

# EQUINE NOTES

Spring 2017

Welcome to the Spring Equine Notes Newsletter.

All too soon it's spring and things will start to hot up in the equine world – horses will be in and getting fit for the start of competition.

The first race meeting down here is at the end of August, so those early racehorses will already be fast working.

Due to the mild autumn we saw a few cases of parasitism and expect the same for the spring, so now is a good time to drop off a faecal sample to test for worm eggs.

We had a busy winter with people making use of our winter dental specials to make sure their horse's teeth are in good order for the better weather.

During this time we've been promoting vaccinations for tetanus and have been pleased with the response.

It's disappointing how few people vaccinate for this deadly disease. Please see our article on this condition in the newsletter.

We are preparing for a busy breeding season and are anticipating doing more frozen artificial inseminations, judging from the interest we've received over the winter.

Our resident North American summer locum vet Phil Burns will be back again to help out over the breeding season.

Bring on the summer!!



Brendon Bell



"Cheer up! Spring is here!"

## Inside this issue

Muscle disorders in the horse	2-3
<i>Heather Cottle, BVSc Cert EM (Int. Med.)</i>	
Pituitary Pars Intermediate dysfunction	4
Preparing for foaling at home	5
Bacterial Dermatitis	7
<i>Heather Cottle, BVSc Cert EM (Int. Med.)</i>	



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# Muscle disorders in the horse

## Issues with the driving force

By Heather Cottle BVSc. Cert EM (Int. Med.)

Muscle disorders are a common cause of both poor performance and behavioural problems in affected horses. Clinical manifestations such as pain, exercise intolerance, weakness and stiffness were believed to be caused by a single syndrome, known by several names including 'Tying-up', 'Monday morning disease', azoturia, and Equine rhabdomyolysis.

While originally thought to be a single clinical syndrome, it is now emerging that there are different aetiologies that can contribute to similar clinical signs, which can include stiffness after exercise, poor exercise tolerance, excessive sweating during exercise, recumbency and azoturia (a deep brown coloured urine).

A broad spectrum of muscle disorders have now been recognised including glycogen and polysaccharide storage myopathies, malignant hyperthermia, mitochondrial myopathy, hyperkalemic periodic paralysis and others.

Myopathies are broadly grouped into two categories, those occurring spontaneously (without exercise or exertion) called 'non-exertional myopathies', and those triggered by exercise called 'exertional myopathies'. The presence or absence of rapid muscle breakdown (rhabdomyolysis) categorises myopathies further.

Rapid breakdown of muscle cells results in the rapid release of muscle enzymes Creatine Kinase (CK) and Aspartate Amino Transferase (AST) (which can be easily measured in the blood) along with muscle breakdown products myoglobin and potassium into the bloodstream. The severity and chronicity of the muscle damage can also be measured and monitored using CK and AST, with CK rising rapidly following muscle damage but leaving the bloodstream quicker, while AST is slower to rise and may take several weeks to decrease. New episodes of muscle damage occurring in horses already suffering myopathies will result in further elevation of CK levels.

The 'non-exertional' myopathies can include nutritional (selenium/ vitamin E deficiency), metabolic myopathies (e.g. storage myopathies), viral or inflammatory induced myopathies and more recently recognised myopathies related to the ingestion of toxins (Atypical myopathy). Myopathies that are associated with exercise can be due to lack of training, overexertion, heat exhaustion or electrolyte imbalances.

Some horses have recurrent episodes and this may be associated with dietary imbalances, while for some, a specific mutation has been identified, linking it to a genetic predisposition (e.g. polysaccharide storage myopathies). Many of these complicated cases are a little more



Heather Cottle

challenging to diagnose requiring specialised blood tests and muscle biopsies.

### 'Tying-up'- Exertional Rhabdomyolysis

Many of you are familiar with 'tying-up' or exertional rhabdomyolysis and largely put this problem down to too much carbohydrate feed and insufficient exercise (e.g. the classic Monday Morning disease where a horse has been rested on a Sunday).

'Tying-up' is the diagnosis frequently given to horses with a 'stiff stilted gait' either in the front legs or the hind legs. Confirmation of 'tying-up' through blood tests to measure muscle enzymes Creatine Kinase (CK) and Aspartate Amino Transferase (AST) will determine 1) the presence of myopathies and 2) the severity. An exercise test where blood samples are collected before exercise and then 2 hours following a period of strenuous exercise are sometimes required to identify low grade myopathies. Frequently there is a history indicating why this 'tying-up' episode may have occurred including having a day off due to poor weather, accidental addition of grain to its feed, however some mares and filly's can show signs when they are in season. A full history complemented with blood tests for electrolytes, muscle enzymes and selenium levels will help us reduce its reoccurrence. Prevention may be through a dietary change, management change or the use of progesterone supplements in mares to stop the development of oestral behaviour.

Frequently we are asked to look at horses that are showing signs of recurrent 'tying-up' or fail to improve with a dietary and exercise change. Further investigation may reveal that the cause of the horses stiff gait is unrelated to muscle damage, but due to other issues including bilateral solar foot pain (bruising, heel pain or laminitis) or arthritis involving the knee joints. It is important in these cases that a full lameness and clinical examination is carried out before a diagnosis of tying up is made.

### White Muscle Disease (Selenium and Vitamin E Deficiency)

Selenium and Vitamin E deficiency (white muscle disease or nutritional muscular dystrophy) is a per-acute to subacute myodegenerative disease of cardiac (heart muscle) and skeletal muscle caused by a dietary deficiency of selenium and to a lesser extent Vitamin E. Clinical manifestations occur mainly in young growing foals but can also occur in older horses.

In foals, the clinical signs can include recumbency,



Sycamore seed leaves', (Acer pseudoplatanus) have been associated with cases of Atypical Myopathies in horses



rapid breathing, heart arrhythmias and sudden death. Selenium and Vitamin E serve as antioxidants to prevent cellular damage from reactive oxygen species resulting from normal cellular metabolism. Southland soils are naturally low in selenium, and although Vitamin E is present in fresh green forage, the storage and preservation of forage (hay or balage) causes a marked reduction of vitamin E available to horses. Stable trained horses that receive minimal vitamin E from the pasture require diets that are fortified in Vitamin E and selenium.

As Vitamin E is a fat-soluble vitamin, it degrades over time, so care should be taken when using old feed with a high oil content as a lot of the Vitamin E may be degraded. Signs of white muscle disease in foals may also be more subtle and include weak foals with an inability to stand, muscle fasciculations, a stiff stilted gait and a weak suckle reflex. Treatment consists of supportive therapy, prevention of complications (e.g. neonatal sepsis) and supplementation with Vitamin E and Selenium.

Preventative measures should be taken prior to foals being born and include supplementing the expectant mare with selenium or broodmare pasture nuts.

Regular blood tests to measure selenium levels in a selection of horses on a property or stable can give an indication of current selenium levels and help to formulate an effective supplementation program for that particular property.

### **Atypical Myopathy**

More recently, the emergence of plant or food related toxicities have been associated with severe myopathies. These have been termed 'Atypical Myopathies' and recent research has discovered a link between the 'helicopter seeds' of the sycamore tree (*Acer pseudoplatanus*) and the development of atypical myopathy in Europe.

The disease is associated with horses kept predominantly at grass and cases frequently occur through the Autumn although cases are also seen in the spring. Disease outbreaks occasionally follow a stormy period of weather, possibly due to the wind blowing seedlings onto pasture. The disease has been recognised in New Zealand and over the last two years our clinic has seen two suspected cases. All horses appear to be susceptible to atypical myopathy however young horses and horses above the age of 20 are at a greater risk. Unlike 'Tying-up' which is caused by exercise, atypical myopathies do not require any physical exertion for the clinical signs to manifest themselves. Clinical signs include muscular stiffness, reluctance to walk, muscle tremors, sweating, dullness and depression (as if the horse is sedated), an elevated heart rate, very dark brown urine, weakness or difficulty standing, breathing difficulties but often maintains a good appetite. Sadly there is a high mortality rate associated with Atypical Myopathy and many horses rapidly progress to recumbency and are found dead in the paddock.

Once clinical signs of the disease are present, the prognosis for the horse is poor as mortality rates are between 75 to 90 percent. Urgent veterinary treatment is required if atypical myopathies are suspected, this includes the provision of large volumes of intravenous fluids, pain relief and supplementation with selenium and Vitamin E.

Prevention is by reducing the horses exposure to Sycamore tree seeds and other related maple trees by grazing in alternative paddocks during risk periods, minimising grazing pressure or stabling overnight and having sufficient supplementary feed available.

### **General Muscle Pain**

Muscle pain in one area can also be due to other musculoskeletal problems in another part of the body. A classic example of this is back pain related to bone spavin (distal hock osteoarthritis).

Frequently these horses present with back issues including 'cold backed' when ridden and bucking. Severe 'flinching' or avoidance of palpation of the lumbar area is often observed (to the point where some horses violently buck and kick out). In severe cases muscle wastage in this area may be observed. Horses affected by bone spavin often show bilateral hind limb lameness, however due to its insidious nature, lameness is not always detectable, and any low-grade lameness frequently 'switches' from one leg to the other. When these horses are observed to trot freely on a lunge, the normal smooth bouncing or springing effect of the spine is reduced and replaced with a more rigid, stilted movement, creating fatigue in the muscles over the lumbar spine. At a canter, these horses frequently have a 'bunny hopping' gait and frequently become disunited.

A diagnosis through performance of a lameness examination including flexion of the hocks, blocking of the lower hock joints with local anaesthetic and associated radiographic findings can help to formulate a more complete treatment and rehabilitation plan. Of course, muscle injuries can also occur following trauma or injuries. Acute injuries (or tears) may cause the development of a haematoma or haemorrhage in the area which can progress to develop a seroma or fibrose to create scarring. Although initially box rest and anti-inflammatories are indicated, physiotherapy, active massage and laser treatment in the affected area may help to improve healing and reduce the development of scar tissue.

If you have any questions regarding any of these conditions mentioned, please do not hesitate to contact us.





# Pituitary Pars Intermedia Dysfunction (PPID)

Formerly known as equine Cushing's Disease

## The typical and most common tell-tale signs of PPID

- Abnormal hair coat:
  - Long and wavy from head to toe.
  - or only some long patches of hair.
  - or hair that doesn't shed.
- Rocked back stance due to laminitis (founder)
- Abnormal fat distribution:
  - Fat pouches above the eyes.
  - or fat pouches at the head of the tail.
  - potbellied appearance.
  - cresty neck.

## Additional signs of PPID

- Muscle loss.
- Lack of energy.
- Excessive or abnormal sweating.
- Increased appetite/drinking/urination.
- Persistent sinusitis (snotty nose).
- Slow to heal wounds or frequent skin infections.
- Dental problems (eg periodontal disease).

## How do we test for PPID?

The commonly used screening test for PPID entails testing ACTH levels in your horse's blood. All we need is a few tubes of blood from your horse or pony which is processed and sent for specialised analysis.

## What if I leave it be...?

Many of the conditions associated with PPID like dental disease, sinusitis and laminitis will become progressively worse. They will be reducing your horse's quality of life and can lead to problems that may shorten your horse's life.

## TEN FACTS ABOUT PPID

1. PPID can be diagnosed with a blood test.
2. PPID can be treated effectively.
3. PPID medication is nowadays much more affordable.
4. One in seven horses and ponies over 15 years of age are affected.
5. 70% of horses seen by vets for laminitis have been found to have PPID.
6. The technical name is Pituitary Pars Intermedia Dysfunction, we prefer to shorten it to PPID.
7. PPID is not only a problem in older horses, but it often starts at a younger age and slowly progresses.
8. It is caused by an excessive hormone production.
9. The hormone imbalance causes disruption of many bodily functions, some with devastating consequences.
10. Once on medication your horse or pony will feel years younger!

Hardly any of the cases of PPID that we see at VetSouth Equine show all the symptoms mentioned above. But the vast majority of horses and ponies that we have diagnosed and started on medication have one thing in common: after 6 to 12 weeks of treatment they have a new lease of life! 'Feeling good' showing as increased energy levels, less or no sore feet or mouth, building up muscle condition, improved hair coat etc...!

**If your horse shows any of the symptoms mentioned above, then call us on 03 217 6688 about getting your horse tested.**

# Preparing for foaling at home

With the breeding season not far away then there will be a new crop of foals in Southland, many born at owners properties. If you are going to foal your mare at home then here is a bit of a refresher about the process.

## Home foaling kit

Some things to have on hand can include:

1. A good torch or head lamp.
2. Charged cellphone (with vets number preloaded).
3. Tail bandage.
4. Umbilical stump solution.
5. Watch/clock/cellphone for timing.
6. A foaling alarm if available.

## Impending foaling

In the week or so before foaling, mares often begin to show a sticky secretion from the teats of their udder.

This first milk is colostrum; a sticky yellow secretion packed full of important nutrients and immunoglobulins for the foal. The appearance of this colostrum secretion from the teats is called 'waxing up' and signals foaling is not far away.

Unfortunately some mares may wax up 2 weeks from foaling and others can wax up a matter of hours before foaling so it's not an accurate predictor of when she will foal.

Some mares may walk awkwardly close to foaling as the pelvic ligaments relax in preparation to deliver the foal. The vaginal area may sag and relax in preparation for delivery.

## First stage labour

When mares are about to foal they may be restless, show signs of mild colic and flank watch. This is the first stage of labour and can occur minutes to hours before foaling.

## Second stage labour

The delivery of the foal is called the second stage. The waters break and a thin translucent white membrane can appear at the vagina. A foot is often seen first. Most

mares lie down to deliver the foal and the abdominal pushing action can be quite violent.

This stage of labour is rapid and generally takes around 15-20 minutes.

## Third stage labour

This is the delivery of the afterbirth (foetal membranes or placenta). This should occur within 30 minutes to 2 hours after delivery.

## When to call the vet

In contrast to other species equine birth is rapid. Due to early placental separation the foal needs to be delivered within 15-30 minutes once the process starts or they may not survive.

A mare having difficulty foaling is an emergency and rapid action is needed.

Once the mare goes down and starts to push then if she is not making progress after 10 minutes it is wise to call for help.

Foals should present as two feet and a nose in the vaginal cavity and if one of these is missing, help is needed.

If a thick red membrane appears at the vagina this is termed a 'red bag delivery'.

This red bag is the placenta coming out first – it is normally expelled after delivery. If the red bag is present it indicates early separation of the placenta and the placenta is the foals lifeline so such a foal needs to be delivered as soon as possible.

The placenta/afterbirth should be expelled by 2-3 hours after foaling.

If not out by 8 -10 hours the mare can become quite sick. Advice should be sought if the afterbirth has not passed by 3 hours and a visit may be needed to manually remove this.







## Some quick notes on Tetanus

### Why vaccinate for tetanus?

Horses are particularly sensitive to tetanus so on the whole most cases of tetanus in horses are fatal.

The bacteria responsible for tetanus (*Clostridium tetani*) is common in soil and around animal areas.

It is quite surprising we don't see more cases of tetanus considering how common this bug is.

Horses are always cutting or knocking their legs and exposing themselves to the entry of the tetanus bacteria.

To survive in a wound the tetanus bacteria need to be dark and away from air – so they survive best in deep penetrating wounds.

These wounds are the ones that are hardest for an owner to detect – a nail puncture that closes over quickly or a stone bruise to the foot.

Tetanus vaccination gives a cheap, reliable protection from a deadly disease. It provides peace of mind especially for unseen wounds.

### What's the difference between tetanus vaccination and tetanus anti toxin?

A lot of people get mixed up between tetanus anti toxin and tetanus vaccine (toxoid).

Anti toxin is used if a horse hasn't been vaccinated and needs

protection for tetanus after a wound. Antitoxin is antibodies to tetanus that comes from another horse – so it is SHORT lived in duration and costs more.

Vaccination or toxoid is an injection of dead tetanus toxin. After a vaccination the horse makes its own antibodies to tetanus. Booster vaccinations are required to maintain antibody levels but antibody protection lasts much longer (years).

### Should I vaccinate my horse?

Absolutely – it's a no brainer.

It's cheaper than anti toxin and if given regularly (every 2-3 years) can give life long protection. It protects against unseen or unnoticed wounds.

### How good is the vaccine?

The level of protection from tetanus vaccine is very good. The effectiveness of the current vaccine is well proven.

### What's involved in vaccinating?

The first time a vaccination programme is started 2 vaccines 4-6 weeks are given. A booster is then given a year later and after that follow ups are given at 2 year intervals.

The vaccine is a small volume intra muscular injection. Very few side effects are recorded.

# Bacterial dermatitis

## What's lurking under your horses cover?

By Heather Cottle *BVSc. Cert EM (Int. Med.)*

As spring starts to make its entrance with the return of warmer 'Nor West' winds and a little more heat in the sun, we start to see the emergence of bacterial dermatitis and low grade skin infections that can develop under covers or gear. Of course, winter still has the tendency to show its ugly side every now and again by sending us a Southerly blast and remind us not to get too excited just yet about putting our winter woollies away.



These changeable weather conditions can make it a juggling act if your horse is rugged and with many horses wearing multiple rugs (to encourage coat shedding), a fast speed frolic in the spring sunshine can quickly turn your horse into a lather of sweat.

Horses that are unclipped and have yet to lose their winter coat may sweat significantly. A build-up of local skin bacteria (commonly *Staphylococcus aureus*) can result in the development of a severe, often itchy skin condition presenting like a severe acne. The use of synthetic covers (which do not appear to breathe as well as cotton or canvas) may also be a contributing factor in some cases.

Weeping or oozing of sticky, straw like fluid through the skin, raised painful or itchy lumps and the presence of crusts and hair loss are the typical course of events. Some horses may be so itchy that they begin to self-traumatise themselves on anything they can rub.

The lesions are commonly seen around the usual sweat points (i.e. the brow band, behind the ears, shoulder line under the cover, girth and flank). If widespread, the infection can be severe enough to cause limb swelling and sheath oedema.

If the bacteria then contaminate tack or gear in multi-horse training facilities and is then used on multiple horses, it can quickly spread from one horse to another.

Washing and disinfecting all girth sleeves, towels and gear is imperative to help control. Wither rubs and boils are also a common place under heavy wet rugs and the development of abscess in poorly fitting covers or high withered horses has the potential to cause the horse a lot of pain and discomfort.

Fortunately, treatment for bacterial skin dermatitis is relatively simple and easy to treat. Periodic washes with an antibacterial iodine or chlorhexidine wash will help to lower the localised bacterial load at the skin surface. Topical application of iodine spray over affected areas will also quickly reduce the signs.

In severe cases, systemic antimicrobials are occasionally used and horses may be administered anti-inflammatories to help reduce the itching and inflammation in the skin.

Clipping the horses coat to help remove matted hair and prevent a reoccurrence is also recommended. Supplementation of your horses' diet with flaxseed oil (containing Omega 3) will also help to reduce skin inflammation.

Last summer (presumably due to the warm, wet conditions) we also observed a larger than normal number of horses presenting with ringworm.

This appeared to behave rather aggressively and resulted in rapid spread and the development of crusting, weeping lesions. Some of these horses had concurrent bacterial dermatitis which contributed to the clinical signs. There are few antifungals available to treat ring worm and iodine topically still is the treatment of choice.

For any further information about bacterial dermatitis and any other skin conditions in your horse, please feel free to contact us.



# CLINCS

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Our other VetSouth Clinics include:

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8 Richmond St  
Ph 03 209 0101

Winton  
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Ph 03 236 6090

Lumsden  
44 Diana St  
Ph 03 248 9030

Otautau  
203 Main St  
Ph 03 225 8206

Clydevale  
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