



Equine Transeva Technique™

1. Introduction

The Equine Transeva Technique™ (ETT) is a complete technique for the assessment and treatment of musculoskeletal injuries in the equine. Precise application of the Winks Greene (WG) Transeva creates rhythmic muscular contractions that facilitate the identification of muscle dysfunction. Rhythmic muscular contractions closely resemble how a muscle will operate during a voluntary contraction, as a result any area of inefficient movement is revealed. The ETT practitioner is able to pinpoint debilitating muscle movement with a hand held mobile electrode, then utilise the wide ranging pulse of the WG Transeva and its host of physiological benefits to improve muscular movement and in doing so relieve discomfort and improve muscular efficiency. ETT takes a common sense approach to fully address any performance matter, assist in the maintenance of the equine athlete and when injury plagues, vastly improve the conditions for healing and a full recovery.

2. Assessment & Treatment of Musculoskeletal Injuries

The ETT practitioner has complete control over a freely moveable hand held electrode, while the other hand is used to control the frequency and intensity of the pulse, remaining in complete control of the strength of contractions at all times. The unique and wide-ranging pulse allows for deep penetration without causing discomfort, allowing both superficial and deep muscles to be stimulated.

ETT uses the rhythmic muscular contractions produced by the WG Transeva to fully assess muscle function and efficiency. There are three general properties that serve as a guide to assessment. The first is elasticity, the ability of a muscle to return to its original shape after its natural action of contracting. 1 Secondly contractility, meaning the ability of a muscle to contract and shorten on the application of a stimulus. The final property is irritability, the quality in living muscle that responds readily to a stimulus. 1 When a muscle's elasticity, contractility and irritability are normal it may be said to be in 'good tone'. 1 A horse in good tone should not only be visibly fit and showing even muscular development, his balance and ability should be symmetrical through all the gaits, without showing resistance or discomfort in performance. These properties of the muscle may be compromised individually or as whole, through a direct injury to the area, or from uneconomical use as a result of secondary compensation.

By assessing the elasticity, contractility and irritability of the muscle the ETT practitioner can pinpoint the exact area of weakness, inefficiency or trauma. Rhythmic muscular contractions closely resemble how a muscle will operate during a voluntary contraction, as muscle groups are tested in isolation, the body is prevented from masking any faults. ETT is unique as the practitioner can locate areas of spasm, toxicity, tension, poor tone, acute strains, old lesions and scar tissue that may remain concealed during the palpation of a stationary horse. For example a muscle may only begin to spasm or show a weakness after twenty contractions.

Following assessment ETT, uses the WG Transeva to retrain the muscle and restore correct function to the area. When working to correct muscle function following any degree of injury or misuse, the elasticity, contractility and irritability are constantly changing until equilibrium is achieved. Therefore the frequency and intensity of the pulse requires constant adjustment as the muscle tone alters. It is essential to be fully cognisant with the composition of muscle fibre and its sensitivity as any injury or muscular dysfunction will affect the muscle structure and its response to stimulus. Muscle tone and function deteriorate rapidly when nerve communication is interrupted. The condition of the muscle will affect the strength and rate of contraction required to stimulate motor points. Signs of discomfort may be shown on the location of an injury or compensation. The reaction is not because the current is causing pain, but rather it is the inability of the muscle to perform the task, due to tension, a lack of tone or fibrous scar tissue restricting movement. With ETT each scenario is considered and treated accordingly.



A crucial component to success is the mobile hand piece. The ETT practitioner must continually adapt their position between the origin, insertion and bulk of the affected muscle, as well as the related muscle groups to get a full release. With each pulse the ETT practitioner must assess how the muscle is responding beneath their hand and must adapt their pulse and position of the hand piece to fully correct muscle function, throughout the entire body. Within the individual muscle targeted for contraction, the composition and arrangement of muscle fibres will vary, hence the contractility and irritability will also differ throughout the entire muscle and muscle groups. We believe strapping electrodes in one position will inevitably lead to some areas being over stimulated and others under stimulated. It would also presume that the selected muscle or muscle group has suffered the same degree of injury throughout, which is rarely the case. Furthermore the operator is not working hands on and as a result electrical stimulation is not used to its full advantage.

3. The Winks Greene Transeva

The WG Transeva uses a unique electrical current to stimulate rhythmic muscular contractions. The attenuated faradic current produced by the WG Transeva is a short duration interrupted direct current (DC), with a pulse duration of 0.5 -1.5 seconds and a frequency of 50-100 Hz. ^{2,3} Since the DC is interrupted it acts like an alternating current (Low & Reed, 2000). It is surged to produce a near- normal tetanic-like contraction and relaxation of the muscle. ^{2,3} Muscle groups are individually stimulated via their motor nerves, producing a contraction with similar physiological effects to that of a voluntary contraction, peripheral nerves are also stimulated. It is best described as a fully controlled form of artificial exercise. ¹ The apparatus itself does not heal, but the effects of its rhythmic contractions on the muscle create conditions where healing most easily takes place i.e. increased circulation of the blood, and the active elimination of all those substances which if left to stagnate can sometimes cause permanent crippling. ⁴ The sensation is well accepted even by highly strung racehorses.

4. The Effect's of Rhythmic Muscular Contraction

- 1) Muscle elasticity, irritability and contractility (muscle tone) are rapidly returned to normal, improving function and efficiency.
- 2) A great increase of blood is brought to the muscle and to neighbouring tissues with all the beneficial physiological effects.
- 3) Waste tissue products are rapidly cleared away and the stagnation of lymph is prevented.
- 4) A large supply of oxygen and nourishment is brought to the area.
- 5) Rapid absorption of fluid, extravasated blood and lymph is promoted.
- 6) Beneficial chemical and physical changes take place after muscle activity.
- 7) The movement of muscles does not allow the organisation of lymph to take place between surfaces and thus the danger of adhesions is minimised following an injury.
- 8) The danger of connective tissue losing the suppleness and flexibility necessary for efficient joint action is reduced.
- 9) In the later stages of sprains where adhesions have been formed in the muscles and tissues, they are gently and gradually pulled apart by slowly increasing the power of contractions.
- 10) Muscles are prevented from wasting, particularly if treatment is given soon after the injury, muscles already wasted increase in bulk.
- 11) No attempt is made to cut short the process of inflammation but to guide and control the process. ¹

Good circulation is paramount in the healing of damaged tissues. There are ample ways in which we can increase blood supply to an area, yet few methods stimulate venous and lymphatic return enough to prevent the products of injury and inflammation stagnating in the tissue and forming an adhesion. Unless the circulation via the venous and lymphatic system is stimulated to the same degree as the arterial supply, it is possible to produce even greater congestion in the area, thus inhibiting the healing process. ETT uses painless rhythmical contraction of the muscle to aid complete circulation, bring essential nourishment to the area and importantly help venous and lymphatic return in order to prevent the thickening and formation of scar tissue. Hence quick relief is provided after injuring a muscle.



5. Cases suitable for treatment

When used for maintenance ETT can fine tune performance, improve muscular efficiency and reduce the risk of injury. However it is also beneficial for the treatment of many acute and chronic musculo-skeletal injuries and potentially career saving in some circumstances.

ETT is valuable for the treatment of:

- Muscle strains ranging from slight to severe, and their resulting adhesions
- Myofascial pain
- Haematomas
- Bruising
- Wasting/atrophy

ETT can also assist in the the treatment of:

- Tendon injuries
- Fractures
- Acute or chronic joint/ligament sprains

6. Conclusion

With such delicacy of control, contractions can be applied with gentleness in the case of a recent injury, with strength to free structures restricted by old adhesions or with great skill and precision to fine tune performance. As a result each case is able to reach their optimum potential. Many techniques can promote healing and relieve tension, but with ETT we can actively work to correct muscle function and improve movement. Thus making it applicable to all areas of performance from treating acute and chronic musculoskeletal injuries to perfecting a piaffe.

7. References

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