

## NEUROMUSCULAR ELECTRICAL STIMULATION

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Neuromuscular electrical stimulation (NMES) uses a low-level electrical current that through stimulation of the alpha motor neurons, allows recruitment and muscle contraction after orthopedic or neurological injury. NMES assists neuromuscular function by enhancing the force capacity, or the ability of the muscle to contract, as compared with a true strengthening of the muscle. It is unclear if the role of electrical stimulation in improving muscle function is actually related to increased muscle strength, improved voluntary contractions, restoring motor control, or possibly due to proprioceptive activation within injured or atrophied myofascial tissues. The combination of electrical stimulation and exercise has been reported to be effective in alleviating pain and improving voluntary activation in human osteoarthritis patients, but it did not enhance muscle strength or functional performance. The use of NMES can also aid in the reduction of edema and swelling as the direct current drives the charged plasma protein ions within the interstitial spaces to move in the direction of the oppositely charged electrode, facilitating movement into the lymphatic channels.

NMES is helpful in my practice to relieve muscle spasm and stiffness, particularly in the neck, back and croup. Treatments are usually applied every 2-3 weeks and are readily accepted by the horse.

A simple neuromuscular stimulation pad applied  
to the gluteal muscles

