**Autologous Treatments**

1. **Intra-Articular Hyaluronic Acid:**

 This has been shown to provide an analgesic effect in horses experiencing lameness. This can also be combined with corticosteroids. Unfortunately there has not been any circumstantial research evidence showing the benefits of using Hyaluronic Acid.

1. **Intra-Articular Corticosteroids:**

 Research has shown that this can be beneficial in the pathogenesis of joint disease. Intra-articular corticosteroids allow the joint to start producing lubricating hyaluronic acid. These drugs have anti-inflammatory properties which will help with the treatment of lameness. An example of corticosteroid used in horses to treat lameness is methylprednisolone acetate.

1. **IRAP (Interleukin-1 Receptor Antagonist Protein therapy):**

 This is a new treatment and it has proven to be effective in treating joint lameness, muscle injuries as well as tendon and ligament injuries. It is an advanced syringe system where autologous condition serum is produced. This is to harness the regenerative and anti-inflammatory properties of the horse’s own blood cells encouraging damaged musculoskeletal tissues to heal. The autologous condition serum (ACS) has active quantities of anti-inflammatory and regenerative cytokines. The technique involves retrieving 50ml of the horse’s blood using a special syringe with glass beads. The blood must go through a 24 hour incubation period to allow the blood to mix with the beads then it is put in a centrifuge to separate the serum from the red blood cells. The serum is then extracted and re-injected into the horse at the site of injury usually over 3-4 occasions.

1. **Platelet Rich Plasma (PRP):**

 This method is used in the treatment of joints, bursae and soft tissue injuries. When the platelets are injected they release a large number of growth factors when they arrive at the injury site in tissue. These factors include platelet-derived growth factor, transforming growth factor beta, insulin-like growth factor, vascular endothelial growth factor and connective tissue growth factor and this would stimulate the production of repair tissue. To receive this platelet rich plasma the blood of the horse is taken and then centrifuged to separate the serum which is then re-injected into the animal at the site of injury through small needles. This treatment protocol depends on the injury sustained and the treatment outlined by the veterinarian after thorough assessment of the injury.

1. **Stem Cell Therapy:**

 Stem cells are removed from the horse and implanted the cultured tissue back into the same horse.Implantation is used for tendon injuries and should be performed under sedation and using ultrasound to guide the injection. A follow up assessment between one and three months after implantation is necessary. This treatment protocol with aid in repairing injury.

1. **Acupuncture:**

 This is believed to balance energy by affecting certain physiological changes with the insertion of tiny needles at specific locations to help assist in the healing process. Modern acupuncture needles are 0.5-3 inches long, ultra-fine and it is made of a flexible stainless steel. Depending on the condition 5-30 needles will be inserted and left in place for 5-30 minutes. Stimulation by the needles can be done by rotating needles or attaching electrodes to send a weak electrical current through the needles. The number of treatments depends on the nature, severity and the duration of the disease, on average generally 3-5 treatments are neededThis procedure can help stimulate nerves, increase blood circulation, relieve muscle spasms and cause the release of hormones such as cortisol which have positive healing effects on the body. It has been used successfully in horses to treat many acute and chronic conditions including many musculoskeletal problems. This procedure provides pain relief, promotion of micro-circulation, regulation of gastrointestinal motility, anti-inflammatory effects, hormone and reproductive regulation and immune-regulation.

<https://youtu.be/xxBCjK9Gh-8>