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EQUINE

review
WINTER 09/10

EQUINE
TENDON INJURIES

BREEDING
SEASON
PLANNING AHEAD

BLOOD SAMPLING
ANALYSIS OF THE RESULTS



pony
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FOR OUR
YOUNGER READERS

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WINTER 09/10

XLVETS EQUINE REVIEW

FIFTH EDITION

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

Our intentions...

Our vision is that by sharing experience, knowledge and skills we can deliver the highest standards of service and care to all our clients. As members of XLVets, we have worked hard to create a model of how veterinary practices can work together as an extended national team, sharing the latest ideas and passing on the benefits that arise to all our clients.

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Welcome

All the XLVets Equine practices would like to wish our clients and their horses a **happy and successful 2010**. Over this year we will be continuing to work together as a group of practices to bring the most up to date information to you in the Equine review.

This issue of the XLVets Equine review covers important **topics for horse health and well being** and we hope they will be of benefit to you and your horse. If you have any issues that you are concerned about from **reading these articles** please contact your local XLVets practice for more information.

Wendy Furness MA VetMB CertEP MRCVS
 Scarsdale Veterinary Hospital

FEATURED
 in this issue...





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PENHALE EQUINE CLINIC, PENBODE VETERINARY GROUP

Planning ahead for the **BREEDING** **SEASON...**

BREEDING HORSES CAN BE VERY EXCITING and rewarding. Planning ahead over the autumn and winter months can help increase the chances of a successful pregnancy next year. This article is designed to help mare and stallion owners achieve success whether using ARTIFICIAL INSEMINATION (AI), which is permitted with non-Thoroughbreds, or natural mating. This article highlights some key points to guide first time MARE BREEDERS and to act as an aide-memoire to those with more experience.



DAVID ROWLANDS BVSc Cert EM (Stud Med) MRCVS
PENHALE EQUINE CLINIC, PENBODE VETERINARY GROUP

'Establish the breeding history of the stallion you propose to use. Ensure that his fertility has been proven by successful pregnancies. Some stallions have a competition schedule which limits their availability for covering mares.'

Good communication and team work...

A cornerstone to successful conception of the mare is good communication and team work between mare owner, stallion owner (or holder of frozen semen if this is to be used), and the overseeing veterinary surgeon. This communication cannot be started too early and can help avoid confusion and disappointment. A list of veterinary practices experienced in the insemination of chilled and frozen semen is produced by the British Equine Veterinary Association (BEVA).

Understand the horse breeding season

Most mares do not naturally show regular oestrus cycles until mid March. This is because reproductive activity of the mare is dependent on sufficient day length. When breeding Sport horses and even for National Hunt racing, the progeny will not be performing until four or five years old. Hence there is not the pressure to obtain early foals. If you start now you have time to get organised for the season. The official start of the Thoroughbred breeding season in the northern hemisphere is February 15th. Those breeding for Thoroughbred flat racing are looking for early mating, so that the progeny favour physically compared to their

contemporaries at yearling sales and when they reach the racetrack at two years old. Hence such mares are stabled under lights for 16 hours a day from the third week of December to artificially advance regular cycling. Typically mares are in oestrous (in season) for five days and dioestrous (out of season) for sixteen days throughout the breeding season.

Establish the availability and suitability of the stallion/semen

Establish the breeding history of the stallion you propose to use. Ensure that his fertility has been proven by successful pregnancies. Some stallions have a competition schedule which limits their availability for covering mares. This needs to be discussed in advance to prevent disappointment. If you are planning to use AI then check the type of semen available (this will be chilled or frozen). The pre-insemination protocol and timing of insemination is more critical with frozen semen. This can result in lower conception rates than with chilled semen. Enquire as to the progressive motility of the semen. Discuss all these facts with your vet. Some studs cannot collect semen over weekends due to staffing limitations or

Establish the suitability of your mare for breeding

You should discuss this matter with your veterinary surgeon. A breeding plan can be individually tailored to your mare. The age of the mare and her previous breeding history are very important. Fertility declines with increased age. Mares that have a foal at a young age sustain their fertility until later in life. Ideally maiden mares being inseminated with frozen semen should be less than ten years old.

Your veterinary surgeon will be able to perform a clinical examination on your mare including Ultrasonography of the uterus and ovaries, observation of the cervix by means of a speculum and examination of the conformation of the vulva and anus. A Caslicks suture may be required in some older mares. This is a relatively simple surgical procedure performed with the mare standing under local anaesthetic. This improves vulval

conformation and helps prevent the sucking in of air and contamination from faeces. Pre-breeding cervical swabbing and blood sampling for potential infection can be done at this time. If breeding was unsuccessful last season your veterinary surgeon may choose to take an endometrial biopsy from the mare. This is a relatively simple procedure whereby a small sample of the lining of the uterus is examined under a microscope.

This helps identify degeneration of the uterus which may reduce the chance of successful pregnancy.



are restricted by the terms of a courier service. Stallion owners need as much notice as possible regarding the potential requirement of semen. Frozen semen can be sent to your veterinary surgeon well in advance and stored in a liquid nitrogen holding tank ready for insemination.

The timing of insemination relative to ovulation is more critical with frozen semen than chilled or natural mating. **GOOD COMMUNICATION IS ESSENTIAL.**

Follow the Horserace Betting Levy Board (HBLB) Codes of Practice 2010

A copy of this document should be obtained from the HBLB by all mare and stallion owners via the website www.hblb.org.uk.



This booklet sets out the voluntary recommendations to help breeders, in conjunction with their veterinary surgeons, to prevent and control specific diseases in all breeds of horses and ponies. The codes describe screening methods to detect important venereal diseases including Contagious Equine Metritis (CEM) and Equine Viral Arteritis (EVA) by means of pre-breeding swabbing and blood sampling respectively. When talking to stallion owners or agents supplying frozen semen ensure that they comply with the standards set out in this document.

Ensure semen will arrive with the correct paperwork

When talking to stallion owners/frozen semen agents ensure that the semen will arrive with the relevant documents. The HBLB Codes of Practice details the necessary labelling of semen containers and the health certificates that should accompany any transported chilled/frozen semen.

If this labelling and certification is incomplete or not present the identification, quality and disease free status of the semen cannot be guaranteed.

ADVANCES IN... Equine Dentistry

Diastema treatment In the course of evolution the horse's mouth has become highly efficient at grinding coarse fibrous feed stuffs such as hay and grass

KARL HOLLIMAN BVM&S CertEP BAEDT MRCVS, Cliffe Veterinary Group

The back 6 cheek teeth (molars and premolars) in each quadrant of the mouth are tightly packed together to create a single grinding surface, with the roots of these teeth angled to ensure that as these teeth erupt this close association remains.

If this close approximation of these teeth is not maintained then food material will pack between the teeth. If food material builds up gum disease will quickly follow (Periodontal disease). A gap that occurs between these cheek teeth is called a diastema. Periodontal disease associated with diastema is the most painful equine dental disease and the most common cause of severe quidding.

Horses with diastema often have bad breath (halitosis) and quid (drop food). They may lose weight and develop 'hamster pouches' as they entrap food between the teeth. Affected horses are prone to impacted colic and choke due to failure to adequately chew long fibre. If left untreated periodontal disease can lead to complications such as root infections of the associated teeth and/or infection of the underlying bone and sinuses. There are many reasons diastema develop. These include poor tooth root angulation, over-crowding (as commonly seen in miniature breeds) and displaced cheek teeth.

Identification of equine diastema requires careful oral examination with a gag, light and dental mirror. Assessment of the periodontal disease can only be made after removing all the impacted food using a combination of dental picks, forceps and flushing. The area will be extremely inflamed and this process is painful and treatment requires heavy sedation of the horse and the use of a head stand or suspended dental head collar.

Karl qualified from the Edinburgh University (The 'Dick' Vet) in 1991. After a short period in mixed Practice in Scotland he moved to a mixed Practice in Yorkshire. In 1994 he joined Cliffe Veterinary Group as an Equine Vet where he is now a Partner.

Karl is also a qualified Equine Dental Technician having passed the joint British Equine Veterinary Association (BEVA) & British Veterinary Dental Association (BVDA) Exams. He is also a member of the British Association of Equine Dental Technicians (BAEDT). He now spends approximately 70% of his clinical time performing all aspects of equine dentistry.

Diastema Before





Dental nerve blocks can be very helpful, as even heavily sedated horses object to diastema treatment. Radiography may be utilised to assess the health of the tooth roots and underlying bone. Assessing the tooth root angles on x-ray can be useful in assessing the likely improvement in diastema with time and future tooth eruption.

Following thorough assessment a treatment plan can then be made. The appropriate treatment varies from horse to horse and will depend on age, cause of the diastema, extent of the periodontal disease and radiographic findings. Treatment must include floating sharp enamel points, with care taken to reduce the ridges of enamel that commonly develop opposite the diastema. It may be necessary to widen the diastema, creating a wider gap and therefore allowing food material to move freely out of the space. This will prevent food impaction and reduce gum pain. Widening is achieved using mechanical burrs placed carefully into the gap. The pulp (the sensitive tissue) is found within a few millimetres from the edge of the tooth, so extreme care must be taken to prevent damage during the widening. Damaging the pulp may lead to tooth root infection or cause the tooth to die. The treatment of diastema must only be performed by a Veterinary Surgeon.

Occasionally treatment may require dental extraction. This is often required where the diastema is associated with severe tooth displacement or overcrowding. However widening of the diastema and mechanical reduction of the protruding area of the tooth should be the initial treatment. Tooth extraction will often lead to shifting in position of the remaining teeth and will create new diastema! The periodontal disease must be treated by removing all the food material and flushing to ensure the gum is clear of all contamination. The gum can also be treated with antibiotic gel placed into the defect and then capped with impression material. This will help clear up the infection and temporarily prevent food impaction and gum trauma, giving the gum opportunity to heal. It is recommended that this flushing and packing is repeated several times while the periodontal pockets heal.

Horses with diastema require careful dietary management. Avoiding long course fibre can prevent food impaction of the diastema. Grass replacements, such as grass nuts, fibre nuts and Readigrass, are very useful as they can provide chopped fibre as a replacement for the hay ration. Horses with dental problems can be successfully maintained on a diet of short chopped grass and these grass replacement feeds. This can prove expensive and horses on such diets require routine dental floating every 4 months, as this type of food causes the horse to eat with a more vertical than lateral jaw action which encourages sharp enamel points to form.

Occlusal restoration - 'Fillings' for horses?

Attempts to perform root canal treatment has to-date only had limited success in equine patients. This is due to the difference in anatomy of the horse tooth. Human, canine and feline patients have a simple tooth structure, with the tooth covered in a layer of enamel and simple pulp horn, making it possible to perform root canal work. Equine tooth has evolved to chew grass and fibre for 16 hours a day and wear down at a rate of 2 to 3mm per year. The tooth is a more complex structure with folds of enamel, dentine and cement. Each cheek tooth has between 5 and 8 pulp horns that join to make the root canals. The complexity of the pulp structure makes effective root canal work almost impossible.

Dental caries (dental decay) does occur in the horse and as in humans, can lead to infections of the pulp and tooth roots. In each tooth in the top rows of cheek teeth there are two central cups of enamel (Infudibulae) that are usually filled with cement. It is common to find defects in this cement filling leaving a defect in the tooth that can become packed with small feed particles. Presence of organic matter and bacteria can lead to dental caries and destruction of the enamel. Loss of the enamel integrity will significantly weaken the tooth and will potentially lead to its fracture. Fractured teeth are painful and will require extraction at substantial cost. These fractured teeth are difficult to remove and often require complicated surgery to remove the roots. We now can perform dental fillings on these defects. Thorough assessment of the tooth is essential to ensure there is no evidence of pulp or root infection, this ideally requires radiographs of the tooth roots. Preparation on the tooth involves careful drilling out of the caries and flushing under high pressure to remove all organic matter. This process and flushing requires the use of a specialist equine periodontal unit with gas driven drills, high pressure flushing and suction. This defect can then be filled with composite or amalgam, built up in layers and light cured (the same process as fillings in human dentistry). This process will halt the decay process and give excellent strength to the tooth, thus preventing the need for costly and painful tooth fracture and infection. Remember that old adage - prevention is better than cure! These amalgam fillings are very tough and remain in place even under the extreme grinding forces they are subjected to in the horse's mouth. They also wear down at a rate similar to dental enamel and therefore require little or no attention at future routine dental treatments.

Diastema After



EQUINE TENDON INJURIES

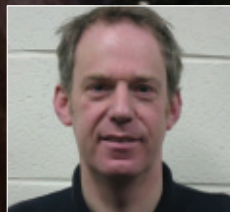
Tendon and ligament injuries are common injuries in horses, particularly in horses used competitively. The tendon most commonly injured is the superficial digital flexor tendon (SDFT), although the suspensory ligament and inferior check ligament can also be damaged, the latter two more often in older horses. Horses that have suffered a SDFT injury are often referred to as having 'done a leg'.



Figure 1: Typical appearance of a horse with an injury to the Superficial Digital Flexor Tendon (SDFT). Note the 'bowed' appearance of tendon.

Tendons and ligaments are morphologically grossly very similar. They appear as 'bands' or cords of dense white connective tissue simply connecting a muscle to a bone lower in the limb. Ligaments are bands of tissue attaching one bone to another. The connective tissue is predominantly Type I collagen which is similar to Type III (or scar tissue) collagen, however it has a greater degree of elasticity and resistance to stress than Type III collagen.

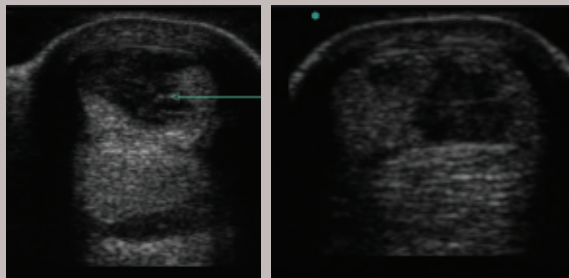
Tendon injuries can be divided into 2 general types, traumatic and non-traumatic. Traumatic injuries are self explanatory e.g. trauma from barbed wire, however the majority of tendon injuries are non-traumatic which is what this article will predominantly discuss. They are of great economic importance to the racing industry as a reported 30% of horses in training in the UK will suffer from tendon or ligament problems during their careers. It is generally accepted that the majority of non-traumatic injuries to tendons do not occur as a consequence of a single episode but as an accumulation of sub-maximal destructive events that eventually lead to tendon failure. Repeated strenuous exercise results in damage to the collagen architecture and therefore the overall 'strength' of the tendon decreases to a point where clinical 'breakdown' occurs. Support for this theory comes from post-mortem studies that have found areas of collagen fibre degeneration in apparently normal tendons. The analogy often given is the repeated stretching of an elastic band; it will eventually cause it to snap at a tension much lower than prior to that originally sustained during stretching.



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'Tendons and ligaments are morphologically grossly very similar. They appear as 'bands' or cords of dense white connective tissue simply connecting a muscle to a bone lower in the limb.'

Figures 2 & 3: Typical ultrasound appearance of damage to the SDFT. The black areas represent torn tendon fibres which are being replaced with fluid and haematoma material. The scan is taken horizontal to the ground.



TENDON DAMAGE AND HEALING...

Injuries to tendons can vary from a mild strain to a complete rupture. Horses usually present with lameness and heat, pain and swelling of the affected tendon. If there is severe damage or rupture of the tendon then there will be evidence of a lack of support to the limb, for example a rupture of the SDFT will be associated with marked 'dropping' of the fetlock. Thankfully such severe damage is relatively rare. In the majority of cases the damage to the SDFT is greatest in the 'core' or centre of the tendon. This early or acute phase of tendon damage in general lasts about 7-10 days but does vary according to the severity of the injury.

After the acute phase, new blood vessels and cells (fibroblasts) invade into the area of damage and the healing phase begins. In general, tendon injuries behave similarly to other connective tissues in their healing, except healing is much slower. Initially the fibrous tissue laid down by the fibroblasts contains a high percentage of Type III collagen. After approximately 2-3 months the percentage of Type I collagen is increased as it replaces Type III collagen in the final maturation phase of healing.

This continues for at least one year. The use of ultrasound has revolutionised our understanding about tendon injuries and allowed vets to be able to monitor tendon healing.

TREATMENT OF TENDON INJURIES

There is very little evidence that any treatment can actually speed up the rate of healing. However, treatment is usually aimed at increasing the quality of the healing in an effort to try to restore the tendon to a state where it is as close to an uninjured tendon as possible. This will therefore reduce the chance of recurrence of the problem.

In the acute stage there is generally a uniform approach to treatment and that is directed at reducing tendon inflammation and swelling. This includes:-

- 1 Cold therapy e.g. ice or cold water hydrotherapy applied 20-30 minutes several times per day.
- 2 Bandaging the limb with firm even pressure.
- 3 Anti-inflammatory drugs such as 'Bute'.
- 4 If hyperextension or dropping of the fetlock



is present (i.e. severe strain) then the horse may require to have the limb splinted or placed in a cast.

5 Topical medications are occasionally also applied e.g. Compagel®

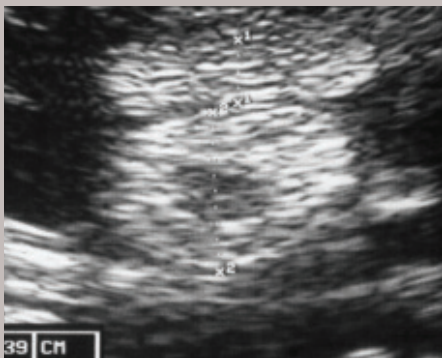


Figure 4: Tear in the Deep digital flexor tendon at the level of the fetlock joint. This type of injury is manifest by considerable fluid in a tendonous windgall.

After the initial acute phase there is no uniformly accepted successful method for tendon treatment in the repair stage. Consequently a wide variety of treatments are being used in an attempt to improve the repair process. However, most vets in this period of time advise having the horse stabled and in a controlled exercise programme. They may also carry out one or more of the following:-

1 Injection of various substances into the area of damaged tendon to encourage tendon healing and to, hopefully, improve the quality of the healed tendon tissue. Injections include the use of polysulphated glycosaminoglycans (Adequan®) and sodium hyaluronate. In the last few years stem cells and growth factors have also been injected into areas of tendon damage.

Stem cell implantation provides a large number of young cells directly into the area of tendon damage. After implantation the stem cells change into tenocytes (or tendon cells) that then produce collagen.

The best type of stem cells needed to transform into new tendon or ligament cells are 'mesenchymal' stem cells that are found in large numbers in bone marrow.

The whole procedure requires the use of detailed ultrasound, firstly to diagnose the area of damage within the tendon, then to locate the site to extract the bone marrow from the horse's own sternum. The stem cells are separated from the bone marrow multiplied up and harvested in a laboratory over 2 to 3 weeks and finally between 10-40 million cells are injected back into the area of damaged tendon.

2 Various physiotherapy aids have also been used including therapeutic ultrasound and sometimes electromagnetic therapy.

3 Occasionally surgery is used to try to produce better quality healing. There are two common surgical procedures undertaken; Superior Check Ligament Desmotomy and Tendon Splitting. Both of these procedures have shown some promise at assisting natural healing.

The response to any treatment is best monitored ultrasonographically. Your own vet can advise you as to an appropriate exercise programme for your horse and at what stage it could be turned out and later when the horse can resume work.

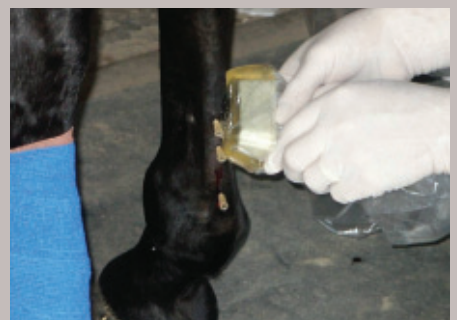


Figure 5: Stem cells being injected into a tendon lesion such as that demonstrated in Figure 3.

EQUINE Blood Sampling



Blood sampling and analysis of the results are techniques frequently used in equine practice. The procedure is generally safe and well-tolerated by most horses and the results can yield large amounts of information on the health of your horse. The aim of this article is to summarise the many reasons why your vet may take blood from your horse.

1 Healthy horses can be blood sampled as part of an annual health check. This allows many blood parameters to be measured and documented when your horse is clinically well and no health problems are evident. These results are used as a 'baseline normal' with which to compare the results taken from blood when your horse is unwell. This technique is also frequently used in performance animals so that a sample can be taken before a race or important competition to check if the horse is healthy and has an optimum chance of success. Most reference ranges for the blood parameters quoted by laboratories are based on what is normal in 95% of the equine population - this means 1 in 20 clinically normal horses fall outside the reference ranges; hence an idea of what is normal for your horse allows early disease detection. Ask your XLVets about annual health checks and their benefits.

2 Apparently healthy horses can also be blood sampled to check their exposure to disease. This can prove very useful in the face of an outbreak of a contagious disease on a yard. The obvious example is the recently developed blood test for exposure to Strangles - a contagious respiratory disease caused by the bacterium *Strep equi*. Once an outbreak is confirmed, blood tests can be used to separate those horses that have been exposed to the infection from those that haven't. Another example is the sexually transmitted disease Equine Viral Arteritis (EVA).

Many mares being sent to stud and most stallions at stud will be blood tested on an annual basis to check that they are not infected.

3 Sick horses can also be blood sampled to help your vet identify a reason for the disease (eg - previously undetected liver disease causing an inflammation of unpigmented pink skin) and also to monitor the hydration levels of a horse which may not be eating or drinking. The blood can be used to check many parameters, but generally they fall into 4 categories:-

HAEMATOLOGY - this is a measure of the white and red blood cells as well as the hydration level of the horse. The white blood cells are a part of the immune system, so infection or inflammation anywhere in the body can affect the white blood cell count.

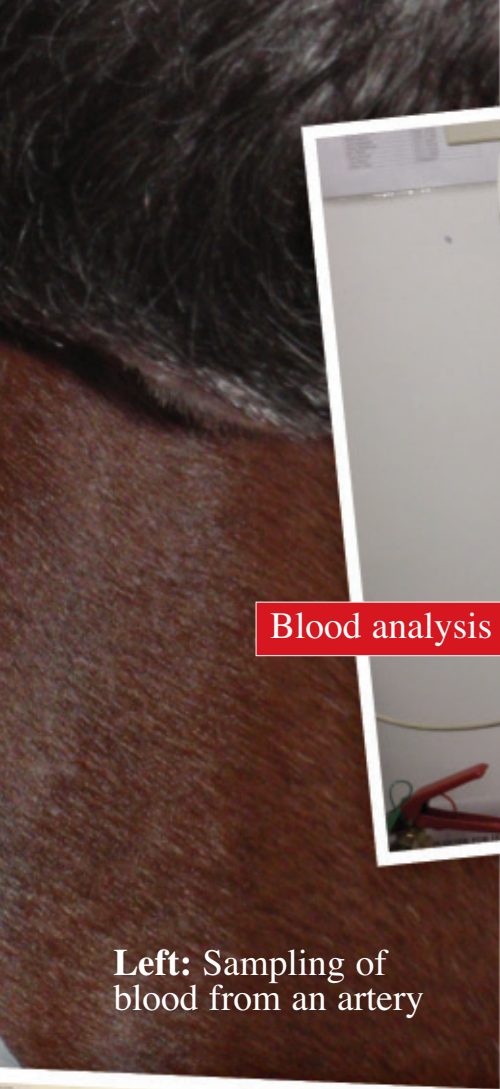
The red blood cells carry the oxygen from the lungs around the body. The red blood cell count can be reduced, due to, for example, long standing disease or loss of blood, leading to an anaemia.

"Healthy horses can be blood sampled as part of an annual health check. This allows many blood parameters to be measured and documented when your horse is clinically well..."

BIOCHEMISTRY - measuring the levels of enzymes and other compounds in the blood can give an indication of which body tissues may be damaged. Every cell in the body contains enzymes to allow it to function. Cells in different organs contain different enzymes and organ damage leads to the cells dying and releasing their enzymes into the bloodstream. An example would be if your horse has an episode of tying-up (azoturia, exertional rhabdomyolysis). The muscles cells are damaged, releasing the enzymes creatine kinase and aspartate transferase into the blood. Due to the lengthy names of the enzymes - your vet will probably only use the initials - CK and AST.

ELECTROLYTES - sodium, potassium, calcium and chloride are examples of electrolytes in the blood. Your horse will carefully control his own electrolyte levels in the blood and any abnormality will need to

Blood analysis machine



Left: Sampling of blood from an artery



Blood analysis machine



be investigated since raised or decreased electrolytes can have serious implications.

ANTIBODIES - the immune system will manufacture antibodies against certain infections; this is the principle behind most vaccines. Measuring the levels of these antibodies can indicate exposure to an infection. This is often done by comparing the antibody levels in two samples taken 10-14 days apart during recovery from the infection. If the antibody levels in the second sample are reduced compared with the initial sample - this would suggest that the horse is recovering from that infection. This technique, known as paired convalescent serology, though not common, can be used to show infection with equine herpes virus (EHV).

4 During a pre-purchase examination of a horse for a prospective purchaser, your vet will take a blood sample from the horse. This is usually sent to a laboratory for freezing and it is only analysed if there is a subsequent problem with the horse. In certain circumstances, your vet may ask for immediate analysis of the sample.

5 Blood sampling can be used to monitor how well your horse is responding to drug therapy and to ensure those drugs are not having any adverse effects. Examples would be in the management of an older horse with equine cushings syndrome (ECS). The drug pergolide is frequently used and periodic blood sampling may be undertaken to look for a reduction in the level of the hormone ACTH to within the normal range. The liver enzymes may also be checked at the same time to check they are not raised.

6 In young foals with a blood-borne infection (septicaemia) - blood may be collected for culture to identify the bacteria which are responsible. The results may then allow an appropriate antibiotic to be used to control the infection. The blood taken for culture must be collected using a particular technique to prevent contamination of the blood and erroneous results.

7 Hormone levels can also be measured, for example to confirm a pregnancy in mares and to check for an undescended testicle (a 'rig'). The blood test for pregnancy is usually only accurate in a certain time frame after covering/AI, depending on which hormone is tested.

Whilst some blood samples may be sent to a laboratory for analysis, many XLVets practices have their own blood machines. This allows analysis 'in house' which is quicker and more convenient at weekends and evenings etc when a delay in results may lead to a delay in appropriate treatment.

The blood for analysis will usually be collected into blood sampling tubes from your horse's jugular vein on the side of his neck. Occasionally, blood will be taken from an artery. This can be done in the investigation of respiratory disease or during a general anaesthetic to check that the horse is breathing adequately.

In summary, blood samples can be an invaluable aid for you and your vet, providing not only information to aid the diagnosis of disease, but when done routinely, they can provide an early warning of impending illness. When combined with an annual health check, you can have peace of mind that your horse is healthy both inside and out.



COLIN MITCHELL BVM&S, CertEP, MRCVS
Scott Mitchell Associates

A WINTER COLIC... Colic simply means pain coming from the abdomen and in horses there are many many possible causes for that pain. One of which can be an Impaction, where food material gets 'bunged-up'.

Pelvic Flexure Impaction



JULIAN RISHWORTH BVetMed, MRCVS
Minster Equine Veterinary Clinic

There are several sites along the intestinal tract of the horse where impactions can occur, the oesophagus (usually seen as choke), the stomach, the small intestine, the junction of the small intestine into the caecum, the caecum itself, the large colon, particularly the Pelvic flexure and the small colon. At all these sites, the impaction can be of just food material, may also involve some non-food material or can be the result of a physical abnormality at that site in the intestinal tract. Here we are going to talk about the most common site, the Pelvic Flexure Impaction.

The Pelvic Flexure is the name given to a natural 'U-Bend' that exists in the large colon of the horse and the Pelvic Flexure is situated about half way along the length of the large colon. Not only is there the 'U-bend' shape to the Pelvic Flexure but it also joins a wide bore piece of the large colon to a much narrower piece and this goes a long way to explaining why it is such a common site for a log-jam in the intestinal tract.

Medical problems in horses are often the result of a range of factors that have coincided to result in that problem and a Pelvic Flexure Impaction does not usually occur just because of the anatomy of the bowel at that point. The things that are commonly associated as potential causes of a Pelvic Flexure Impaction are, stress, change of management, parasites, dehydration, dental problems, lack of exercise, change of diet, sand in the diet.

Pelvic flexure Impactions can occur at any time of year and in any horse but reportedly mares suffer the problem slightly more commonly than male horses. In most practices, we see a peak in Pelvic Flexure Impaction cases during the late Autumn and Winter months. There may be some obvious reasons for this, horses being brought in from grazing and being stabled, thereby, changing their diet (often pretty quickly), change of drinking water supply possibly, the presence of parasites in the gut wall encysting to survive the winter, some horses may find being stabled stressful, some might gorge themselves on a straw bed, etc.



Horses with Pelvic Flexure Impactions can show a variety of signs, from just being off colour through to those with a moderately severe colic. Most cases will show a reduction in the amount of faeces they pass and what faeces they do pass may be firmer and drier, this may be a good early warning sign.

Vets may detect quieter gut noises when they listen to the left side of the abdomen but most cases are easily confirmed by feeling the large firm mass on the left side of the abdomen, when a rectal examination is performed.

Treating the impaction can be done using several different treatments, most commonly stomach tubing a large quantity of mineral oil such as Liquid Paraffin which is used to help lubricate the impaction.

Administration of fluids either by stomach tube or intravenously can be used and in some cases dripping fluids into the horse's stomach using a thin indwelling tube is employed.

Epsom Salts are quite good for these cases as they stay in the intestine and keep water with them, thereby softening the contents of the intestine. There are complex nerve reflexes involved in the intestinal tract and one of these exists from the stomach to the large colon. In our clinic we have noticed several cases of Pelvic Flexure Impaction where it has been difficult to get the large colon moving, until the horse is treated with a medication for gastric ulceration, after which, production of faeces quickly returns.

We suspect that mild gastric ulceration interferes with the normal reflex from the stomach to stimulate activity in the large colon.

MOST CASES OF PELVIC FLEXURE IMPACTION RESPOND TO MEDICAL TREATMENTS, AS LISTED OPPOSITE, ALTHOUGH SOME CASES CAN TAKE SEVERAL DAYS TO GET COMPLETELY BACK TO NORMAL. ONLY VERY FEW CASES NEED TO GO TO SURGERY TO CLEAR IMPACTIONS WHICH IS GOOD NEWS FOR EVERYONE CONCERNED.

...PREVENTING Pelvic Flexure Impaction

- ✓ Make any changes in management as slowly as possible.
- ✓ Offer options for drinking water especially when horses are first stabled or during cold weather, rain water offered in a bucket in addition to drinkers can be useful.
- ✓ Ensure regular dental rasping to keep teeth in perfect working order.
- ✓ Good worming and worm control measures, especially treating for encysted Cyathostomes late autumn/early winter with either Moxidectin or a 5 day course of Panacur.
- ✓ Avoid straw bedding in horses known to eat their bed.
- ✓ Monitor amounts of faeces passed each day.
- ✓ Where possible, keep up some exercise or turnout.
- ✓ Adding small amounts of Linseed oil or Epsom Salts to feeds to keep intestinal contents softer.
- ✓ For sandy land, feeding Psyllium Fibre may help reduce the amount of sand accumulating in the bowel.



pony pages

Welcome...
TO THE XLVETS PONY PAGES



winner

CONGRATULATIONS

FRANCES WRIGHT AND DOUGLAS

'My horse is called Douglas. He has been looked after by Helen and Chris at Chapelfield Vets for far longer than the three years I have had him, in fact Chris operated on him once; although unfortunately he didn't recover as quickly as he might have done, and he retired from eventing, but he is my faithful hack, and I wouldn't have any other practice looking after either him or my young horse Pinto'.

Top Tips

Mud FEVER

- ✓ Mud fever is a bacterial infection of the skin.
- ✓ It is better to stop the infection before it starts.
- ✓ If you clip your pony's legs treat any skin rash or sores immediately.
- ✓ Using a protective barrier cream may help protect clipped legs from mud fever but make sure the legs are healthy, clean and dry before it is applied.
- ✓ If your pony's legs are not clipped don't wash them too often.
- ✓ Check the skin carefully for scabs or sores under the hair, which may indicate the start of mud fever or leg mite problems.
- ✓ Don't use harsh brushes (like curry combs) on the legs, as they damage the skin. Let mud dry and brush off gently.
- ✓ Flaky, itchy skin on the legs, or scabs on the back of the knees could be leg mites, ask your vet.
- ✓ Small, dry scabs on the legs can be treated every 3-4 days, with dilute antiseptic washing to gently remove the scabs, followed by rinsing and patting the legs dry.
- ✓ When the scabs won't wash off, use an antibacterial cream after the legs have been dried.

When the legs are swollen, with lots of scabs or sores and the pony doesn't like you cleaning them, the vet needs to check them. The vet may use antibiotics and special creams and bandages, to make the legs better.

Fact!

Horses use their tails to send signals to each other about how they are feeling!



Competition winners...

AUTUMN 2009

- | | | |
|-------------------------------------|-----------------------------------|--|
| Abigail Charleton
Alnorthumbria | Rita Morris
Penbode Vets | Ella Miall
Hook Norton |
| Gina Garth
Kingsway Vets | Hannah Simpson
Bishopston Vets | Hayden Rafferty
Clyde Vets |
| Catherine Bailey
Kingfisher Vets | Sammi Kendall
Scarsdale Vets | Ingrid Giggie
Northvet |
| Claire Newby
Minster Vets | Anna Humphreys
Millcroft Vets | Lucy Watson
Castle Vets |
| Patricia Clifford
Drove Vets | Karen Dighton
Larkmead Vets | Sharon Cash
Westmorland Vets |
| Harris Dodds
Ardene House | Abi Ball Revell
St Boniface | Jessica Shingler
Macpherson O'Sullivan |
| Lisa Legge
Belmont Vets | Megan Wilkinson
Paragon Vets | Lydia Cartwright-Bain
Wright and Morten |



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1st Competition page



ENTER TODAY
GOOD LUCK...

Welcome
XLVets Competition

All of the words listed below can be found in the grid with the exception of one. **Which one is it?** Circle all the words as you find them, there will be one word which isn't in the grid. Write this word on the competition entry form and send it back to us for **YOUR CHANCE TO WIN.**

S	T	L	M	U	D	F	E	V	E	R	B	U	F	F
J	S	O	R	H	K	P	H	C	O	J	U	X	M	I
P	A	L	O	M	I	N	O	I	B	K	F	H	P	Q
E	D	L	I	A	T	H	M	A	P	U	F	A	O	E
T	D	Y	S	N	P	L	N	Q	F	T	E	N	Y	L
N	L	A	E	L	F	D	H	H	W	L	R	O	M	G
W	E	G	P	C	A	P	P	A	O	E	I	V	P	N
A	I	R	S	G	I	F	E	V	R	C	P	E	A	I
P	P	M	E	S	E	T	D	A	H	M	K	R	E	C
Y	R	P	Z	T	F	F	L	C	F	T	W	I	L	R
A	W	F	L	Q	C	K	P	U	W	G	H	A	W	U
M	Y	O	I	E	P	P	A	L	O	M	C	N	Q	S
U	C	P	L	A	C	C	M	T	Z	P	B	M	W	O
K	O	J	N	O	I	T	A	N	I	C	C	A	V	E
V	F	O	R	E	L	O	C	K	A	Y	X	F	U	M

- SADDLE
- FETLOCK
- BANDAGE
- VACCINATION
- HANOVERIAN
- POULTICE
- SURCINGLE
- BUFFER
- HOCK
- BRIDLE
- APPLE
- FORELOCK
- MUD FEVER
- PALOMINO
- TAIL

WIN one of 5 Effol First Aid Kits
A complete first aid set for horse and rider. To be used as a practical belly bag or handbag. Keep it with you in the stable and when travelling. Also indispensable when out trekking or riding through the countryside. Contains horse balm cooling gel, skin repair, hoof pick, bandage, aseptic blue and multi-packing with bandaging material.

WIN!



Which one is missing!!!
Fill in your answer below

A winner will be chosen from all the correct entries received before the closing date, Friday 12th March 2010. Answers will be revealed in the next issue of Equine Review. The editors decision is final, no correspondence will be entered into.

MISSING WORD _____

Send your completed entry to: **Equine Review Competition No.3**
XLVets, Carlisle House, Townhead Road, Dalston, Carlisle, CA5 7JF

Name _____

Daytime Telephone Number _____

Address _____

Email _____

XLVets Practice Name _____

Postcode _____

- I do not wish to receive further information from XLVets
- I would like to receive further information from XLVets by e-mail



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