

TREATMENTS

It is important to remember that there are many diseases responsible for causing lameness, and therefore, a thorough diagnosis is essential for one to come up with the most appropriate treatment plan for the horse. Before implementing a treatment plan, veterinarians use various tools including palpation, lameness evaluation, flexion tests, nerve and joint blocks, and diagnostic imaging such as X-rays, ultrasound or MRIs (magnetic resonance imaging) to diagnose lameness. The approach for treatment of equine lameness is a mostly two pronged approach, with several components to each. These are:

1. Reduction of Inflammation by:

- Allowing the horse to get plenty of rest, especially box rest (the mainstay of lameness treatment for many horses) for anywhere from a few days for a simple sprain, to weeks or even months for a more serious injury.
- Use of hyaluronic acid (HA) injected into a horse's joint to help to put more of the natural "good stuff" back into the diseased joint because it is a natural component of the joint fluid. HA also has anti-inflammatory properties and can help with inflammation in the joint.
- Cold hosing the horse's leg for 20 minutes a day once or twice a day, a simple form of hydrotherapy employed to reduce swelling in a limb. It involves running cool water from a garden hose over the lame leg with the principle being that the cold water removes the heat associated with swelling, while the water flow massages the tissue and helps disperse fluid build-up.
- Hot tubbing to treat lower limb lameness, where the suspected cause is an abscess or a foreign body in the hoof, because hot tubbing softens tissues and helps to draw infection out. It involves immersing the foot in a bucket of hot (38°C) water containing Epsom salts for 15- 20 minutes to soften the sole of the foot and allow infection to drain. This procedure can be repeated 3 to 4 times daily.
- Use of hot fomentation to treat abscesses and infection on areas higher up on the leg, where it is not practical to immerse in a bucket. Fomentation has a similar indication as for tubbing (suspected infections, or abscesses), and is used in 15 to 20 minute sessions, 3 to 4 times daily.
- Application of a commercial poultice, such as Animalintex, to reduce swelling after exercise. Poultices have a number of applications in that they can reduce swelling after hard exercise and draw out infection from an abscess. A poultice should never be left on for more than 12 hours, and it is preferable to change them 2 or 3 times daily.

2. Relief of Pain by:

- Using pain relieving medications (analgesics such as NSAIDS) to help with lameness. NSAIDS (non-steroidal anti-inflammatory drugs) have a dual action of reducing pain and inflammation. The most commonly used NSAID pharmaceuticals for the relief of bone and joint problems in the horse are aspirin [AniPrin®], phenylbutazone [Bute®] or

flunixin meglumine [Banamine®]. Steroid joint injections are also commonly done for problems like arthritis or osteochondritis dissecans (OCD).

- Giving aspirin for mild pain. Aspirin (acetylsalicylic acid) like AniPrin is effective against mild pain, swelling, and discomfort. AniPrin contains powdered acetylsalicylic acid mixed with a palatable molasses flavor base, designed to be mixed into the horse's feed at a dose of 10mg/kg once daily, equating to 5,000mg (or 5 grams) of AniPrin for a 500kg horse.
- Use of prescription NSAID phenylbutazone, commonly known as Bute® to reduce pain and fever. It also works well for musculoskeletal problems. It should not be used in combination with other NSAIDs, steroids, or given on an empty stomach and it has some contraindications with some medications such as phenytoin, sulfonamides, warfarin, barbiturates, and digoxin.
- Use of prescription NSAID flunixin, sold commercially as Banamine®, to reduce pain and inflammation. Banamine® is a potent cyclooxygenase inhibitor which inhibits prostaglandin and therefore brings down inflammation. It is rapidly absorbed from the stomach and small intestine, and each dose works for 24 to 30 hours.
- One must always be aware of the possible side effects of NSAIDs, such as its ability to reduce the blood supply to the stomach and kidneys. While not significant in healthy, well-hydrated horses (especially when the medication is given with food), in dehydrated animals it could concentrate the drug and amplify its damaging effects on the kidney. Other NSAIDS side effects include gastric ulceration and possible worsening of pre-existing kidney disease. This can
- manifest itself as a loss of appetite, and increased thirst. The treatment involves stopping NSAID medications and giving drugs such as activated charcoal in order to protect the stomach lining. A horse diagnosed with renal disease may need intravenous fluid therapy to flush the accumulation of naturally occurring toxins that the kidney has not got rid of out of the system.
- There are also several other newer treatment methods for lameness currently in practice by vets and farriers, which include, but are not limited to:
- Use of Game Ready®, an advanced therapy option that relies on the conventional method of cold compression to treat lameness. Its advantage is that the horse stays dry unlike with the traditional method, and multiple legs or areas can be treated at once with the split hose. It can be used to treat inflammatory problems such as acute tendonitis and desmitis. The wrap is applied to the affected area and then a hose circulates ice water through the wrap. Water pressure, temperature, and application time can be preset to fit the needs of an individual horse. The horse is treated once a day for three to five days with Game Ready®, but it depends on the reason for treatment and the horse's response to the treatment.
- Shock wave therapy, also referred to as extracorporeal shock wave therapy (ESWT), which sends a high-pressure wave through the tissue by a trode (probe), stimulating the cells to produce growth factors and other proteins that help with healing. It helps initiate an anti-inflammatory response and helps blood circulation by encouraging new blood vessels to form. Shock wave therapy is seen as the opposite of Game Ready® because it

is used to treat chronic conditions like arthritis and caudal heel pain. It is recommended that between one to three treatments are done at two-week intervals, but it depends on the problem and how well the horse responds to the treatment.

- Regenerative therapy with use of Interleukin-1 receptor antagonist protein or IRAP®, an anti-inflammatory product that is created from the horse's own blood. It is also referred to as autologous conditioned serum (ACS). A small amount of the horse's blood is taken, placed in a sterile container with glass beads and incubated for 24 hours before it is centrifuged to separate the cells. The serum is then injected back into the horse's joint, where it binds to an inflammatory protein that's commonly found in arthritic joints known as interleukin 1 (IL-1) and prevents it from causing more inflammation within the affected joint. Though treatment with IRAP® yields different results for each horse, it has been a success in treating arthritis.
- Regenerative therapy using platelet-rich plasma (PRP), another regenerative product created from the horse's own blood and used to treat soft tissue injuries such as tendonitis and desmitis. However, in this therapy, a specialized syringe is used to draw a very small amount of the horse's blood, which is then added to a centrifuge before being inserted back into the area requiring treatment. The PRP is rich in growth factors, so it speeds up the healing and repair process. However, as it is a very individualized product created from an individual animal, it is difficult to compare from horse to horse or to predict how it will work.

There are also a number of surgical options for treatment/repair of equine lameness, some of which have been mentioned previously in this document (e.g. use of PRP and IRAP®). These include, but are not limited to:

- Minimally-invasive surgery, where arthroscopy is used to evaluate and remove bone chips, injured cartilage and soft tissues within joints.
- Advanced fracture repair, by use of novel implants, consisting of a locking compression plate and Acutrak® screws. It also entails use of special anesthetics and sling recovery techniques to help ensure a successful surgery and recovery, and state-of-the-art therapies used for pain control and prevention of support limb laminitis.