they have obvious, compromising eye disease.

The outward evidence of ophthalmic disease is obvious when blepharospasm (excessive blinking), epiphora (overflow of tears), eye rubbing, head tilt, obvious asymmetry of shape or size when compared to the normal eye, changes in the clarity of the cornea and obviously abnormal discharges are seen.

More subtle changes associated with ophthalmic pain include downturned eyelashes, drooping of the upper eyelid, enophthalmos (eye drawn back into orbit) and photophobia (sensitivity to bright light).

diagnosis, laboratory confirmation of micro-organisms and appropriate therapy.

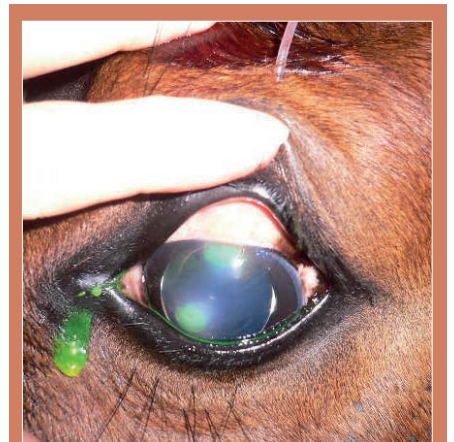


Figure 1: Superficial corneal ulceration stained with fluorescein dye

In this article five groups of equine eye diseases will be described.

These are:

1. Keratitis
2. Uveitis
3. Lens luxation
4. Cataracts
5. Retinal disease and dislocation/detachment.

Keratitis

Corneal ulceration (*Figure 1*) is a potentially sight threatening disorder requiring early

Viral, bacterial and fungal species may be involved either as a primary cause or as secondary infection and each requires prompt therapy if serious ocular complications are to be avoided.

Ulceration should be considered in every acute or chronically painful eye and infection should be considered in every corneal ulcer. Fungal involvement is rare in the UK but should be suspected with a history of corneal injury with plant material or if the ulcer has received prolonged antibiotics and has shown no improvement.

Many early cases of ulcerative keratitis present as minor corneal epithelial ulcers or infiltrates with pain, blepharospasm, epiphora and photophobia.

Uveitis

Uveitis is inflammation of the middle layer of the eye, the uvea. Uveitis can be grouped into traumatic, reflex or recurrent/persistent types. It can occur as an intraocular primary event or as a result of any other ocular disorder (secondary/reflex uveitis). Immune mediated equine recurrent uveitis (ERU) is the most commonly recognised disease entity of the equine eye. Uveitis is a painful eye condition.

A range of clinical presentations may be seen but in general the clinical signs are non-specific inflammation of the uvea.

Treatment can be lengthy and complicated. Prognosis is good with prompt diagnosis and treatment of simple cases but complications that interfere with vision are common with delayed treatment and severe cases.

Lens luxation (dislocation)

Due to a congenital defect in foals or severe trauma in adults, the lens can luxate forward or backwards from its normal position. Movement of the iris from lens contact, shallow or deep anterior chambers, and aphakic (no lens) crescents (edge of lens seen) might be present.

Cataract formation might also be noticed. Dislocation of the lens into the vitreous humour (gel between lens and retina) might not necessitate surgery; however, movement into the anterior chamber usually requires removal to prevent secondary glaucoma (increased intraocular pressure).

Cataracts & other lens conditions

The lens forms part of the focusing system that delivers sharp images onto the retina and has three zones which, from the centre, are the nucleus, the cortex and the lens capsule. A cataract is defined as any opacity (cloudiness) within any of these three layers. The position of opacities and their size/extent will determine the amount of visual impairment. Most horses appear to cope well with 'minor' lens changes however behaviour and athletic ability are known to be affected by 'significant' cataracts.

Cataracts (Figure 2) are categorised by their level of maturity. Incipient/early cataracts involve small areas of the lens and do not affect vision. Immature cataracts involve more of the lens with increasing effects on vision. Mature cataracts involve the entire lens and cause blindness.



Figure 2: Equine cataract

Cataracts block the visual image as they increase in size, but don't block light. Congenital (present at birth) cataracts are seen in foals, often in both eyes. In adult horses, cataracts might be caused by trauma, nutritional deficiencies or toxicities, or be secondary to other conditions such as ERU.

An examination will determine if ERU is also present; this is especially important when cataract surgery is being considered, since there is an increased risk of complications and a poorer prognosis for vision when uveitis is the cause of the cataract.

Retinal disease and dislocation/detachment

Chorioretinitis is inflammation of the choroid and retina. It can be caused by infectious agents, a poorly controlled immune system, trauma or vascular disease. It can be found with or without ERU. It can be seen as focal "bullet-hole" lesions, diffuse (spread out) lesions, horizontal bands in the non-tapetum (non-reflective back of eye) and chorioretinal degeneration near the optic nerve. Active chorioretinitis appears as focal white spots with indistinct edges, and as large, diffuse gelatinous grey regions of retinal oedema (fluid swelling). Inactive chorioretinitis can appear as circular depigmented white regions with hyper-pigmented (darkened) centres, or large areas of depigmentation that appear similar to the wings of a butterfly.

Congenital stationary night blindness (CSNB) is found mainly in the Appaloosa, and is inherited as a recessive trait. Cases are also noted in Thoroughbreds, Paso Finos, and Standardbreds. CSNB appears to be caused by a failure of neurotransmission in the middle retina. Clinical signs include visual impairment in the dark with (generally) normal vision in daylight. There is behavioural uneasiness and unpredictability at night.

Retinal detachment (Figure 3) is separation of the layers of the retina, which can be partial or complete. It is

associated with slowly progressive or acute blindness. It can be congenital in foals or acquired in adults and can occur in one or both eyes. It can be a complication of ERU (Figure 4) and associated with congenitally small eyes in foals, head trauma, wounds that cause the cornea to rupture, cataract surgery or secondary to intraocular tumours.

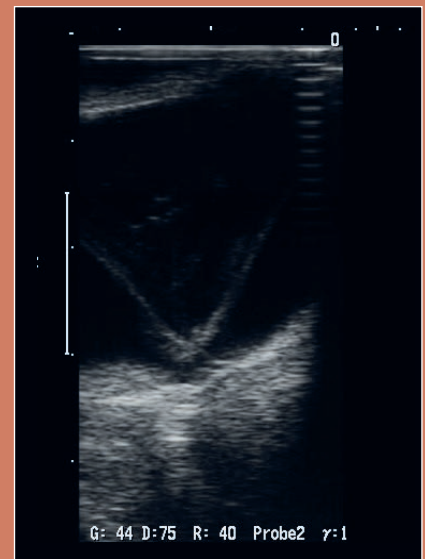
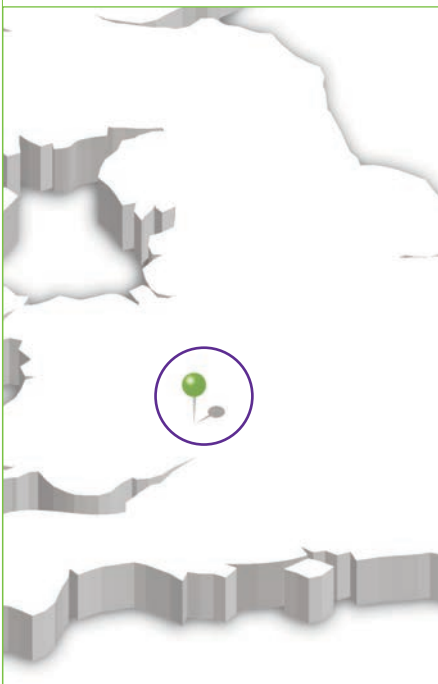


Figure 3: Ultrasound image showing detachment of the retina



Figure 4: ERU and retinal detachment





Veterinary Nurse **Dominic Alexander**
 XLEquine Practice **Belmont Veterinary Centre**



Figure 1: cancer that has migrated from the third eyelid into the eye

Dominic Alexander BVMS MRCVS, Belmont Veterinary Centre

Surgical feature: enucleation

Removal of an eye is called enucleation; it is usually a procedure of last resort. Enucleation is undertaken when treatment for a disease has been unsuccessful; for example, uncontrolled equine recurrent uveitis (ERU) or where there is irreparable trauma. It is not a small procedure for the horse, pony or donkey and it can be quite a daunting undertaking for the owner to contemplate.

How will my horse respond or cope with the loss of an eye?

Understandably this is a frequently asked question and the answer is that they normally cope and adjust very well. An eye is generally removed because it is painful and ocular pain can be particularly distressing. Once removed the patient will normally, after a few days, become more relaxed and begin to put on condition due to the reduction of pain.

The surgical procedure

The surgery is normally undertaken under general anaesthetic to make it easier for the surgeon to operate. However, over recent years, an increasing number of operations are undertaken with the patient standing, under heavy sedation with the use of nerve blocks and local anaesthetic. This can be of benefit to older, quieter patients where a general anaesthetic can pose a greater risk.

The surgery can involve removal of the eyeball or the eyeball and some of the surrounding structures. Whichever technique is employed will depend on the reason for removing the eye. If removal of the eye is due to cancer as, for example, the horse in figures 1, 2 and 3,

additional tissue from the eyelids will need to be removed to provide an adequate margin to ensure that all the diseased tissue is removed.

A prosthetic implant can be inserted in place of the eye that is removed. This can provide a more aesthetically pleasing appearance, giving the impression that the horse has just closed its eye or is winking at you! The downsides of fitting a prosthetic eye are:

1. An increased chance of wound breakdown due to a slightly increased risk of infection being trapped during the operation or rejection of the implant by the body's immune system.
2. Difficulties of placing an implant that is not a perfect fit, either too big or too small. This is because it is difficult to predict how the tissue, within the eye socket, will ultimately settle down after the operation.

The horses in figures 4 and 5 show how the horse will look a few months after enucleation with and without a prosthetic eye.

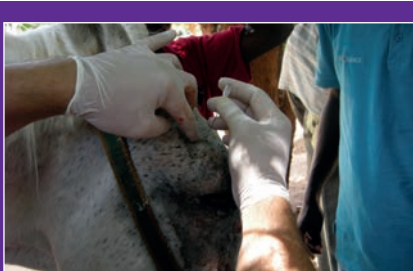


Figure 2: regional nerve blocks being applied



Figure 3: the eye removed and the socket closed post surgery

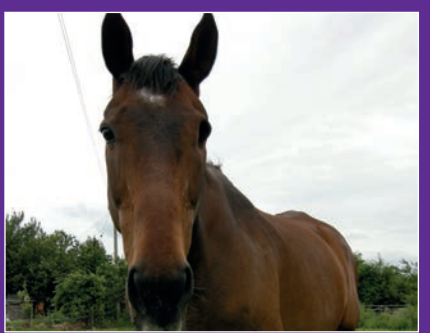


Figure 4: enucleation without a prosthetic eye



Figure 5: enucleation with a prosthetic eye

Medical feature: equine recurrent uveitis

What is equine recurrent uveitis?

Equine recurrent uveitis (ERU) is a very painful condition that can lead to a permanent loss of sight and, if left untreated, removal of the eye (enucleation) is necessary. ERU is a complex, immune-mediated disease, which triggers inflammation in the uveal tract of the eye (middle layer).

What causes Equine Recurrent Uveitis?

ERU usually begins with a bout of acute uveitis. The patient is said to have 'recurrent' uveitis when they have had more than one episode.

Triggers that set off ERU are: trauma (both penetrating and blunt) or systemic disease. ERU is a worldwide problem and specific pathogens that have been attributed include bacteria, in particular *Leptospira* species, parasites (e.g. gastrointestinal worms) and viral diseases such as equine herpes virus.

Key fact:

Whilst infections are commonly implicated as a trigger of ERU, it is the development of autoimmune activity, the body's defence mechanism against these infections, which is likely to be a major component of the process. In laymen's terms, ERU is an ocular condition similar to recurrent airway obstruction (RAO) in the horse or hay fever and asthma in humans. These are conditions where the body overreacts to stimuli and the immune response can cause more harm than the original problem(s).

Clinical signs of acute anterior uveitis

- A closed or partially closed eye
- Excessive tears and sometimes a mucopurulent discharge
- An inflamed conjunctiva (conjunctivitis)
- A cloudy eye due to a phenomenon known as corneal oedema
- In severe cases the eye may have a creamy appearance with a red layer or flecks in it. This is due to hypopyon and hyphaema (pus and blood in the front/anterior chamber of the eye).
- A constricted pupil known as miosis

Clinical signs of chronic or recurrent uveitis

- A darkening of the iris, it can almost appear black. A normally healthy brown iris is bright in colour and, when observed closely, is made up of different shades of brown having a striped appearance.
- Synechiae – this is where the iris, when constricted (miosis) has stuck to the lens capsule and, when it eventually relaxes and dilates, bits of the iris remain attached to the lens. This can leave black flecks on the lens or even holes in the iris.
- Other complications can occur such as; cataracts, glaucoma and retinal detachment

Diagnosis of ERU

- Diagnosis is based on clinical signs and history
- A full clinical examination to look for systemic disease that might be the cause of ERU

Treatment of uveitis

Think of uveitis as a fire in the eye. It must be put out immediately. 'Fire extinguisher' treatments are:

- Topical anti-inflammatories – eye drops (e.g. topical steroids)
- Systemic anti-inflammatories – oral medication
- Mydriatics (eye drops to dilate the pupil)
- Sub-conjunctival injections of steroid may be given by your vet but extra care must be taken to monitor that no corneal ulcers are present or develop similar to topical steroids

When treating uveitis, steps must be taken to protect the affected eye from sunlight. Medication to dilate the pupil will prevent the pupil constricting in bright sunlight. Keep the horse stabled during daylight hours or sew a dark patch of cloth into a fly-mask to protect against the sun.

Treatment and prevention of ERU

Initial treatment is the same as acute uveitis. The treatment should persist for up to a month after the initial signs were detected. However, due to the propensity for ERU to 'reignite' without warning, it can become increasingly difficult to manage the disease so a 'fire retardant' approach is sometimes required. Cyclosporin is a powerful immunosuppressant. Small implants can be placed in the eye under general anaesthetic; slowly releasing the medication for approximately three years. Patients treated with a cyclosporin implant have a statistically higher chance of retaining their eyesight.



Figure 1: a closed, painful eye with tear staining

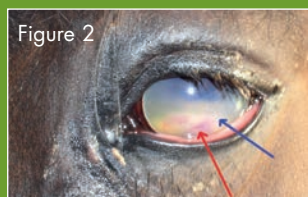


Figure 2: acute uveitis showing pus (blue arrow) and flecks of blood (red arrow) in the anterior chamber of the eye

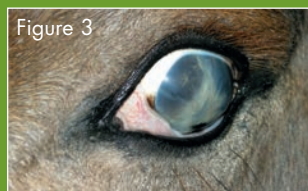


Figure 3: a shrunken, scarred blind eye due to ERU

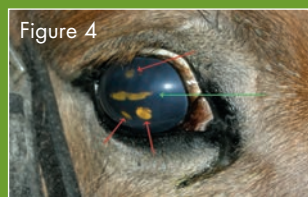


Figure 4: an eye suffering ERU. Note the dark iris and constricted pupil (green arrow) with small holes in the iris where it stuck to the lens beneath (red arrows)

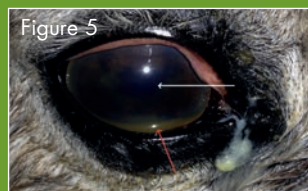


Figure 5: an eye with acute uveitis. Note the constricted pupil (white arrow) and small amount of sediment (pus – red arrow) at the bottom of the eye



Figure 6: the eye one day after treatment. The pupil is now beginning to dilate (white arrow)



Figure 7: the same eye three days into treatment. The pupil is fully dilated and the yellow coloured vitreous, seen through the pupil (blue arrow) can be a feature of animals developing uveitis due to an immune response to parasites. At the time this horse was being treated for cyathostomiasis (redworm).

CLIFFE
EQUINEImogen Burrows BVetMed CertAVP(EM) MRCVS,
Cliffe Veterinary Group

Equine neurological disease

What does neurological disease look like?

The nervous system controls how the body works; managing communication between body parts to co-ordinate both voluntary, e.g. movement, and involuntary actions, e.g. breathing. Neurological diseases can have a vast array of presentations depending on the location and number of nerves affected. Disorders can affect individual nerves resulting in very specific signs, e.g. unilateral facial nerve paralysis causing a droopy face on one side (Figure 1); or can be very widespread so the whole body is affected, e.g. equine motor neurone disease (EMND).

How is neurological disease diagnosed?

Diagnosing neurological disease can be challenging and many signs are subtle and can mimic other conditions. For example, it can be very tricky to separate an ataxic horse from a lame one, and of course it may be both ataxic and lame! This means it is very important to approach the neurological case in a step-wise manner.

Step one: clinical history

Taking a history is critical. What signs have been noticed and when did they start? Is there history of a recent fall or accident? Other information such as breed, age and use of the horse is important as this may make some disorders more likely than others.

Step two: physical examination

Neurological deficits may arise from diseases affecting other body systems. Infections may cause other signs such as raised temperature; altered range of motion may indicate trauma; and presence of muscle wastage and/or asymmetry may suggest the problem has been going on a while.

Step three: neurological examination

The aim is to identify which areas of the nervous system are affected (localise the lesion). By pinpointing where the problem is, we can draw up a list of likely causes. This examination includes observation of the horse; testing specific nerve pathways using reflexes and responses; as well as gait assessment, using additional stimulation techniques, e.g. uneven or sloping surfaces, blindfolding and tail pulls.

Step four: further diagnostic investigation

Once we have a list of possible causes, appropriate diagnostic testing is undertaken to rule out or confirm possible causes, hopefully diagnosing the underlying cause.

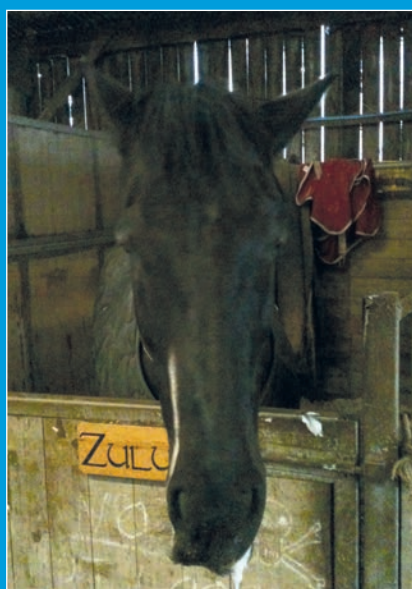


Figure 1: Horse with left sided facial nerve paralysis showing drooping of the left side of the muzzle.

Gait abnormalities are commonly associated with neurological disease, which arise from ataxia and weakness. Horses sway or stumble, looking wobbly or drunk when walking. Owners commonly notice their horse 'makes mistakes'; for example, tripping on known steps, standing on themselves, making odd over-exaggerated strides.

Other signs of neurological disease can include altered behaviour, aimless wandering or persistent circling, head pressing, muscle wasting, difficulty eating, flaccid tail, facial twitching, seizures and collapse.

What causes neurological disease?

Many disorders can disrupt nerve pathways and their signals, causing neurological disease. Most of these will be primary neurological conditions, i.e. affect the neurological system directly; but some neurological diseases may be secondary to another problem. For example, severe liver disease can lead to high blood ammonia levels, which affect the brain, resulting in hepatic encephalopathy.



Veterinary surgeon Imogen Burrows

XLEquine practice Cliffe Veterinary Group



As there are a large number of causes this article focuses on three common diseases

Wobblers syndrome (CVM)

As horses grow, malformations of the neck vertebrae may develop, narrowing the spinal column causing spinal cord damage. Pinching of the cord may be constant, or may only occur when the neck position changes. Thoroughbreds are commonly affected, although any horse can suffer from CVM. Signs can appear suddenly or gradually. Horses appear weak and uncoordinated on their hind legs, but some cases affect the front legs as well.

Neck x-rays may identify bony impingement, but a myelogram may be required to see the pinched spinal cord. Surgery may be possible to widen the space around the spinal cord, but is not without risk. Many horses are retired as they become unsafe to ride. CVM cannot be prevented, but providing a balanced diet to control growth rates in youngstock is important.

Equine herpes virus (EHV)

There are a number of herpes viruses, the EHV type 1 is most commonly associated with neurological disease. EHV-1 generally causes 'flu-like signs and abortions; however, occasionally the virus affects blood vessels in the nervous system causing neurological disease. Horses with the neurological form of the disease may not show respiratory signs, but have poor coordination, hindlimb weakness and are unwilling or unable to rise.

Nasal swabs and blood samples will help identify EHV-1, but treatment revolves around



Figure 2: Recurrent laryngeal neuropathy

Causes of neurological disease

Congenital/developmental:
Cervical Vertebral Malformation, including Wobblers Syndrome;
Hydrocephalus;
Cerebellar Abiotrophy

Vascular:
Post-anaesthetic Myelopathy

Inflammatory:
Cauda Equina Syndrome/Polyneuritis equi

Infectious:
Equine Herpes Virus (EHV-1); Equine Protozoal Myeloencephalitis (EPM);
Rabies; other viral encephalitides (WNV, WEE, EEE, VEE); bacterial
meningitis/meningoencephalitis

Tumours:
Pituitary adenoma, Lymphosarcoma, Cholesteatoma

Toxins:
Tetanus; Botulism; Equine Grass Sickness; Organophosphates; Lead;
Arsenic; Russia knapweed; Yellow star thistle; Australian Stringhalt;
Rye Grass Staggers; Ivermectin/Moxidectin

Deficiencies:
Equine Motor Neurone Disease; Equine Degenerative
Myeloencephalopathy (Vitamin E)

Idiopathic:
Shivers; Stringhalt; Trigeminal neuralgia (Idiopathic Headshaking Syndrome);
Laryngeal Hemiplegia (Roaring) (Figure 2); Benign Epilepsy; Narcolepsy

Degenerative:
Equine Motor Neurone Disease; Equine Degenerative Myeloencephalopathy

Trauma:
Skull/vertebral fracture; pressure or impact of a nerve

Metabolic:
Perinatal Asphyxia Syndrome; Hepatic Encephalopathy; Hypoglycaemia;
Hypocalcaemia, Hypomagnesemia

supportive nursing care. Excellent biosecurity measures are needed to minimise the spread of infection and the affected horses must be isolated. Horses that remain standing usually recover; however, recumbency is associated with high fatality rates. Vaccinations do not prevent neurological disease, but vaccinating is still worthwhile to reduce the risk of contracting other forms of the disease.

Trauma

Injuries to the spine or skull can cause severe, life-threatening neurological damage. Typically injury occurs from a collision with a solid object; pulling back when tied-up, rearing up and over backwards or hitting a fence are common situations.

Signs may be immediate, including loss of consciousness, blindness or even death; or may be gradual, e.g. pressure from bleeding inside the skull. Signs the horse shows will depend on the location of the injury: neck pain, difficulty rising, seizures are examples. It is likely x-rays will be taken of the head and neck; however the diagnosis may be made from the signs exhibited. Usually treatment involves aggressive anti-inflammatory medication and rest. Every injury is different and outcome varies with severity. Trauma is usually accidental and, therefore, hard to prevent. Making sure your horse is fit enough for the activity you are doing is important, and always make sure the horse can safely break free if tied up.



Liz Mitchell MA VetMB CertEP MRCVS, Scott Mitchell Associates

Equine metabolic syndrome

Equine metabolic syndrome (EMS) is a condition which vets have only recently become aware of. It is usually associated with horses and ponies that suffer from laminitis. It has similarities to Type 2 diabetes in humans. EMS in natural living, native ponies is normal: it allows them to put on weight in the summer and then use these fat reserves in the winter months. Our domestication of horses and ponies – rugging up and feeding them all year round – interferes with this natural mechanism.

Signs of EMS may include:

- overweight
- firm, and sensitive, fat on crest and regional deposits
- signs of laminitis (stilted gait, heat in feet, increased digital pulses).

In EMS the fat that is laid down around the body becomes hormonally active which interferes with normal sugar and fat metabolism. The result is an individual that continues to put on weight and will, eventually, show signs of laminitis. It is not fully understood exactly how the EMS leads to laminitis.

One of the features of the syndrome is insulin resistance. In response to insulin resistance, the body produces excessive amounts of insulin to try to maintain normal blood glucose concentrations. These high levels of circulating insulin appear to be a causative factor in EMS associated laminitis.

Diagnosis

Laboratory tests can be helpful in confirming a diagnosis.

- A raised resting blood glucose and/or insulin level may be an indicator of EMS.
- A more sensitive test is the glucose tolerance test, which mimics the horse's response to eating a sugary feedstuff (e.g. grass). The individual is starved for six to eight hours overnight, then given either a fibre-based feed (e.g. chaff) containing a measured amount of glucose or a measured amount of corn syrup by dosing syringe. A blood sample is taken two hours later and a raised glucose/insulin level in this sample gives a very strong indication of insulin resistance and EMS.

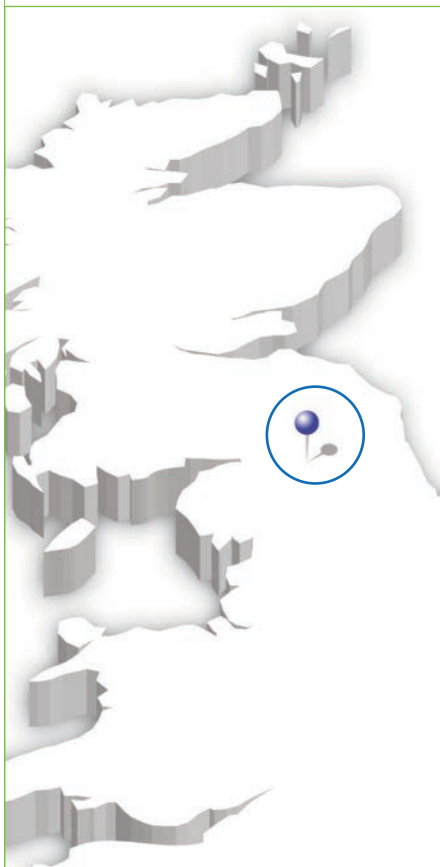
Treatment/prevention

- Feed a weighed amount of fibre based diet to achieve a gradual weight loss.
- Monitor weight using a weigh tape or horse weigh scales.
- Exercise is very beneficial as it improves the body's sensitivity to insulin.
- Do not force exercise if laminitis signs are present.
- Metformin medication may aid in the control of EMS. The exact mechanism of action is unclear in the horse. In many cases, metformin is only used when exercise is not yet an option because of laminitis.
- Do not give sweet sugary feeds or tit-bits as these will result in an insulin surge.

Our knowledge of laminitis prevention and control has improved following the discovery of EMS. This has led us to understand that it is not the grass that causes the laminitis, but more the individual's hormonal/metabolic response to eating the grass that causes the problem.

Summary:

- EMS can affect all ages of horse/pony and mares/geldings/stallions;
- affected individuals are usually overweight;
- affected individuals are more susceptible to laminitis;
- laboratory tests are needed for accurate diagnosis;
- EMS can be successfully managed.



Veterinary surgeon	Liz Mitchell
XLEquine practice	Scott Mitchell Associates



Figure 1: EMS in natural living, native ponies is normal; it allows them to put on weight in the summer and then use these fat reserves in the winter months.



Figure 2: Affected individuals are usually overweight



Figure 3: Regular weight checks using a weigh tape or weigh bridge is important in the management of EMS

VET VIEWPOINT...

We ask the opinion of our vets on equine obesity in the U.K.

**Claire Hodgson BVetMed
CertAVP(EM) MRCVS**
Wright & Morten Veterinary
Surgeons



Obesity is an increasingly common issue in our patients and the silent cause of many illnesses and even death. Significant growth in the feed sector means an overwhelming choice of affordable feeds; combine this with improved forage availability and quality alongside ex-farmland grazing and many of our horses are looking rather too well.

Horses naturally yo-yo diet, getting fatter when times are good in summer providing energy stores for winter to keep warm and make up for poor food supply. Unfortunately, for the majority, our horses are a part time pursuit, with precious time taken working to support them, meaning few of us are able to prevent natural summer weight gains. With rugs and supplementary feeds we do such a good job of looking after our horses we prevent the natural cycle of winter weight loss. The result is a few kilos gained every year and by the time middle age is reached their girth has crept up a few notches, more than is good for them. While costly to alter saddles to accommodate this extra padding, the real cost is to the horse's health with its affects on diseases such as arthritis and an increasing risk of obesity related illness such as laminitis.



Is equine obesity a growing concern in the U.K?

Jane White BVetMed MRCVS St Boniface Veterinary Clinic



Amongst our top class horses we recognise that athletic potential is hindered by excess weight. However in the leisure horse/pony I believe obesity is a growing concern. Historically, some sectors of the showing

world perceived excess condition as more appealing to the eye.

I believe it is a multifactorial issue. Despite a good knowledge of EMS and laminitis many owners appear less confident in the art and science of nutrition. Confronted with a huge range of feedstuffs and feeding guides based on bodyweight and type of work causes confusion. Juggling work/family commitments often limits time available for exercise. A horse may be ridden 5 days a week but still only expend enough energy to be classed as 'at rest' rather than the 'light' or 'moderate' exercise the owner perceives. Limited turnout facilities may lead to prolonged periods of inactivity while stabled. Extra feed/treats may then be used to alleviate boredom or appease our guilt.

**Kirstie Pickles BVMS, MSc, PgCert(Couns Skills), PhD,
CertEM(Int Med), DipECEIM, Scarsdale Veterinary Group**



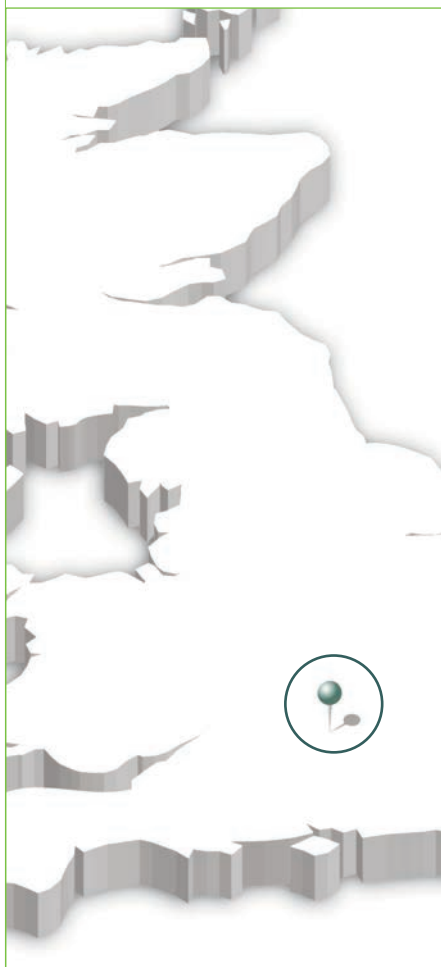
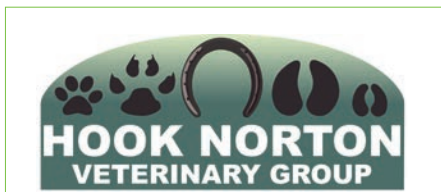
During the nineteen years I have been practising as a veterinarian, I have noticed an increase in equine body condition scores and a rise in overweight horses and ponies. The reasons for this are likely multiple and complex but there are certainly more pleasure horses now than previously, many with cob genes. Cobs tend to be 'easy keepers' requiring lower energy nutritional demands than the

average horse. This, plus the improved pastures now widely available and people's busy lives often leads to an increased energy in, decreased energy out scenario leading to weight gain.

The plethora of equine feeds now available and the clever marketing strategies used by feed companies can be confusing to owners and result in over or unnecessary feeding. An association with increasing obesity in the human population may also exist such that owners deem a higher body condition score acceptable. Judges selecting for over-conditioned horses in the show ring undoubtedly exacerbate this tendency. Regardless of its aetiology, obesity causes a generalised state of inflammation in the body and a plethora of diseases far harder to manage than prevent and thus should be avoided at all costs.

Tom Righton BVSc MRCVS, Hook Norton Veterinary Group

Recent advances in the equine industry: regenerative medicine



Veterinary surgeon	Tom Righton
XLEquine practice	Hook Norton Veterinary Group



The investigation and treatment of lameness in horses is commonplace in equine veterinary practice. Traditionally treatment of soft tissue injuries and joint problems has focussed on systemic non-steroidal anti-inflammatories such as phenylbutazone (bute) which act largely as painkillers, or a targeted approach with steroids injected into a specific area such as a joint. These treatments are effective at alleviating pain and discomfort but do little to stimulate repair of the structure involved.

There has been significant interest over the last 20 years in regenerative medicine, with its use becoming increasingly widespread within equine practice. The most compelling research has been in the area of stem cell therapy.

Stem cells have the potential to differentiate themselves to any cell type, including tendon cells. Superficial digital flexor tendon injury (Figure 1) is a significant cause of lameness within racing and eventing horses. Once injured the tendon will heal, but loses its natural elasticity which allows it to stretch and recoil, instead becoming thick and fibrous. Once a horse resumes work this means the areas above and below the fibrous area are at increased strain and more likely to become re-injured. Stem cell therapy involves collecting the horse's own stem cells from bone marrow in the sternum, these are grown in lab conditions to multiply their number and are re-injected into the injured tendon. Within the tendon the stem cells transform into more normal tendon tissue during the healing process, rather than fibrous tissue. Stem cell therapy will not speed up the recovery, but it will mean that the tendon is more mechanically normal and therefore the horse is less likely to re-injure itself.

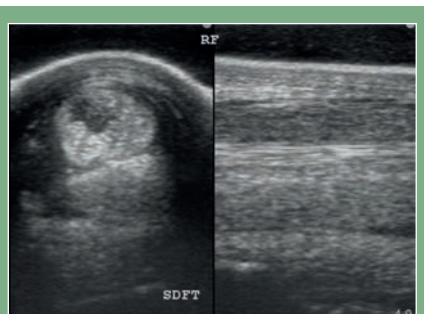


Figure 1: Superficial digital flexor tendon

Platelets are small cell fragments, which circulate in the blood; they stimulate clotting

and contain growth factors. Platelet Rich Plasma (PRP) utilises these growth factors because they stimulate formation of blood vessels and connective tissue, which promote healing. Currently PRP is used in the treatment of tendon and ligament injuries. A blood sample is collected from the horse and filtered (Figure 2) to produce highly concentrated plasma with large numbers of platelets, that is then injected into the site of injury.



Figure 2: Filtering blood to produce Platelet Rich Plasma

Another technique increasingly used by equine vets is called Autologous Conditioned Serum (IRAP®); it is generally used in injuries where inflammation is the source of pain. Within an inflamed joint there are a number of inflammatory proteins produced by the horse, one of which is interleukin-1. A sample of the horse's own blood is taken and incubated overnight with synthetic beads coated in a substance to stimulate the production of proteins which block interleukin-1 and in doing so stop the inflammation it induces. IRAP® is used in treating arthritis, following arthroscopy (keyhole surgery on joints) and in certain ligament injuries.

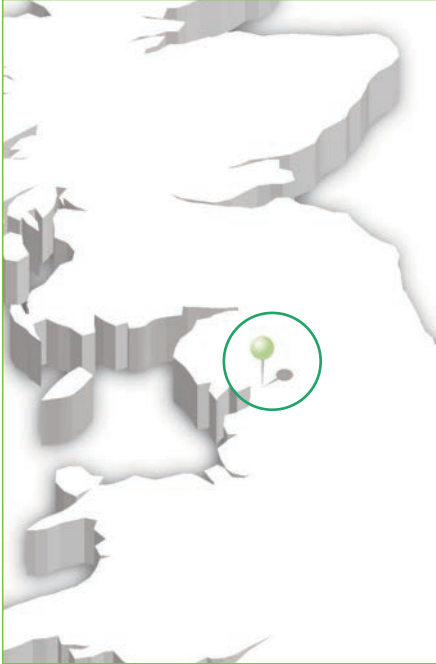
The evidence base is strongest for stem cell therapy, and further research into the field of regenerative medicine is required to establish the long-term effectiveness of these therapies, but they do provide the prospect of better long term recovery in musculoskeletal injuries.



Paul Smith BVM&S CertEP MRCVS, Westmorland Equine Vets

The Gambia Horse and Donkey Trust

The Gambia is one of the smallest countries in mainland Africa covering a little over 11,000 km² and with a population of less than 2 million.



It's a fertile country and around three quarters of the population are involved in agriculture, but almost half find themselves living below the poverty line. Investment in a working horse or donkey can significantly increase a farming family's income, but a combination of high disease risk, poor management and a lack of veterinary support means that keeping them healthy is a real challenge.

members, livestock assistants and paravets from across the country. Lectures were delivered in the shade of an enormous tree and Powerpoint was abandoned in favour of blackboard and chalk borrowed from the local school. Topics covered were the usual 'staples' of equine CPD, colic, wound care, lameness etcetera but, given the lack of even basic equipment and the very limited supply of essential drugs, training needed to be hastily tailored to the resources available. The delegates' compassion for their patients and their irrepressible enthusiasm to learn served only to highlight the frustrations of the extremely difficult conditions they work under.

Veterinary surgeon	Paul Smith
XLEquine practice	Westmorland Veterinary Group

Founded in 2002 by the late Stella Marsden and her sister Heather Armstrong, The Gambia Horse and Donkey Trust (GHDT) was established with the aim of reducing rural poverty in The Gambia by improving the health, welfare and productivity of its working animals. The philosophy of the GHDT is that by providing the Gambian people with the skills and knowledge to prevent and solve their own problems a long term and sustainable solution will be achieved. As a result there is a strong emphasis on education, with GHDT staff and volunteers delivering training to farriers, harness makers and government livestock assistants in addition to providing routine veterinary care.

In the days following the conference our time was spent treating horses, donkeys and the odd cow at either the local loomos (markets) or at the GHDT clinic at Sambel Kunda. The majority of the work was familiar, such as dentistry, ophthalmic problems, wounds and castrations but we were faced with some slightly more exotic diseases such as trypanosomiasis and epizootic lymphangitis. Conditions were hot, dusty and dirty but the work was truly rewarding and even recognised in a commendation from the Gambian government.



The GHDT is a relatively small charity, running on a stretched budget and relying on international volunteers for administrative and veterinary expertise. So in February 2014, Louise Cornish, formerly of Clyde Vet Group, and myself headed off to the GHDT to offer our help and see first-hand the excellent work they do.

The aim moving forward is to strengthen the affiliation between XLEquine and the GHDT, helping to raise awareness, raise money and to supply volunteers twice a year to provide ongoing training. If you feel you or your practice could help or for further information please contact XLEquine on 01228 711788.

The primary purpose of our trip was to deliver a four day CPD programme to GHDT staff



equineSkills

GROWING EQUINE KNOWLEDGE

At XLEquine we are committed to providing you with up-to-date practical training to enable you to grow your equine knowledge and skills through our EquineSkills workshops. We are very proud that the Association of British Riding Schools endorses all of our workshops.

What are EquineSkills workshops?

EquineSkills workshops are small group training courses that are led in a friendly and informal environment. Each workshop within the EquineSkills programme has been designed to be practical and interactive to ensure a fun learning environment and to fulfil the objective of attendees gaining new useable skills.

Who teaches the workshops?

Uniquely, our large team of equine vets and nurses deliver all of our workshops; so you have the peace of mind that the knowledge you will receive is current and from a reliable, trusted source. All of our trainers have also undertaken an accredited training course themselves to ensure that the level of training delivered is consistently high.

Who are EquineSkills workshops aimed at?

The simple answer is - you! There is something for everyone within the EquineSkills training programme. EquineSkills workshops cater for all levels of horse ownership or knowledge level, from new horse owners to experienced riders, coaches and equine paraprofessionals. Our trainers are experienced in teaching delegates of different knowledge levels and tailor workshops accordingly. If you love horses and want to increase your practical skills and knowledge, then EquineSkills workshops are for you!

What workshops are available?

Currently, we have six EquineSkills workshops available, a combination of half and full day workshops. All delegates will receive a comprehensive workbook to take home, to consolidate new knowledge and skills learned, as well as a certificate of attendance.

EquineSkills Workshops



First Aid For Your Horse

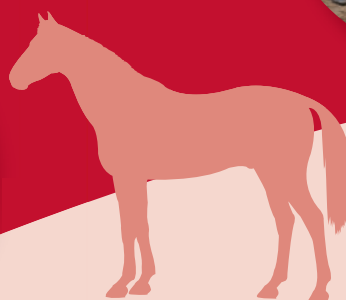
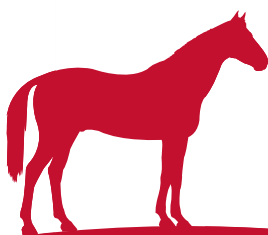
First aid for your horse is a half-day workshop designed to give you the confidence to deal with equine emergencies before your vet arrives. Practical skills gained include: bandaging and assessment of wounds and clinical examination of the horse - learn what is normal for your horse.

Equine Foot Care

Equine foot care is a half-day workshop which will give you a greater understanding of the complex structure of the equine hoof, common causes of foot lameness, an awareness of the different types of horse shoe and top tips to keep your horse's feet healthy and your horse sound.

Understanding Your Horse's Back

Understanding your horse's back is a full-day workshop run in collaboration with Horses Inside Out. Back pain is a common condition in horses, however the equine back is a complicated structure. In this course through fun anatomical painting and an interactive veterinary seminar you will learn more about skeletal anatomy, which will enable you to ride, train and manage your horse for optimum health and well being.



“Would highly recommend, really enjoyed it and feel so much more confident in various areas. Can't wait until the next one.”



Horse And Rider First Aid

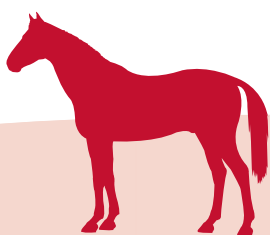
Horse and rider first aid is a full-day workshop, consisting of two parts - one is first aid for your horse, as detailed above and the second is rider specific first aid, delivered by Medi-K. The rider first aid session is a must do for all horse owners and will give you the confidence to provide immediate first aid to an injured rider and will dispel the myths about helmet removal, casualty movement and what it takes to actually save a life. This is not your everyday first aid training!

How Horses Learn

How horses learn is another full-day workshop focussed on how horses think and learn. You are encouraged to bring your own horse along to this workshop. This workshop is for all horses, not just those with specific training issues, it will allow you and your horse to work better together to improve performance and have a happier, calmer horse and rider.

Old Friends And Saying Goodbye

Old friends and saying goodbye is a half-day workshop aiming to help you care for horses and ponies in their twilight years. Learn about common conditions we begin to see in old age and how you can recognise the subtle signs early and keep your veteran in tiptop condition. This workshop will also give you an insight into saying goodbye and dealing with the loss of a much-loved family friend, an important subject that is often overlooked.



Where are the workshops held?

EquineSkills workshops are run across the whole of the U.K. To find a workshop near you or to find out more about EquineSkills visit www.equineskills.co.uk. All workshops can be booked and paid for on the EquineSkills website. Refreshments are provided throughout the day, including lunch on full day workshops.

If you can't find a workshop near you or would like to hold a workshop on your yard, please email training@xlvet.co.uk to arrange a workshop.

Upcoming EquineSkills Workshops:

21 July	Derbyshire	First Aid For Your Horse Scarsdale Veterinary Group
28 July	Northumberland	Understanding Your Horse's Back Scott Mitchell Associates
12 August	Northumberland	Horse And Rider First Aid Alnorthumbria Vet Practice Ltd
2 September	Northumberland	Old Friends And Saying Goodbye Alnorthumbria Vet Practice Ltd
8 September	Oxfordshire	Understanding Your Horse's Back Hook Norton Veterinary Group
10 September	Devon	First Aid For Your Horse St Boniface Equine Vets
16 September	Cheshire	Old Friends And Saying Goodbye Wright & Morten Veterinary Surgeons
26 September	Cornwall	First Aid For Your Horse Rosevean Veterinary Practice
29 September	Derbyshire	How Horses Learn Scarsdale Veterinary Group
1 October	Cumbria	Old Friends And Saying Goodbye Westmorland Veterinary Group
6 October	Derbyshire	Old Friends And Saying Goodbye Scarsdale Veterinary Group
20 October	Oxfordshire	How Horses Learn Hook Norton Veterinary Group
21 October	Cumbria	First Aid For Your Horse Westmorland Veterinary Group
22 October	Northumberland	The Guts of the Matter Alnorthumbria Vet Practice Ltd
22 October	North Yorkshire	Equine Foot Care Bishopton Veterinary Group

“Well presented, knowledgeable approach to being able to triage your own medical emergencies. Very enjoyable - thank you!”

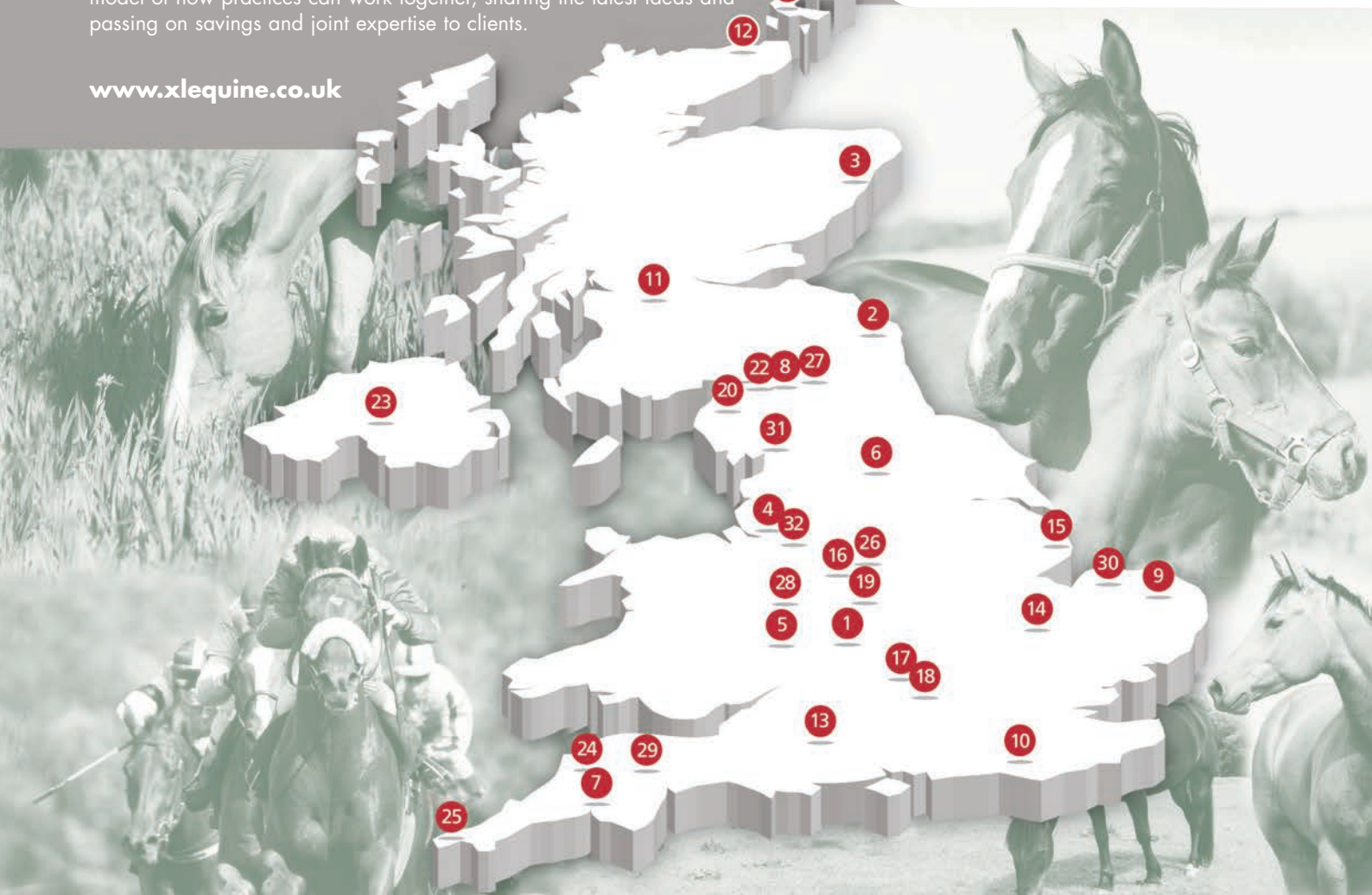
www.equineskills.co.uk

EXCELLENCE IN PRACTICE

XLequine - Better Together

The members of XLVets have worked hard to create what they see as a model of how practices can work together, sharing the latest ideas and passing on savings and joint expertise to clients.

www.xlequine.co.uk



1	608 Farm and Equine Veterinary Surgeons Rowington, Warwickshire Telephone: 01564 783404	9	Chapelfield Veterinary Partnership Norwich, Norfolk Telephone: 01508 558228	17	Hook Norton Veterinary Group Banbury, Oxfordshire Telephone: 01608 730085	25	Rosevean Veterinary Practice Penzance, Cornwall Telephone: 01736 362215
2	Alnorthumbria Veterinary Group Morpeth, Northumberland Telephone: 01670 897597	10	Cliffe Veterinary Group Lewes, East Sussex Telephone: 01323 815120	18	Larkmead Veterinary Group Wallingford, Oxfordshire Telephone: 01491 651479	26	Scarsdale Veterinary Group Derby, Derbyshire Telephone: 01332 294929
3	Ardene House Vet Practice Ltd Aberdeen, Grampian Telephone: 01224 740700	11	Clyde Veterinary Group Lanark, Lanarkshire Telephone: 01555 660000	19	Midshire Veterinary Group Limited Nuneaton, Warwickshire Telephone: 02476 384064	27	Scott Mitchell Associates Hexham, Northumberland Telephone: 01434 608999
4	Ashbrook Equine Hospital Nr Knutsford, Cheshire Telephone: 01565 723030	12	Donald S McGregor & Partners Thurso, Caithness Telephone: 01847 892387	20	Millcroft Veterinary Group Cockermouth, Cumbria Telephone: 01900 826666	28	Severn Edge Veterinary Group Aston Munslow, Shropshire Telephone: 01584 841080
5	Belmont Farm & Equine Vets Ltd Hereford, Herefordshire Telephone: 01885 488440	13	Endell Veterinary Group Salisbury, Wiltshire Telephone: 01722 710046	21	Northvet Veterinary Group Kirkwall, Orkney Telephone: 01856 873403	29	St Boniface Veterinary Clinic Credton, Exeter Telephone: 01363 772860
6	Bishopton Veterinary Group Ripon, North Yorkshire Telephone: 01765 602396	14	Fellows Farm Equine Clinic Huntingdon, Cambridgeshire Telephone: 01487 773333	22	Paragon Veterinary Group Carlisle, Cumbria Telephone: 01228 710208	30	Wensum Valley Veterinary Surgeons Fakenham, Norfolk Telephone: 01328 864444
7	Calweton Veterinary Group Callington, Cornwall Telephone: 01579 383231	15	Fenwold Veterinary Practice Spilsby, Lincolnshire Telephone: 01790 752227	23	Parklands Veterinary Group Cookstown, Northern Ireland Telephone: 028 867 65765	31	Westmorland Veterinary Group Kendal, Cumbria Telephone: 01539 722692
8	Capontree Veterinary Centre Brampton, Cumbria Telephone: 016977 2318	16	Glenthorne Veterinary Group Uttoxeter, Staffordshire Telephone: 01889 562164	24	Penbode Equine Vets Holsworthy & Okehampton, Devon Telephone: 01409 255549	32	Wright & Morten Macclesfield, Cheshire Telephone: 08458 330034