

Strain/Counterstrain Technique for Eliminating Pain & Structural Imbalance

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When an individual slips or rapidly changes position, one or more muscles quickly stretch while their antagonists are shortened. The spindle cell mechanism of the overstretched muscle sends a message to the brain: "Help! I'm being stretched too far and if you don't do something fast, I'm going to turn into silly putty!" The brain responds with a protective reaction and says to the muscle, "Chill out, Dude! Contract your fibers and you won't get bent out of shape."

In the meantime, the spindle cells of the hypershortened, antagonist muscle are silent, so there is no communication between the brain and the muscle. Before this shortened muscle knows what's happening it is whipped into a stretch by the protective reaction that the brain ordered to the initially stretched muscle. The shortened muscle's spindle cells fail to reset properly in this rapid change of position. They continue to tell the muscle to maintain a shortened position which keeps the muscle in a contracted or hypertonic state.

This lack of organization between the muscles, their proprioceptors, and the nervous system sets up a condition of possible pain and dysfunction. The inappropriate signaling from the spindle cells can cause a muscle to contract while it is being extended. This imbalance results in joint and other strain.

Although the hypershortened muscle is not the area of the initial strain and where the person may be experiencing pain, the spindle cells of the hypershortened muscle are not set correctly. They must be reset for balance to be achieved.

Lawrence Jones, D.O. has developed a technique that resets the spindle cells of the

tight muscles resulting from this condition. He named the technique "Strain/Counterstrain" to describe the cause and treatment.

The cause is strain described by Jones as "...overstretching of muscles, tendons, ligaments, and fascia with the attendant neuromuscular strain reflexes. The focus of attention is directed especially at the neuromuscular reflexes rather than the tissue stresses."

Jones' theory is that this condition develops as a result of overstretching tissue, with a **rapid** return to neutral. If the same overstretching was returned slowly instead of rapidly, no neurological imbalance would have occurred. The technique is to apply "counterstrain" to the neurological reflexes which originated the condition.

Counterstrain is "...a mild strain (overstretching) applied in a direction **opposite** that false and continuing message of strain from which the body is suffering." Therefore, pain in the back of the body resulting from this condition must be addressed by examining and resetting muscles in the front of the body and visa versa.

Jones developed this technique as a result of working with a patient who was unable to sleep because of pain. The man had no success after four months of traditional chiropractic and osteopathic manipulations. Jones worked with him to find a comfortable position to sleep in. Finally finding a pain-free position, the man remained there for a short time. Jones was amazed when the patient came slowly out of the position and was able to stand comfortably without any pain. The relief from pain was lasting as a result of positioning him for comfort.

Cause

Conditions that respond to this technique may be from a recent trauma or something that happened long ago. It may be caused by the individual slipping or a situation where a muscle is shortened for a prolonged period of time, while the opposing muscles are strained by overstretching, and then the person quickly changes position.

An example of this is when a person squats to pull weeds in the garden. The psoas muscle is shortened for a prolonged period of time, while the back extensors are strained by overstretching. If the person rapidly stands, a low back pain, which persists, may be felt.

Although pain is felt in the back, the dysfunction is in the psoas muscle which was quickly lengthened upon standing. The spindle cells of the psoas muscle are not properly reset as it quickly comes out of the shortened position. The muscle thinks it should remain short rather than return to its neutral position. The person rarely complains of pain in that area, although when the psoas is palpated, they will experience a very tender point usually where the muscle crosses over the pubic bone.

When the psoas is put into the position it was in during the original strain, its shortened position (hip flexion), the point will no longer be tender with digital pressure. This is the point that Jones calls counterstrain. His approach is to keep the person in this position and hold the point that was originally tender for 90 seconds. Then slowly and passively bring them back to neutral.

Where to Look

It is important to understand that the cause of the person's pain is in the antagonistic muscle, not the location of the pain, which may be in a muscle, tendon or ligament. This muscle was shortened during the strain and then rapidly lengthened, causing the spindle cells to fail to adapt to the new muscle position. Pain will be greater in some

directions and less in others. The position that decreases the pain is where the muscle that needs resetting is at its shortened position.

Have the person explain which movements increase their pain and then consider which muscles are antagonists. These muscles would have been shortened in the original strain and are where the imbalance will probably be found.

A muscle needing the Strain/Counterstrain Technique may show a postural imbalance. Observe which muscles are hypertonic around the strained area of the body.

If the movement that caused the strain are known, the muscles that would have been hypershortened during the strain can be evaluated to see if they need this technique.

The technique Strain/Counterstrain which is presented here is Dr. Goodheart's modification of Jones' original work. Positions for counter-strain are presented in Jones' text, *Strain and Counterstrain*.

Muscle Testing To Confirm

Dr. Goodheart developed a procedure to determine if a muscle needs Strain/Counterstrain Technique. The muscle needing this technique, when strong in the clear, will test weak after being maximally contracted for three seconds. After the technique is successfully done, the muscle will remain strong when re-tested. If the muscle remains weak there may be secondary areas in the muscle which need the technique.

Jones describes sixty-four locations that he frequently finds involved. With the above mentioned strategies, one can usually determine where balancing is needed. Muscles which commonly require Strain/Counterstrain Technique are the psoas, gluteus maximus, levator scapula and gastrocnemius. For further reference read pages 191-196 of *Applied Kinesiology Synopsis* by David Walther, DC.

Strain/Counterstrain Procedure

Test:

1. Check the muscle in question. It will probably be switched on. If not, balance it.
2. Check for sustained muscle use and muscle stretch response (Refer to PHP I Manual, pages 57 and 58).
3. Have the person maximally contract the muscle and hold it for at least three seconds and then re-test the muscle.
4. If it switches off, it indicates that Strain/Counterstrain is needed.
5. Locate a tender spot in the belly of the muscle. It will circuit locate.

Correction:

1. While holding the tender spot with two fingers, put the muscle into its shortened position as the person totally relaxes. When you find the position in which the original strain developed, the tenderness will be greatly diminished or gone. Hold them in this position.
2. If the tender spot is on the front of their body, have the person take a deep breath and hold it in. If it is on the back of their body have the person take a deep breath, exhale and hold it out.
4. Gently spread your fingers over the previously tender spot as the person holds their breath for thirty seconds. If they can not hold their breath for that long you can hold the spot for ninety seconds.
5. Very slowly and passively return the person to the neutral position. The original tender spot should now be gone along with the pain in the antagonist muscle.

Retest:

Have the person maximally contract the muscle and hold it for at least three seconds and then re-test the muscle. The muscle should now test strong. If it does not or if tenderness or pain still remains, another spot in this muscle or a synergist muscle may need to be cleared.

Note: Occasionally the day after Strain/Counterstrain Technique a person will experience pain in that general area. This is related to the release of excessive amounts of lactic acid accumulated from prolonged muscle imbalance. Place cold tap water in a plastic bag and lay it over the area. Leaving it there until it reaches room temperature will usually provide relief.