

**Functional Electrical Stimulation For Muscle Wasting in Equine Rehabilitation**

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Signalment: The group consisted of 9 geldings, 1 mare, 1 stallion and 1 foal consisted of 1 Quarter Horse, 4 Warmbloods, 3 Arabians, 2 Thoroughbreds, 1 Standardbred and 1 Appaloosa. The ages were; 1, 3-month foal; 4, 4 to 5-year olds; and 7, 7 to 11-year olds.

History: Twelve horses were diagnosed as having muscle wasting by the attending veterinarian with lameness grades from 1/5 to 3/5. Eight horses showed a slowly increasing level of muscle wasting from 3 months to 1 year. The foal had shown atrophy upon birth, one horse had surgery for an ulna fracture, and 2 horses were recent purchases. Back (5) and coffin joint (1) injections had been given to 6 horses. Chiropractic, acupuncture and massage had been performed on 8 horses.

Physical Examination: Six horses showed hindquarter wasting, 2 had hindquarter/thorax wasting, 1 had lumbar wasting, and 4 horses had shoulder wasting.

Diagnosis: Surgery was hypothesized to cause some nerve damage in 1 horse. Other tests found 1 horse negative for EPM, 1 positive for collateral ligament desmitis of the coffin, 1 old fracture of L3 transverse process, and 3 had inconclusive ultrasound and radiograph tests of the back. The remaining 5 horses had physical exams indicating no additional testing.

Problem List: Muscle wasting, muscle spasms, asymmetrical muscular development, uneven gait and discomfort.

Treatment: All horses were treated with a series of 3-10 Functional Electrical Stimulation (FES) treatments. No other therapy modality was used, and no shoeing, saddle, rider or nutritional changes were made. Movement evaluations including riding, longeing and in-hand work were performed on all horses.

Outcome: Photographs pre and post FES treatments showed improvement in size and symmetry of muscles. Ten horses returned to their level of work previous to the muscle wasting within 3-4 months, one horse was retired and the foal was weaned. Two-year follow-up exams of 6 horses showed that the horses remained sound based on veterinarian and owner evaluations.

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