

MassageToday®

Advanced Stretching: Using Neural Inhibition to Enhance the Stretch, Part I

By Joseph E. Muscolino, DC

There is an art and a science to practicing manual and movement therapies. The science yields a set of guidelines that provide the structure for our therapy. We develop this science as an extension of our understanding of the anatomy, physiology, and kinesiology of the body. The art of our practice involves how we apply and combine these guidelines for the optimal treatment of the client who is on our table. As an artist, the medium of the client's body that we primarily work upon is the myofascial system of muscles, tendons, ligaments, and other dense and loose fascial structures. We could look upon this myofascial system as the canvas upon which we work.

One of the major objectives of a massage therapist is to loosen these soft myofascial tissues when they become taut. Taut tissues may be overly contracted muscles. They may also be

to allow this motion to occur. Taut soft tissues do not lengthen, therefore they limit motion of the body.

Massage therapy treats these taut tissues by the use of soft tissue manipulation. This manipulation is often direct as in the case of actual massage strokes such as gliding, kneading and compression. The use of hot and cold therapy can also be used. Another extremely effective treatment option, and one that is within the scope of practice of massage therapists, is stretching. When combined with heat and massage therapy, stretching can make a critical difference in the progress of our clients.

Stretching

Stretching is essentially a mechanical process wherein we place a tension (pulling) force into the client's body, causing a lengthening of the target soft tissues. Although standard stretching performed in this manner often works quite well, there

defeating the purpose of the stretch.)

Advanced Stretching Techniques

The most commonly practiced type of advanced stretching technique is one in which a neurologic reflex is used to inhibit, in other words, relax the target muscle that is being stretched. Creating neural inhibition then allows greater stretch of the musculature when the mechanical tensile force of the stretch is applied. There are two types of advanced neural inhibition stretching techniques: contract relax (CR) and agonist contract (AC). (We will discuss AC stretching in-depth in part two of this series.)

Contract Relax (CR) Stretching

CR stretching is also known as postisometric relaxation (PIR) stretching. AC stretching is the basis for Aaron Mattes' Active Isolated Stretching (AIS)

(GTO) reflex. GTOs are proprioceptive receptors that are located in the tendons of a muscle and are sensitive to stretch. If a muscle belly contracts forcefully, it pulls on and stretches its tendon; this stretching force is detected by the GTO. If the muscle belly contracts too forcefully, the tendon might be torn; therefore the role of the GTO is to protect the tendon by monitoring the stretch forces that are placed on it. The GTO prevents tearing of the tendon by sending a signal into the spinal cord that triggers the GTO reflex, which then inhibits the muscle from contracting; in other words, relaxing it. We can make use of the GTO reflex to more effectively stretch a muscle.

CR stretching is performed by asking the client to contract the target muscle to trigger the GTO reflex. We then ask the client to relax and we stretch the target muscle, taking advantage of the increased relaxation

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