

# Treatment of Myofascial Trigger Points Using Focused ESWT

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## Device and producing company:

Piezuson 100 plus, Richard Wolf

## Introduction:

Myofascial trigger points are a frequent cause of performance-limiting shoulder pain in athletes. The study was designed to determine what improvements can be achieved by an exact trigger point therapy using focused ESWT in active athletes suffering from acute or chronic shoulder pain with regard to their pain condition and force development.

## Methods:

A randomized, controlled, prospective study with  $n = 60$  athletes suffering from shoulder pain (30 treated / 30 not treated, average age = 34.6 years) was conducted. The examinations were performed over a period of 6 weeks with four treatments (one treatment per week). As a therapy, piezo-electrically generated focused extracorporeal shock waves (fESWT) were applied to myofascial trigger points (MTrps) according to the principles of trigger point therapy using a Richard Wolf Piezuson 100 plus. The treatment was performed exclusively in the low-energy range (max.  $0.28 \text{ mJ/mm}^2$ ). A sport-specific case history, clinical examination and evaluation of the pain symptoms were performed by means of a VAS score and the subjective rating by means of the Simple Shoulder Score (SSS). The isokinetic and isometric rates of force development were tested using a CYBEX Norm isokinetic test and training system.

## Results:

After direct trigger point treatment in 30 patients using fESWT a significant reduction in pain ( $p = .00$ ) and a significant improvement in the SSS ( $p = .03$ ) were found. Regarding isokinetic total work (Joule/Body Weight), a highly significant increase for external rotation ( $p = .00$ ) was detected as well as a significant improvement of internal rotation ( $p = .04$ ). Isokinetic measurements also yielded a significantly higher peak torque (Nm/Kg) for external rotation ( $p = .00$ ) as well as a significantly higher peak torque for internal rotation ( $p = .03$ ). In the control group no significant changes were found.

## Conclusion:

The treatment of myofascial trigger points using focused ESWT significantly improves the pain symptoms as well as the performance of athletes suffering from acute or chronic shoulder pain.