

EQUINE NOTES

April 2017

Welcome to the Autumn/Winter Equine Notes Newsletter.

We managed to get through the breeding season without too many dramas.

This breeding season just past has been challenging for us; mostly we think as a result to the inclement summer weather.



Brendon Bell

Anecdotally we feel mares were not as easy to get in foal as other years and cycling was more erratic.

Normally in our area there is a good conception rate around Christmas/New Year but not so this year.

Our strike rate was better in the latter part of the season, late January and February.

This season at the clinic we bred 20 mares to frozen AI. We achieved an 'in foal' rate of 60%.

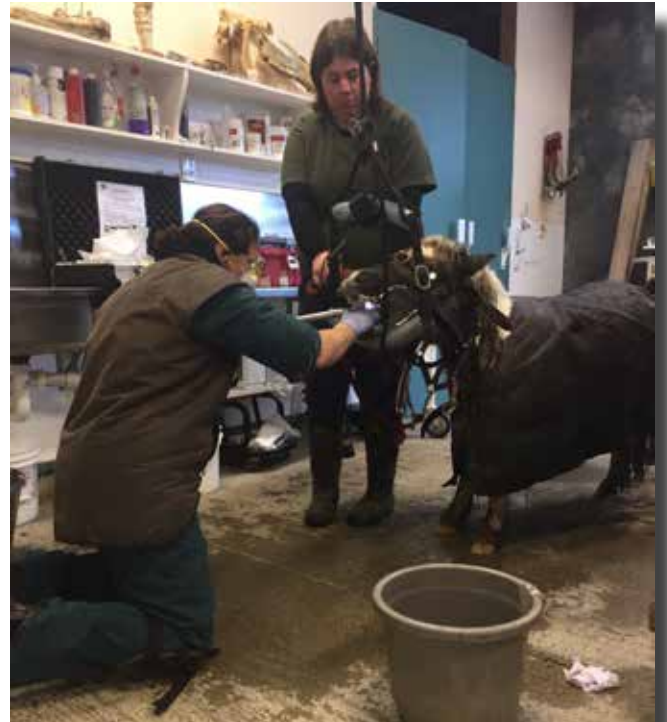
We were involved in breeding 31 mares to fresh/chilled semen and had an 80% 'in foal' rate.

Six hundred and thirty six breeding scans were performed over the season.

The clinic tried our hand with our first equine embryo transfer (ET).

The mare subsequently was retired and we didn't get to finish the programme but we gained hands on experience and we are looking forward to more ET this season.

ET at the clinic is facilitated by a relationship with some colleagues in Canterbury who have a large band of recipient mares meaning we don't have to find, house and manage this part of the process.



◀ Veterinarian Heather Cottle performs a dental treatment on one of our smaller patients.

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Broodmare care and nutrition

Now that your mare is pregnant, the goal now is to keep her healthy through pregnancy and then deliver a normal vigorous foal.

Below are some general tips and advice on how to help your mare get through her pregnancy and help to optimise the health of both the mare and foal.

Nutrition

Mares should enter the breeding season in moderate to fleshy condition (body condition score 3/5) and be fed to maintain that level throughout pregnancy and lactation.

During the first eight months of pregnancy the mares' nutrition requirements are no different to those before she conceived, therefore during this stage it is important not to overfeed pregnant broodmares.

A balanced diet of good quality grass, hay or good quality balage supplemented with a mare broodmare mix or mineral mix (e.g. pasture nuts or 'Mare Balancer nuts – NRM') is sufficient for most mares. Lighter conditioned mares will require additional supplementation.

During the last 2-3 months of pregnancy, however around 60% of the total growth of the foal occurs. During this time, the mares' requirements for protein, calcium, sugars and phosphorus increase faster than the need for energy, requiring additional supplementation with vitamins and minerals is required.

The correct balance of copper, phosphorus and calcium is important in the development of bone and cartilage in foals, with research indicating that inadequate copper supplementation during pregnancy can result in unsoundness issues due to inadequate bone and cartilage development (when compared to foals from supplemented mares).

Interestingly, supplementing copper post pregnancy did not appear to reverse this problem. Selenium deficiency can

cause white muscle disease in foals and has also been linked to retention of foetal membranes in mares. Supplementation of natural vitamin E in the 30 days before foaling also increases the passive transfer of antibodies to the foal.



Heather Cottle

Dental Care

Haematogeneous (blood borne) showering of bacteria from untreated periodontal disease may result in placentitis which can affect the health and survival of the foetus.

As many broodmares are retired from racing or from riding, regular dental attention is frequently forgotten about and a large number of mares have severe overgrowths, pocketing of food or sharp enamel points.

Ensuring your mare can eat comfortably and has a healthy mouth throughout pregnancy is important. Dental procedures are best carried out prior to your mare being served where sedation (if needed) can be administered without causing harm to the unborn foetus.

If major dental work is to be performed during pregnancy, delaying it until the after the first trimester (after 120 days) is recommended to reduce the risk of early embryonic loss.

Hoof Care

Though broodmares may not receive the daily scrutiny of their athlete counterparts, proper husbandry — including appropriate hoof care — is essential to maintaining the health, welfare and investment of the in-foal mare.

As broodmares reach the last few months of pregnancy, their weight increases, putting an extra-heavy load on their hooves.

This stage of gestation often coincides with late winter

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when the footing in pastures is likely to be either deep and muddy or hard-frozen and rough-surfaced.

Couple these things with a little arthritis (not uncommon in older mares) and you have a situation that could make late-pregnant mares quite uncomfortable.

Maintaining a schedule of trimming about every six weeks works well for many horses. Some mares that are flat footed or prone to laminitis may be more comfortable with shoes as their weight increases in the last two or three months of pregnancy.

A wide web shoe or heart bar shoe will increase support for the hoof. Shoes may also help mares avoid the soreness, bruises, and abscesses that can result from walking on frozen ground.

Exercise

Provided you have been given no specific advice against it (usually in cases of lameness or injury) most mares benefit from exercise during pregnancy.

Many mares have been used for rigorous athletic competition (including racing and jumping) up to four months (120 days) with no problems, while light exercise may continue until the third trimester with no problems.

Mares that aren't ridden benefit from as much turnout as possible, preferable a minimum of six hours a day when conditions allow.

Deworming and Vaccinations

Internal parasite control relies on a combination of pasture management, manure disposal and strategic use of dewormers.

Most modern dewormers are safe for use in pregnant mares, but always check the label first. Mares generally remain on the same deworming schedule as other mature horses on the farm.

It is now commonly recommended that mares also be given a dose of ivermectin on the day of birth (or just prior to) to help prevent transmission of worms to the foal.

Vaccination of the broodmare has three aims; protect the mare from disease, prevent abortion, and protect the foal by passive transfer of immunity through colostrum.

It is recommended that vaccines are not given to mares in the first 60 days of pregnancy. Ideally mares should have completed their primary course of vaccination before becoming pregnant.

To ensure maximal protection of the newborn foal, pregnant mares are vaccinated for most diseases (Tetanus, Strangles and Salmonella) in the last 3-6 weeks of pregnancy.

Equine Herpes is a common virus throughout New



Zealand and mostly causes respiratory disease – 'coughs, colds and snotty noses'.

However, if a broodmare contracts it while pregnant it can result in abortion. Recent outbreaks in naïve mares has heightened concern over this uncommon cause of abortion and stillbirth in foals.

Mares that have been vaccinated previously require a booster shot on an annual basis. The recommendation is vaccination at five, seven and nine months of pregnancy.

Vaccination for Herpes reduces the virus in the environment and helps stop abortion storms or epidemics that can occur when broodmares are all together in herds for foaling.

Biosecurity

Ideally mares are kept in small groups with others at a similar stage of pregnancy. Mares that are long-term residents on the farm are best kept separate to outside mares.

All pregnant mares should be isolated from horses likely to be shedding infectious organisms which include weanlings and yearlings, young horses in training, and horses in the show or performance string. Mares that have recently been bred are also an infection risk to pregnant mares.

If you have any further questions regarding your broodmare, please do not hesitate to contact the team at VetSouth.

Remember to tidy up your horse's oral health

We will once again be offering our 'Winter Dental Special' promotion. June and July are quiet months on the equine calendar and a good time to tidy up your horses oral health. The dental specials have proven popular and if you can get a large group together we can look at further price reductions.

Equine teeth continue to erupt throughout the horses life. As a young horse the entire tooth is within the jaw and it pushes into the mouth as the horse ages. For this reason floating needs to be a regular event as the grinding surface of the teeth is constantly eroded away.

As a rule older horses have more dental issues than younger horses. The shape of the teeth change as the horse ages and there is more likelihood of gaps between the teeth opening and allowing grass and food to pack. If this feed material cannot get out it rots there and causes gum disease.

If this gum disease becomes extensive then teeth can loosen, become pushed sideways by the chewing action. This causes pain and difficulty eating – the horse may lose condition or drop feed while chewing. Or they can pack food into their cheeks and have the look of a 'chip monk'.

Due to the inaccessibility of the main chewing teeth, the molars, the use of a gag and good light source is needed to be able to conduct a good examination. We would normally sedate the mare for this procedure so we can do a thorough examination.

"This causes pain and difficulty eating - the horse may lose condition or drop feed while chewing."



Sedation is needed for the safe use of our motorised power floating equipment.

For mares over 10 we recommend an annual dental check. Based on what kind of disorders we find this recommendation may change.



We are offering a dental examination and mechanical powerfloat of your horses teeth, inclusive of sedation* for \$120

Plus \$5 off Tetanus Vaccination

If you get 6 or more horses together in a group travel discounts will apply.

Call your local VetSouth clinic to arrange for the equine dental team to powerfloat your horses teeth.

*Extra sedation may be charged if extensive work is required.

Vaccinations are a cost effective way of preventing and minimising the effects of a number of diseases. Many of these diseases are potentially life threatening and expensive to treat once contracted by your horse.

Equine Dental Special - June & July!

Winter is the time to make sure your horses teeth are up to scratch.

To make an appointment please phone us at VetSouth on (03) 217 6688.

What's going on in the airways?

Respiratory diseases are second only to problems affecting the musculoskeletal system when it comes to limiting the ability of a horse to perform to its maximum potential.

The respiratory system functions to supply oxygen to red blood cells and to remove carbon dioxide from the blood. Without adequate oxygenation, working muscles and organs enter a state of anaerobic metabolism, resulting in a build-up of lactic acid that will ultimately limit performance.

Horses are obligate nose breathers (that is, they breathe through their nose only), and increase oxygenation to the lungs by increasing respiratory rate and effort only. Unlike humans, the lungs of horses have little ability to respond to training thus the respiratory system is always working at its maximal performance.

Any obstructions in the respiratory system, extending from the nostrils right through to the alveoli (the site of gas exchange) can result in restricted airflow, potentially limiting performance. When horses inhale during exercise, around 90% of the resistance (obstruction) to air movement is in the airways of the head (i.e. the nostrils, nasal passages and the larynx). But when horses are exhaling, the majority of the resistance to air movement (55%) is in the airways within the lung.

Diseases involving the lower airway are common and may affect horses of any age or breed. Infectious diseases caused by viral or bacterial infections can occur sporadically, but also may occur as outbreaks, while other lower airway diseases may be related to environmental or management conditions.

Equine herpes virus Type 4 (EHV4) is common in the equine population and can present with a cough, serous nasal discharge that may turn purulent (i.e. yellow and cloudy) indicating the presence of bacterial infection and fever. As well as causing respiratory disease, equine herpes virus type 1 (EHV1) can also cause abortion in pregnant mares.

Vaccines for both EHV1 and EHV4 are available and are recommended for horses undergoing intense training programs that are in contact with other horses and in broodmares that are traveling to studs.

Many stud farms require broodmares to be fully vaccinated for EHV1 prior to arriving at the stud. Confirmation of the virus is by obtaining nasopharyngeal swabs, or from examination of aborted fetuses and the placenta. Treatment for the respiratory form of equine herpes virus is largely symptomatic, however if the respiratory signs are severe or if mares have aborted then immediate veterinary attention should be sought, and affected animals should be isolated.

Outbreaks of equine influenza (or 'flu') occasionally occur in horse populations and in naïve unvaccinated animals can result in considerable economic losses, as was demonstrated in the recent outbreak in Australia. Fortunately the Equine Influenza virus is not present in New Zealand and is notifiable.

Secondary bacterial pneumonia and pleuropneumonia are potential complications that may follow viral respiratory disease in horses that have not been rested adequately before being returned to training or that have undergone stressful events such as long trailer rides.



Heather Cottle

Pericarditis (inflammation surrounding the heart), myocarditis (inflammation of the heart muscle) and heart arrhythmias are also possible sequelae to viral respiratory infections.

Early signs of bacterial pneumonia are not always obvious, and a gurgling sound and depression may be all that is noted. As the disease progresses, horses may show moderate to severe signs of respiratory distress, anorexia, fever, mucopurulent nasal discharge and a deep productive cough.

Blood tests can reveal changes in total white blood cell counts and increases in fibrinogen, indicating the presence of a bacterial infection and severity. Endoscopic evaluation of the lower respiratory tract may demonstrate mucopurulent material (exudate) with or without traces of blood within the trachea (Fig 1).



◀ Fig 1: Endoscopic view of the lower respiratory tract in a horse with bacterial pneumonia. Note the frothy yellow fluid draining from the main stem bronchi on the left of the picture.

In many cases, exudate may be seen exiting from one or more secondary bronchi, indicating the involvement of one or multiple lung lobes.

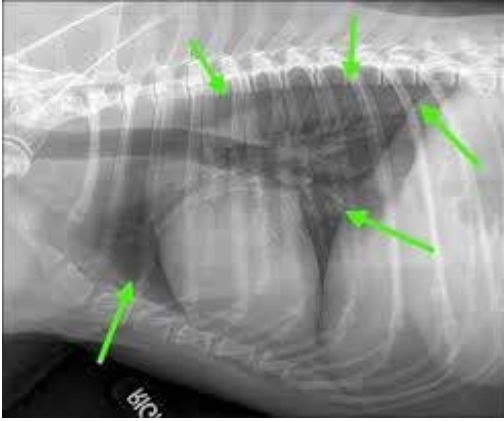
Obtaining a sample of the fluid through the endoscope can allow the causative bacteria to be cultured, plus allowing microscopic examination of the fluid to identify the presence of other infectious agents (e.g. fungi) or abnormal cells.

Ultrasonographic examination of the thorax is a non-invasive, simple procedure that can be used to identify areas of fluid or lung consolidation (collapsed).

Radiography of the thorax is also a useful imaging technique that can be used for many conditions involving the lung.

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It can also allow the identification of lung abscesses, masses, consolidated areas of lung, generalised lung disease, fluid and bronchial thickening or inflammation (Fig 2).



◀ Fig 2: Radiograph of the caudodorsal lung lobes of a horse.

Larger fixed radiography units are required to obtain images of most adult horses, however good images of foals or miniature breeds can be obtained using smaller portable machines.

Treatment of bacterial pneumonia and pleuropneumonia (i.e. fluid present within the pleural cavity surrounding the lungs) involves administration of broad spectrum antimicrobials, antiinflammatories and rest.

Antimicrobials should ideally be selected based on culture and sensitivity results of tracheal aspirate samples. In severe cases of pleuropneumonia, drainage of fluid may be required, while surgical debridement of large abscesses unresponsive to antimicrobials may be also necessary.

In many cases, antimicrobials should be administered for several weeks. Foals from one month to around six months of age are susceptible to a particular bacterial pneumonia (*Rhodococcus equi*). Foals frequently present with ill thrift and a failure to thrive compared to fellow peers, followed by mild to moderate signs of respiratory distress.

The development of lung abscesses is common, and treatment involves long term administration of particular families of antimicrobials.

Recurrent airway obstruction (RAO), chronic obstructive airway disease (COPD) or heaves are all synonymous terms used to describe non-infectious lower airway disease that is linked to environmental exposure to dust and pollens.

The disease syndrome frequently occurs in older horses (mean age nine years old) and can affect horses of all breeds, and is caused by the production of mucous and inflammatory cells, combined with the constriction of lower bronchi that occurs as a response to allergens within the environment.

The end result is obstruction of the lower airways, resulting in reduced airflow to the alveoli. Horses frequently present with a dry non-productive cough, and may show signs of exercise intolerance and mild to moderate signs of respiratory distress. The horses are otherwise bright

in demeanour and exhibit a normal appetite. Rectal temperature is normal and results of blood tests are frequently unremarkable.

Endoscopic examination of the lower respiratory tract frequently reveals moderate quantities of cloudy white fluid within the lower trachea. Definitive diagnosis is obtained by performing a tracheal aspirate (collecting a sample of the fluid from the trachea), and by performing a bronchoalveolar lavage (BAL) where a sample of cells is obtained from the bronchi and alveoli (Figs 3 & 4).



◀ Fig 3a: Performing a bronchoalveolar lavage in a horse with lower respiratory tract disease.



◀ Fig 3b: Bronchoalveolar lavage (left) and tracheal aspirate samples (right) obtained from a horse with recurrent airway obstruction. Note, the cloudy white colour of the tracheal aspirate sample.

Microscopic examination of the cells allows an estimate of the degree of inflammation within the lung. Repeating these tests can also be useful to help monitor the success of treatment or progress of the disease.

Treatment is based on removing the allergens from the environment, and involves removing dusty bedding and feed stuffs etc. Soaking hay or feeding haylage and using dust free bedding such as coarse shavings, cut cardboard or peat moss can substantially reduce the amount of dust in the horse's local environment. It should be remembered that the horse's entire stabled area encompasses part of its breathing space; therefore, the whole stable should be kept as dust free as possible.

In affected horses, clinical signs frequently improve following removal of dust and antigens from the environment.

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Medical treatment can be instituted in cases refractory to environmental management and include bronchodilators or corticosteroids administered either by an inhaler or given orally.

Summer pasture associated obstructive airway disease (SPOAD) is a similar lower airway disease that occurs in horses grazed out at pasture, particularly during the summer months.

Management of these horses involves stabling the horse during the day when pasture pollen levels are at their highest. In younger animals (particularly 2 to 3 year old horses in training), inflammatory airway disease (IAD) can also develop. Many of these horses have a chronic cough and have a history of poor performance.

The condition is generally transient, and improves with rest, however it frequently requires treatment in the form of immune stimulants, airway dilators or occasionally antibiotics. Avoidance of undue stress is advised as secondary bacterial infections may develop.

In conclusion, lower airway inflammation and diseases are commonly encountered in the horse population, and although many diseases can be managed effectively with rest and environmental management, bacterial infections can potentially be life threatening, and severe recurrent airway obstruction can be performance limiting.

Early identification of clinical signs, a thorough clinical examination (including the use of a rebreathing bag Fig 4), and accurate diagnosis of the disease are essential if performance limiting effects and secondary bacterial infections are to be reduced.



◀ Fig 4: Physical examination of the lower respiratory tract frequently involves the use of a rebreathing bag, which results in an increased respiratory rate and effort without the need for physical exercise. This technique allows abnormal lung sounds that would normally be missed with lower respiratory rates, to be identified.

MUD FEVER TIME IS APPROACHING

The incidence of 'mud fever' in horses is normally worst over autumn and early winter. The main culprit in mud fever infection is not a bacteria but is more like a fungus (called dermatophiosis) but there will be mixed infections involving bacteria in many cases.

It mostly affects the lower limbs especially white coloured legs. When mud fever occurs in places besides the legs is often called 'rain scald'.

During the wet months when lower limbs are wet for long periods the skin softens, cracks and the skin loses its normal ability to stop mud fever organisms from penetrating it.

A surface infection develops characterised by scab formation.

The scabs provide an umbrella keeping the skin below wet and moist and proliferating the infection. The skin becomes red and inflamed, oozes serum and the scabs grow. The skin irritation is painful and many horses show lameness and swelling of the affected leg.

Principals of Treatment

There are many different treatments available – none are universally successful in each occasion. Whatever form of product you use there are a few basic principles that if followed can help get on top of mud fever.

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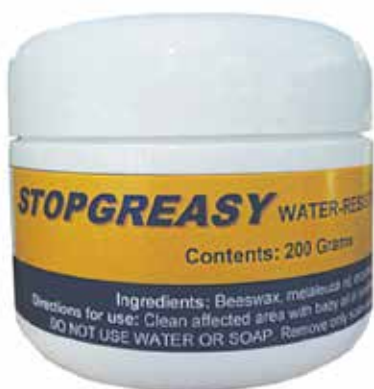
- Where possible keep the area dry – stable horse and don't bandage leg.
- Remove the scabs – they keep the underlying skin moist and facilitate spread.
- Clip the hair of the affected leg if possible, this minimises scab formation, and makes scab removal easier.
- Any product application over scabs is not as effective as under them.
- Iodine at the correct dilution is effective at killing the agent involved.

Scab removal – horses generally are not happy about having the scabs removed!

A few tips – try soaking them off. Soaking the scabs in warm soapy water softens them making them easier to get off. Rub them off with a towel or similar after soaking. Especially hard, thick scabs can be soaked in cooking oil under a bandage overnight to help soften them for removal.

A recent product we have had positive reports about is “Stop Greasy”. This product has no with-hold for competition and can be bought over the counter.

Veterinary intervention should be sought if the horse is not responsive to normal treatment or if the horse shows persistent lameness that they do not warm out of.



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Cnr Great Nth & Welsh Rds
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Lumsden
44 Diana St
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Clydevale
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