

ELECTROTHERAPY

Your Veterinary Physiotherapist may use electrotherapy devices, alongside other interventions, during treatment of your animals, primarily horses and dogs but may occasionally be used during treatment of other animals. Hopefully they will have explained the reasons why they have chosen to use electrotherapy but do you understand why/ how it works?

What is it?

Electrotherapy devices have been recorded for the purpose of therapy treatment in the human field since mid 19th Century and has been adopted in the Veterinary field since the 1960's.

Strictly speaking electrotherapy refers to the use of electrical energy as a medical treatment, although it is generally used in a wider context to include other modalities which do not encompass the use of electrical energy (e.g, ultrasound, laser).

What does it do?

It is used as a treatment for pain relief and tissue healing.

Different modalities may have a slightly different effect and are better suited for treating certain tissue than others. Generally, treatment effects are achieved by increasing blood flow and reducing swelling. Although inflammation is an essential phase of tissue healing, prolonged inflammation can inhibit essential healing processes. The energy delivered through electrotherapy increase cellular membrane activity, therefore increasing diffusion rates of waste products away from the area being treated whilst encouraging cellular products which aid in healing damaged tissue and formation of good quality scar tissue.

Electrotherapy also stimulates the release of endorphins, the bodies natural pain relieving chemicals, so aiding in pain relief.



Types of electrotherapy devices

The following devices are most commonly used in the Veterinary therapy field:

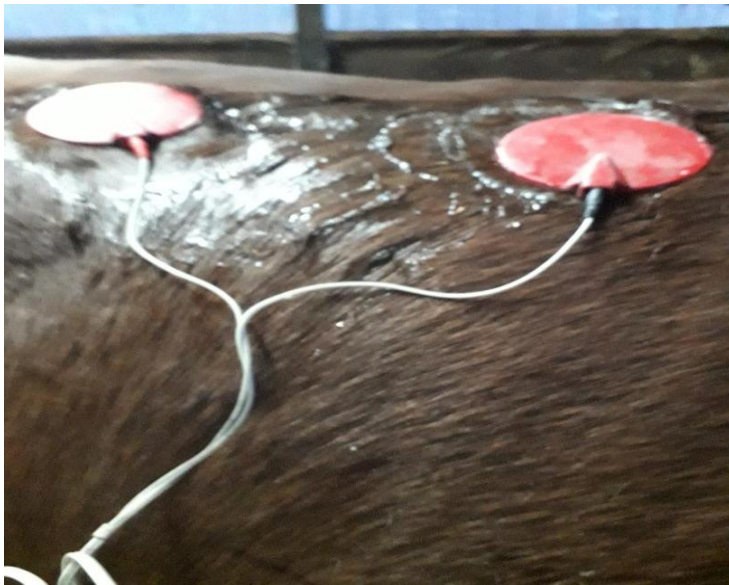
Ultrasound- Uses ultrasound waves rather than electrical energy to stimulate tissue repair. Best used for the treatment of tendons, ligaments, joint capsule and muscle fascia.

There is some evidence for the use of Low Intensity Pulsed Ultrasound (LIPUS) in the use of fracture repair but currently this is a very specialised area and not used routinely.

Low Level Laser Therapy- Uses laser light, best used for muscle, nerve and tendon sheath healing. Also can be used to enhance wound healing.

Transcutaneous Electrical Nerve Stimulation (TENS)- Delivers an electrical stimulation via the use of pads. Used for pain relief by acting on the body's nervous system and stimulating the body's natural opioid system to release endorphins.

Neuromuscular Electrical Stimulation (NMES)- Also commonly referred to as Muscle Stim. Similar to TENS but on a different setting to stimulate muscle contraction. Can help in treatment of atrophied muscle, particularly where box/ cage rest is implicated. Aids in increase in blood flow and decrease in swelling.



Static Magnetics- There are a number of products available such as collars, boots, rugs, which incorporate the use of magnets to aid in pain relief and tissue healing. There is limited evidence supporting their efficacy.

Pulsed Electromagnetic Therapy (PEMF)- A pulsed field induces small electric currents into the tissue. There is evidence supporting pain management, reduction in swelling, tissue repair, wound healing and bone healing.

Microcurrent- There are a number of devices available, with increasing popularity in the equine field. There is an evidence base supporting pain relief and tissue healing.

H Wave – A popular device with many Veterinary Physiotherapists in the treatment of equines. Used in the treatment of pain relief and muscle stimulation. It uses a waveform found naturally in the body's pain signals which is said to be better tolerated by the individual.

Most practitioners will have a preference on the type of device that they use. This is likely to be influenced by previous experience and evidence to support its use in appropriate situations. Some devices require settings to be adjusted for specific treatments and should therefore only be used by someone suitable qualified or on their advice.

Electrotherapy is only one form of intervention and should be used where indicated as part of a clinically reasoned treatment plan following a thorough assessment. Your Veterinary Physiotherapist should always be able to explain why they are using a specific intervention and how it works. It can be a useful tool where used appropriately to aid healing and pain relief and will generally be used alongside other interventions such as manual therapies and exercise to help optimise your animal's treatment.

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