PORT PERRY VETERINARY SERVICES -QUARTERLY-

Shockwave Therapy for Equine Lameness

Extracorporeal shockwave therapy (ESWT) is a non-invasive technique that can be used to help stimulate healing of a variety of soft tissue and bony injuries in horses. It was first used in human medicine to break up kidney stones.

The machine generates high pressure waves (not electrical shocks) that are pulsed onto the site of injury. These waves transmit energy into the affected bone or soft tissues. Although the exact mechanism of action is unknown, the waves help to influence bone remodelling, improve circulation, and provide an analgesic effect. As a result, ESWT is a useful adjunctive therapy helping to reduce recovery time and improve healing.

ESWT is commonly used to treat a number of conditions including: lower hock arthritis, tendon and ligament injuries, heel pain, delayed wound healing, and some types of back pain.

The convenient thing about this technique is it can be performed on your farm. The horse is usually given light sedation, then the area is clipped, and a gel is applied. The shockwave treatment is performed on the affected area(s) and it only takes a few minutes for this to take place. The frequency of treatment is variable and depends on the nature of the injury.

Because of the analgesic effects provided by ESWT, the Ontario Racing Commission (ORC) does not permit its use 96 hours (4 days) prior to racing. Other groups are coming up with similar guidelines for its use prior to competition.

We are pleased to offer this service to our clients. If you have any questions about shockwave therapy and its possible benefits for treating your horse, please call the office at 905-982-1243 to speak with one of our veterinarians.

What's New at the Clinic?

The staff and veterinarians at PPVS hope that everyone had a wonderful Christmas and would like to wish all of our clients all the best in 2015!

For our horse clients, we are excited to announce we are offering some additional services including shockwave therapy and Dr. Rachel Busato will be offering spinal manipulation therapy once she completes the Certified Animal Chiropractic Course in February!

Over the past few months the vets have been hard at work updating their knowledge and skills. Dr. Rachel Busato continues to attend the spinal manipulation therapy course monthly, and Dr. Rachel Stadnyk recently attended a dairy update meeting focusing on shipping lame cows, changes to somatic cell count penalties, and the Dairy Farmers of Canada proAction initiative. Dr. Allison Doherty attended a foot pain discussion with other vets in the area in November, and recently returned from the American Association of Equine Practitioners (AAEP) annual convention, where she learned about dentistry, ophthalmology, lameness, and business.

Staphylococcus Aureus - It's In My Herd, Now What?

Staphylococcus Aureus is the leading cause of contagious mastitis infections on most dairy farms. It can be very difficult to manage as it primarily causes subclinical mastitis infections (infections we don't visibly see), so the cow and quarter appear normal but she will have an increased somatic cell count, and decreased milk production. This results in less profitability over their lactation and these cattle become the source of chronic infections in the herd. The other downfall to S. Aureus infections is that routine intramammary antibiotic treatments are usually unrewarding as this bacteria has developed resistance to most antibiotics.

Infection Process

This bacteria commonly lives on teat skin and causes infections when it enters the teat canal and goes up into the quarter. Once inside, it attaches itself to the cells lining the quarter to prevent itself from being fully removed during milking. The cow's response to infection is to send more white blood cells to the udder. Their job is to find and destroy the bacteria. However, Staph Aureus will produce a capsule around it that decreases the white blood cell's ability to destroy it, leading to a chronic infection.

After the bacteria has had time in the quarter to multiply it will begin to cause ulcers and microabscesses in the gland, creating damage to the quarter and more places for the bacteria to hide from the white cells and antibiotics. On top of this, the bacteria will often begin to produce toxins and enzymes that will make the cow noticably sick. In extreme cases these cows can develop toxic mastitis that can be life threatening.

Source of Infection

The main source of S. Aureus on the farm is in the udders of lactating cows. Although the bacteria are attached to the cells lining the walls of the quarter, some bacteria get shed at milking, making this the most common point of transfer to other cattle. Since milking equipment is not disinfected after each cow is milked, it is a great transfer vehicle from an infected cow to a susceptible cow.

Another important source of infection to consider is replacement heifers. Heifers can get infected as early as 6 months old, but are most susceptible in their last trimester. Bought in heifers pose the risk of bringing in new strains of S. Aureus, that the cows on that farm are not used to combating. These bacteria may also be resistant to the regular antibiotics used on that particular farm and an outbreak could occur.

Treatment, Control and Prevention

Generally when discussing S. Aureus, because of its major antibiotic resistance and its ability to create persistent, chronic infections even with treatment, culling known positive cattle from the herd is considered the gold standard for treatment. This is a harsh treatment option, but unfortunately is the only sure way to limit spread. Intramammary antibiotic therapy has limited success, but can be used. Some multi-day intramammary antibiotics are licensed for treatment of S. Aureus, but because of resistance, these often have poor success. On a case by case basis, our clinic also advises some producers to use certain long acting antibiotics off label at dry off.

If culling the cow is not an option, it is important to realize that one negative culture after a chosen antibiotic treatment does not mean you have cured the animal. As mentioned above, the chronic form of the infection allows for the bacteria to hide well and they are not always shed at milking. For this reason we suggest that a cow is not considered negative until she has had 3 negative milk cultures a few months apart.

Until a treated cow is considered cured, it is important to manage the herd and milking protocols, in a way that will limit disease spread. Uninfected, first-lactation cattle should be milked first, while infected cattle should be milked last and kept as far from the healthy cattle as possible. Strict milking hygiene should be enforced, wearing gloves, single use towels, using post milking germicide teat dip (ensuring teat end is properly covered with the dip) to kill any bacteria that may have been carried to a negative cow on the milking liner, etc. Proper upkeep and inspection of milking equipment is also an important key in control and prevention. Monthly cleaning of vacuum controllers, pulsators and air filters, and regular replacement of rubber components is essential. Also, inspection of properly functioning equipment will help limit irregular vacuum fluctuations that may cause back flow of infected milk against the teat end.

If you suspect this to be a problem on your farm please call us to discuss the next steps that might be useful such as DHI testing, bulk-tank or individual cow cultures.