

# SEEING THE ATHLETE'S STRUCTURE AS THE ROAD TO INCREASING PERFORMANCE

*By Don McCann, MA, LMT, LMHC, CSETT*

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The athletes of today are looking to unlock their potential to maximize their performance. This is very individual as all athletes have their own goals and their own limitations. As a massage therapist, even if you are not a sports massage therapist, you are going to encounter many athletes in your practice. Having an understanding of where athletes are limited by their bodies is vitally important in helping them expand their potential and maximize their performance.

In this article we will look at athletes who come to us with no injuries or pain and just want to improve their performance. Evaluating the structure is the first step. Even though there is not total agreement in the medical field, there is tremendous evidence that structural balance leads to increased function, and that structural imbalance limits function. The fields of osteopathy and chiropractic have capitalized on this premise and have research to back it up. Athletes have paid attention and it is not uncommon to see them receiving chiropractic or osteopathic adjustments at sporting events. They are looking to use the increased strength and function from being in alignment to perform at their highest levels. However, for long term improvement the soft tissue must be included. This is where massage therapists are the experts.

Before I do any soft tissue therapy on athletes I evaluate their structure. I sit on a chair or stool and have the client stand in minimal clothing 8-10 feet in front of me which gives me optimal viewing. With the client facing me I let my eyes scan the body structure from head to foot several times. Without overly thinking it my eyes will pick out the most obvious imbalances. Then I will often ask about specific injuries that may be associated with the imbalances. I will then look at specifics, usually starting with the iliums since they support the sacrum at the base of the spine. A sacrum that is not level causes exaggerated curvatures in the whole spine. Then I look for bunched tissue at the top of the crest of the iliums which helps determine the rotations of the iliums. If there is any question I have the client turn around and view the structure from behind which often gives a clearer view of the ilium rotations. Once the rotation of the iliums is determined I look at the leg on side of the anteriorly rotated ilium and I find that there are usually significant combinations of distortions in that leg. Listed below are some of the most common questions:

- Is the leg directly under the hip, or propped out to the side?
- Is the knee hyperextended?
- Is the knee medially rotated (best seen from observing behind)
- Is the lower leg in alignment with the knee or is it laterally rotated to the knee?
- Is the foot medially or laterally rotated to the knee?
- Is the arch inverted or everted?

Then I will evaluate the leg on the posteriorly rotated ilium side and use the same criteria as listed above.

After seeing the imbalances of the iliums and legs I will focus on the curvatures of the spine. Oftentimes the lack of support of the legs, rotation of the iliums and tippage of the sacrum make it easier to understand the exaggerated curvatures that may be present in the spine. Generally when looking at the spine the areas of greatest distortion are areas of most pain and discomfort

and are accompanied by compensations in the muscle groups trying to stabilize the vertebrae. When you start to see the distortions in the spine as a continuation of the distortions observed in the lower body you will as a therapist will begin to understand where some of the solutions are for improving and balancing the structure and thus increasing the function.

I will then look specifically at the thorax, shoulder and neck and ask the following questions:

- Is the rib line at the level of the floating rib even on both sides or pulled down? If it is pulled down or shortened between the ilium and the floating rib then there will be a significant twisting in the upper body.
- Is there a high or low shoulder?
- Are the shoulders medially or laterally rotated?
- Are the arms internally or externally rotated and how do they relate to the medial or lateral rotation of the shoulders?
- Is the neck straight or is it angled?
- Is the neck forward?
- What is the angle of the head on the top of the neck, from the side?
- Is the back of the neck dramatically curved forward?
- Is there a specific shortening in the back of the neck?
- Is there a shelving where the neck and shoulders meet?

Showing athletes the imbalances helps them understand that they have some challenges. Note: as you do body reading you will start seeing that everybody has these imbalances. Using kinesiology can show them even more. There are two types of kinesiology that I like to employ - functional and applied.

**Functional** kinesiology is isolating a muscle and testing the strength of that muscle. Two of the favorite ones used in evaluating athletes are:

- While the athlete lays supine have the athlete raise one leg held straight approximately 10 inches off the table, and press down on the thigh above the knee to evaluate the strength of the leg. Repeat with the other leg. The leg on the side of the anteriorly rotated ilium will be dramatically weaker, even on the athlete who has a great jump or can squat excessive amounts of weights.
- While the athlete lies prone with one knee bent have the athlete raise the bent leg off the table approximately 10 inches, and press down on the hamstrings while stabilizing the foot keeping the knee bent to evaluate the strength of the leg. Repeat with the other leg. You will find that the leg on the posteriorly rotated ilium side will have significant weakening.

With both of these tests the weakening will be approximately 50% loss of strength compared to the other leg. This starts to make sense to athletes very quickly as they often depend on the strength of their legs. It will also resonate with you as a therapist because if you can restore the strength that is lost in these hip flexors and legs how important will that be to performance? the athletes will immediately have answers to improve their performance!

**Applied** kinesiology is using a strong muscle to test other muscles or joints. This is extremely valuable when evaluating the imbalance at joints, and in the leg can be used to evaluate above the patella, both sides of the knee or ankle, the plantar fascia or the bones of

the foot. In the upper body and arms it can be used to evaluate shoulders, rotator cuff, elbows, wrists, hands, neck, and jaw.

Seeing these imbalances and having the athlete experience the weaknesses that are associated with them allows us as therapists to determine the most effective treatment for improving the balance which will lead to strength and function. This also allows you to observe and evaluate both before and after your treatment to see how effective your treatments are. If you want a more extensive understanding of the imbalances you will be observing read my article on the Core Distortion published in *Massage Today*<sup>1</sup>.

I will almost always begin treatments with Cranial/Structural therapy which restores balance to the overall body structure by restoring balanced motion to the cranium – please read my article published in *Massage Today* for an explanation of this<sup>2</sup>. The improvements will be visible to the clients if they look in a mirror, and I will also use kinesiology to show the improvements. This can be significant. Next I will design specific protocols to release the shortened contracted muscles and connective tissue that are causing and supporting the imbalances. Many of the muscles and myofascial holding patterns will have been present since early childhood and need slow steady pressure to allow the client to feel that it's okay to let go. This is the most effective way to release myofascial holding patterns, adhesions, and scar tissue. It is important that we work with the client and not plow through the tissue for both the client's safety and acceptance of the change, and for the strokes to be effective.

When working with the combination of Cranial/Structural techniques and soft tissue myofascial releases we are working with the body. The Cranial/Structural techniques initiate the shifting of the body back into structural alignment and the soft tissue myofascial work is helping the body release old inefficient and ineffective holding patterns. Kinesiology can be used to help the client become aware of the improvements both in strength and balance. Athletes see their potential being unlocked and routinely become extremely excited knowing that this will increase their potential and expand their performance.

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<sup>1</sup> Don McCann, The Evolution of Releasing the Core Distortion. *Massage Today*, July 2014 Vol. 14, Issue 07

<sup>2</sup> Don McCann, The Integration of Cranial/Structural and Soft Tissue. *Massage Today*, February 2014, Vol. 14, Issue 02