

# Stretching

## ***Benefits***

Most people do not generally give stretching enough consideration. However, stretching reduces the chance of injury. Age stiffens and shortens our tendons and ligaments. The result is limited range of motion, bad posture and painful movements. Stretching can reverse these effects of aging. Exercise can also shorten range of motion. When a muscle is exercised, it becomes shortened and tight. Over a period of time, as the muscle gains strength, it stays in this tight and contracted form reducing range of motion.

Cold muscles should never be stretched. Always warm-up the muscles before stretching. Warm muscles and connective tissues are more pliable than cold ones. Stretching reduces the potential for injury by warming up and lengthening the muscles and connective tissue. Stretching after exercise reverses the tightening and shortening effect of exercise on the muscles and connective tissues. Stretching and strength increase together because when the muscle is lengthened it has a longer stroke to full contraction, thereby generating more work. Stretching can also reduce tension. Studies have shown less electrical activity within a muscle after stretching.

## ***Types of Stretching***

There are various types of stretching techniques. This text will only consider two. The first is called Proprioceptive Neuromuscular Facilitation (PNF). This technique simply involves the application of resistance along with the stretch. Generally, another person can assist by applying pressure or resistance on the limb in the direction of the stretch. This type of stretching can also be accomplished by using a wall or other object to apply light pressure or resistance to the muscle to be stretched.

The other type of stretching is a two-stage stretch. First stretch the muscle for about 3 seconds. Release the stretch, exhale and stretch again. The second stage of the stretch will allow further range of motion than the first. Hold the second stage of the stretch for 10 - 15 seconds.

## ***Precautions***

Never bounce during a stretch or perform any type of ballistic or forceful stretch. When a muscle is stretched forcefully or in a ballistic manner, a reflex action occurs within the muscle to protect the joint. The muscle is sent a signal by the Golgi tendon to contract quickly to protect against an over extension of the joint. Unfortunately, a stretch is still in progress. Tissues can tear based on the conflicting movements.

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