



Physical Therapy Update

The clinical staff at Frederick Sport and Spine Clinic regularly reviews articles, discusses the content and implements the information into our patient treatments. As a service to the local medical community, we are offering a summary of these articles to Physicians and Medical Practitioners. It is our intention to provide only the most pertinent info in these ½ page summaries. Further info is available at the clinic. Please take a moment to peruse the information below and contact us if you have any questions about the subject matter. Enjoy!

The Effect of Static Stretching of the Calf Muscle-Tendon Unit on Active Ankle Dorsiflexion Range of Motion

Youdas J, Krause D, Egan K, Therneau T, Laskowski E.

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Home exercise programs prescribed by physical therapists can vary from clinic to clinic and from therapist to therapist. We try to remain consistent at FSSC, especially with duration and frequency of certain exercises. The biggest discrepancy is usually seen in the area of stretching. This article addresses the duration of stretching exercises, specifically of the calf muscle-tendon unit, and its effect on increasing active ankle dorsiflexion range of motion (ADFROM).

The authors randomly assigned patients into one of 4 groups and prescribed different durations of stretching of the calf muscle-tendon unit using a standard wall stretch. Group 1 did not stretch at all, group 2 stretched for 30 seconds, group 3 stretched for 1 minute, and group 4 stretched for 2 minutes. Groups 2-4 all performed their respective stretches once per day for 6 weeks. After 6 weeks of stretching, ADFROM was measured and compared to the previous measurements before the six week program. The results revealed that there was no statistically significant difference between the groups with respect to final ADFROM measurements. The authors concluded that “a six week program of once per day stretching for up to two minutes of the calf muscle-tendon unit is not sufficient to increase active ADFROM in healthy subjects” (Youdas et al, 2003). However, this was contrary to a previous study which was successful in increased SLR ROM with stretching of the hamstrings using a similar prescription of frequency and duration of stretching.

At FSSC, we generally prescribe stretching at least 3x/day. In some instances, stretches are prescribed every 2 hours. This article supports this prescription of frequency due to the fact that stretching only 1x/day, regardless of how long the duration, did not produce results. Results found at FSSC have supported more frequent stretching, even if it is with lower durations. When stretches are performed every 2 hours, the duration of hold can be as short as 5 seconds.* Maladaptive shortening of collagen will remodel with short duration and high frequency stretching.* We ask that our patient's make stretching a regular part of their day, even if it is just one repetition in between their activities at home. Compliance with this frequency has produced good results at our clinic.

Reviewer: Ron Swanson, MS, PT

* = according to Scott Herbowy, Dip. MDT, instructor of McKenzie Method Part B course, October 2003.

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