

Dynamic Stretching Information

Pre-activity Static Stretching

Coaches often employ static stretching after light physical activity as part of their athletes' warm-up routine. This practice is not advisable for most athletes, as research shows that pre-activity static stretching can lower muscle temperature, reduce force production, decrease vertical jump height, and reduce maximal sprint speed (1)(3)(4). Furthermore there is no evidence that pre-activity static stretching decreases the incidence of injury (1)(4). Static stretching should be an essential part of every athlete's training routine, but should not be employed as part of a warm-up.

Pre-activity Dynamic Stretching

Dynamic stretching on the other hand is a useful way to improve pre-activity flexibility and prepare for intense training. Often called mobility drills, pre-activity dynamic stretching avoids many of the negative aspects associated with static stretching. By having athletes move through the range of motion specific to their sport while still engaging the muscles, muscle and tendon temperature are increased preparing the elastic connective tissue for physical stress.

In-fact a recent study published in the March, 2009 *Journal of Strength and Conditioning Research* found that performing pre-activity dynamic stretching improved vertical jump height and EMG activity (a measure of muscle activation) while static stretching retarded performance on the same tests (3). Furthermore, other studies have demonstrated increased power output and sprint speed (2).

References

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3. *Effects of Dynamic and Static Stretching on Vertical Jump Performance and Electromyographic Activity.* **Hough, P and Ross, E.** 2, Twickenham, UK: Journal of Strength and Conditioning Research, 2009, Vol. 23.
4. *Does Stretching Improve Performance? A Systematic and Critical Review of the Literature.* **Shrier, I.,** Quebec: Clinical Journal of Sports Medicine, 2004, Vol. 14.