

The ATM® Concept

Active Therapeutic Movements (ATM®s) provide immediate and long-lasting benefits to many back, neck, shoulder, pelvis, hip, and knee sufferers. By definition ATMs consist of a few active neuromuscular movements superimposed upon a specific passive holding. ATMs aim to immediately alter symptoms, by affecting the Central Nervous System (CNS) control. The ATM2 is a clinical tool designed to enable effective user operated ATMs.

Background

The CNS governs the dynamic movement stability components, namely the neural, passive, active (Panjabi, 1992) and emotional components (Vleeming & Lee, 2000). These components work throughout the anatomical structures of the musculoskeletal system. Normal dynamic stability provides the healthy body with the ability to perform normal, good quality, low-energy / high-efficient movements. In the case of pain, the CNS will change its neuromuscular activation strategy, to a high energy / low efficient movement. This altered CNS movement control is clearly visible and recognizable in the presence of pain. More subtle physical tests, EMG investigations and imagery techniques can detect significant muscle control changes in individuals with a history of chronic back pain, even if asymptomatic at the time of testing (Hodges, 2000).

According to a prospective study on 100 ATP players, 40% were found to have had presence of low back symptoms for greater than 2 weeks limiting tennis performance (Vad, Dines, & Altchek, 2002), and were categorized by the authors as symptomatic low back sufferers. In studies ATMs have been found to immediately reduce pain, and increase range of motion in low back sufferers (Moran, 2002). Additionally, clinical data demonstrates a significant reduction in the amount of treatments necessary to resolve various specific and non-specific lumbar disorders (Archambault, 2002).

ATMs (Active Therapeutic Movements)

ATMs are neutral-range active functional movements superimposed upon a specific passive positioning and holding. A few (10-30) movements are performed towards the impaired movement. The passive holding is an essential setup for the ATMs, because it will ensure that the superimposed active movement will alter the CNS activation strategy from pathological to normal. In this starting position the active neuromuscular training will be of therapeutic value, and produce immediate pain reduction and improved range of motion. Perhaps due to improved CNS governed dynamic stabilization of the specific movement.

The ATM2

The ATM2 is a clinical device designed specifically to enable clinicians to prescribe quality user operated ATMs, i.e. weight-bearing active movements towards the previously impaired movements. Passive joint repositioning and stabilizing is obtained

via restraining belts connected to the ATM2 support pad to reduce the symptoms, and then specific ATMs are performed via a harness connected to a resistance band.

Conclusion

ATMs are a new approach to treating musculoskeletal disorders. Their specificity and immediate effect provide new avenues in the professional outpatient and sports medicine setting.

References

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