

## SET TALK

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### STRUCTURE BEGETS FUNCTION

One of the most important factors in understanding and treating clients with pain who need therapeutic medical massage is what causes the discomfort. Oftentimes we look directly to the area of discomfort and find inflammation, swelling, ischemia, build-up of fiber, scar tissue and adhesions, and think that treating this is the key factor in our client's recovery. Any time we treat only the symptomatic areas, we are doing our clients a major disservice. There is always a reason for any area of the body to be in distress. One factor that is ever present is its relationship to structural imbalance.

As the title above states, structure begets function – in other words, structural balance allows the body and its musculature to function in the way it was meant to with strength and flexibility. When there is an imbalance in the structure, certain areas of the structure will overwork or be weakened to the point of injury or distress. This can be understood when looking at muscles moving bones in a lever relationship. When the structure is balanced, the lever and fulcrum are in an optimal performance relationship. With structural imbalance, the fulcrum/lever relationship is at worst totally dysfunctional and subject to breakdown, or at best weakened and needing additional support from surrounding soft tissue. This is inefficient and, in essence, the muscle that is supposed to be doing the work only has a third to half of its strength. This leaves it very susceptible to strain or injury. In addition this leaves the joint unstable and weakened and subject to strain and injury as well.

If by now you are wondering what the punch line is, I'm sure you can see that, in therapeutic medical massage, a major treatment goal is to address rebalancing structural imbalance. However, let's first look at what happens when this is not factored into the treatment protocol.

One of the easiest ways to understand this is to look at an area where most clients experience pain – the top of the shoulder that includes the trapezius, levator scapula, supraspinatus, and rhomboids. When this area is hot, inflamed, spasmed, or strained, clients will present wanting relief ASAP. If the massage treatment is focused only within this area, then there might be short-term relief, but long term the condition could worsen. Basically, the musculature's function in this area is to raise the shoulder and return the shoulder to the original position from medial rotation. If the soft tissue in this

area is released without balancing the shoulder, then the agonist muscle in the front of the chest will have less resistance and consequently move the shoulder further forward into additional imbalance. The result long term is that the client will most likely have to deal with further distortion and usually more pain, discomfort and dysfunction in the area. To make matters worse, the soft tissue in the top and back of the shoulder are actually counterbalancing and actively working to hold against the imbalancing stress in the soft tissue in the front of the shoulder. So, when the therapeutic medical massage techniques are applied to the spasmed tissue on the top and back of the shoulder, that area is invested in maintaining its holding pattern and will resist the technique being applied. This results in two things: first the sensation for the client is intensified, and the client will experience greater discomfort because of the difficulty in relaxing that musculature; second, it is going to take two to three times the amount of work and pressure from the massage therapist to achieve results in the area. This obviously is a lose/lose proposition.

If however, the factor of releasing the shoulder into structural balance is applied, then the musculature in the front of the shoulder (agonist muscles) that are shortened and tightened would be the first group to receive treatment. This may sound strange to some of you, but read on. If this area is released first, even though it's not the area of principle concern for the client, then the antagonist muscles (top and back of shoulder) will not be resisting the force from the agonist muscles in the front of the shoulder, and will be relaxed and releasing before they are even worked. In essence, if you work the muscles in the front of the shoulder first, releasing the shoulder back into structural balance, then the muscles in the back and top of the shoulder will release their compensation holding pattern that was fighting the pressure from the muscles in the front of the shoulder. The massage therapist will achieve greater results with much less work. In addition the client will experience less discomfort, and will be able to maintain structural balance and homeostasis long term in the area needing treatment

Let's look at several other conditions that are commonly treated by massage therapists and see how the therapeutic medical massage will be more effective using structural balance as a goal.

**Neck problems:** Most clients will complain of pain in the back of the neck and at the base of the cranium. If we examine their structure, the majority of them will have their head forward in a reverse curvature of the cervical spine. In order to achieve structural balance we will need to first release the soft tissue that is responsible for pulling the head and neck forward before releasing or

treating the tissues at the back of the neck. This will result in a structural balance that will help the client maintain the changes, be easier on the client as far as painful sensations, and be easier on the massage therapist since the tissues will be releasing into balance, instead of trying to maintain compensation for the structural imbalance.

**Low back:** When clients present with low back pain there is an imbalance in the pelvis that includes the legs and feet. This imbalance is not only front to back but also a torsion where one ilium rotates anteriorly, and one ilium rotates posteriorly (core distortion - SET TALK, *Massage Message Nov/Dec, 2003* or our website). The most effective way to move the client into structural balance to relieve the pain is to release the leg and ilium that is rotating anteriorly first, and then the posterior ilium / leg side. I have found that the posterior hip side is more in compensation for the anterior rotation. As the anterior hip side moves into balance then the compensation on the posterior hip side will start to release even before massage techniques are applied. In addition, most sciatic pain is on the posterior side caused by the spasmed musculature in the back of the hip that is in direct compensation to what is going on with the anterior rotation on the opposite side. Again, if I only treat the sciatic pain side, then the compensation for the anterior hip will be released allowing increased structural imbalance and an actual worsening long term of the client's condition.

In the process of bringing the anterior hip into structural balance, the soft tissue needs to be worked in a specific sequence. If I work the soft tissue in the leg that is directly responsible for the anterior rotation first, then the other work in the leg and hip will require less effort and be less sensational for the client. The usual culprits that need work first are the quads and adductors, followed by the back of the leg, hip and quadratus. This of course is not the entire routine, but it gives starting points and a rationale to balance the structure.

**Shoulder, Arms and Carpal Tunnel:** It is easy to understand structural balance in relationship to the spine, but many therapists totally overlook structural balance in relationship to the shoulder, arm and carpal tunnel. It is no accident that clients develop major symptoms in the arm, shoulder and hand after accidents or injuries that throw any part of the spine into further distortion. If a hip goes further anterior, the opposite shoulder has to rotate medially to compensate so the person can stand. This medial rotation weakens the entire arm, hand and shoulder, often creating nerve entrapment, strain patterns, and dysfunctional movements that result in injury and pain. Consequently, normal actions that the

client was performing in their daily life now become painful resulting in pathological problems.

As a massage therapist, factoring in these imbalances for the treatment of these pathologies and symptoms is just as important as when working with the neck or low back. When the shoulder is in medial rotation there is a compression on the brachial plexus affecting the two major nerves - ulnar and median. This alone can account for pain or numbing anywhere along the nerve pathways clear into the fingertips. To effectively treat these nerve pathways, we need to initially release the compression on the brachial plexus by releasing the soft tissue responsible for the compression – i.e. pectoralis major, pectoralis minor, and subclavius.

In addition, if the shoulder is in medial rotation, then the rest of the arm will be in internal rotation which will again create compression on the nerve pathways, especially near the joints where the large bony prominences are – i.e. elbows, wrists, carpal tunnel. To counter the internal rotation, the musculature on the posterior of the upper arm and the back of the forearm will be tightened to compensate and be in a strain pattern. Again, this area will be subject to distress and injury which can result in the soft tissue being overworked, full of ischemia, inflamed, and fibers being injured and thickened. There will also be additional nerve entrapments along the radial nerve pathways. Treatment needs to address the internal rotation of the arm and hand first to achieve structural balance. Then when you work the posterior upper arm and back of the forearm, which was previously tightened in compensation, it will already have started releasing.

If you want more information and a way to purchase books that contain the complete protocols, please go to the website.

I hope you will include structural balance as a major goal in your therapeutic massage. Talk to you again in the next SET TALK column.