

BALANCING STRUCTURE – THE ANSWER TO REHABILITATING THE HIP COMPLEX

By Don McCann, MA, LMT, LMHC, CSETT

“Republished with permission from the September 2017 issue of *Massage Today*,
www.massagetoday.com”

In the field of physical rehabilitation that includes physiatrists, osteopaths, orthopedics, physical therapists, massage therapists, and occupational therapists, one of the biggest challenges is the “hip complex”. What is seen in this hip complex is one of the iliums rotates anteriorly and one rotates posteriorly. This results in a significant imbalance with the following characteristics:

- A functional long leg/ short leg
- A tipped sacrum
- An exaggerated curvature in the spine

First let’s look at what happens in the hips. There will be different unequal pressures on the head of the femur as it sits in the acetabulum (hip socket), and the acetabulum in the anterior and posterior ilium rotations. With the anterior rotation we have additional strain and stress in the anterior fibers of the gluteus medius and gluteus minimus often resulting in chronic shortening and tightening, along with strains, trigger points, inflammation and swelling in the soft tissue resulting in fibrous build up. With the posterior rotation we have additional strain and stress in the posterior fibers of the gluteus max, gluteus medius, and the rotators – the piriformis and the other rotators which will also result in chronic shortening and tightening with strains, trigger points, inflammation and swelling in the soft tissue causing fibrous build up.

The greater the rotation of the iliums due to usage patterns, injuries, illness, and overall life style, the more likely issues in the hips will develop. These issues can be as simple as stiffness and lack of flexibility to sciatic pain and wear and tear resulting in arthritis and the need for hip replacements. What is obvious is that this anterior/posterior rotation of the iliums is not optimal for the hips. Therapy is needed to bring balance back to the iliums and take the uneven wear and tear off the hips. This can be done early when stiffness and soreness are evident, or as extensive rehabilitation to avoid hip replacements, or even after hip replacements to restore pain free function. However, if the wear and tear in the hip joints is advanced, applying therapy to bring the hips into balance prior to hip replacements is important because replacing the mechanism of the hip without restoring balance to the iliums is at best an incomplete solution.

2nd let’s look at the functional long leg / short leg that results from the anterior / posterior rotation of the iliums. The functional long leg is on the side where the ilium rotates anteriorly with a slight medial rotation of the ASIS. This lowers the hip socket resulting in a functional long leg. The body in its amazing ability to adapt has created imbalances to absorb the extra leg length from the hip through the foot. The femur is rotated medially which is best seen by looking from behind the knee. With the medial rotation of the knee the foot is laterally rotated in relationship to the knee. Observing this leg from the side you will see hyperextension of the knee which will absorb more of the extra leg length. In observing the foot you usually find lateral rotation to the medially rotated knee again absorbing some of the extra leg length. An observation of the arch will show either greater inversion or eversion than the opposite foot which can absorb extra leg length and support the imbalance.

When observing these imbalances in the leg we often find the cause of clients’ hip / knee / ankle / and foot problems. The medial rotation of the femur causes wear and tear in the socket of the hip and overstretches the piriformis often causing nerve compression. The medial knee and laterally rotated lower leg creates significant stress and wear and tear on the knee itself. In addition, there are significant

weaknesses where the muscles cannot stabilize the knee joint due to this imbalance and consequently knees are set up for injuries. The soft tissue will also be significantly weakened when there is more than 15 degrees of imbalance leading to loss of function. The lateral rotation of the foot at the ankle creates weakness and lack of function which also results in injury and rapid wear and tear on cartilage, tendons and soft tissue. The exaggerated inversion or eversion directly affects support and balance which significantly weakens the foot and ankle making them more susceptible to injury, wear and tear.

3rd the tipped sacrum is a significant problem as a result of the rotation of the iliums. The left ilium that is rotated anteriorly and medially pulls down and in pulling the sacrum to the left side. The ligaments that normally hold the sacrum when the iliums are in balance are stressed, strained and overstretched so the sacrum slides down along the left SI joint. This often leads to nerve compression and arthritis. On the right side where the ilium rotates posteriorly the sacrum is rotated slightly posteriorly and is higher than on the left. This leads to issues at the sacroiliac (SI) joint, nerve compression and arthritis. This tipped sacrum is also the foundation for the spine and when it is tipped and rotated it will result in exaggerated curvatures in the spine.

4th exaggerated curvatures of the spine are problematic in many ways. They cause what has been described in chiropractic degenerative disc disease which is uneven wear and tear on the disc and vertebrae. This results in degeneration of discs which can be seen in damage to the disc from thinning on one side to bulging or herniation or ruptures. The degeneration of the vertebrae shows as lipping, spurring, distorted shapes and stenosis. As the curvatures of the spine increase the subluxations of the vertebrae also increase causing additional pressure on the discs and vertebrae. This results in tension in the soft tissue that is trying to maintain structural balance while fighting all the exaggerated curvatures resulting from the tipped sacrum at the base of the spine.

The view I have given is not of just the hip complex but of how the hip complex is part of the whole structure of the body. What is interesting is even one year olds have 22-28 degrees rotation of the hips with one being anterior and one being posterior¹. One common misconception is that as children grow older this will balance out and disappear. Yet if we examine the adults standing erect we will find that all they have done is compensate with further distortions in the legs and the spine for this spiral distortion that was present at the age of one, and that a tremendous number of musculoskeletal problems are directly related to it. This is considered normal but it can cause painful musculoskeletal issues. It is not addressed in most rehabilitative literature but when viewing the entire structure standing it is seen throughout the structure. Therefore, since the spiral affects the core I choose to call it the core distortion. The hip complex is very integral in this distortion throughout the body, but is best understood in relationship to the whole body.

Clients with significant pain and dysfunction all have a significant core distortion which is easily observed and verified with kinesiography. When I started viewing these conditions as full body conditions and addressing structural imbalances throughout the body as they related to the anterior posterior rotation of the hips and tipped sacrum (hip complex) I started having significant rehabilitative long-lasting results. First was with the development of specialized myofascial release protocols to address the myofascial holding patterns, muscle function, and adhesions and scar tissue. Second was to achieve weight bearing balance and support by bringing the iliums into balance. The soft tissue protocols directly related to restoring balance, but the weight bearing imbalance with the rotation of the iliums and the sacrum tippage

¹ ESSENTIALS OF SKELETAL RADIOLOGY, Vol. 1, 2nd ed., Terry R. Yochum, BS, DC, DACBR, FCCR, (C), FICC, and Lindsay J. Rowe, M. App. Sc. (Chiropractic), M.D., DACBR, FCCR, (C), FACCR. (AUS), FICC, Williams & Wilkins 1996, pg 175, Table 2.26, pg 176, Table 2.27, 2.28

needed something more. This was found in Cranial/Structural techniques where the imbalance in the iliums was observed in the organization and imbalanced movement patterns of the cranium. The ASIS of the iliums related directly to the wings of the sphenoid, the PSIS of the iliums related directly to the ridge of the occiput, and the occiput itself related directly to the sacrum. By releasing the imbalances in the cranial motion the iliums released significant degrees of rotation and the sacrum was supported as a more level base for the spine. Another important result was significant strengthening and increase in function in most of the muscles that had been weakened by imbalances around the joints. Observably, the hip complex was brought into weight bearing support and was able to maintain this support for long term rehabilitation².

² Don McCann, The Evolution of Releasing the Core Distortion. *Massage Today*, July 2014, Vol. 14, Issue 07