

STRUCTURE IS THE KEY TO REHABILITATING SPORTS INJURIES

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The last article had to do with working with athletes who wanted to expand their potential. This article will cover a therapeutic approach for working with athletes who have injuries and how bringing the cd into balanced can not only rehabilitate the injuries but also expand their potential. The vast majority of athletes that have come to me for treatment have had injuries and are actively trying to rehabilitate themselves.

Let us look at what happens for a typical athlete in the realm of injuries. Usually by the age of 20 there has been an accumulation of soft tissue injuries everything from strains and pulls to sprains involving joints. When we examine the structure of these athletes we find that they have a spiral twist which I call the cd that runs from the feet to the top of their heads. This includes an anterior posterior rotation of the iliums, which creates an imbalance in leg length. Additional problems resulting from this are the sacrum is tipped and the base of the spine is not level which results in exaggerated curvatures of the spine. Coming off of the spine are the ribs creating the thorax which carried imbalances due to the exaggerated curvatures of the spine. This extends all the way through the neck and shoulders. The arms coming off of the imbalances of the shoulders are generally medially rotated all the way down through the hands and wrists. Looking again at the result of the long leg short leg we find significant distortions in the legs to accommodate this with the greatest distortions being seen at the joints from the hips to the bones in the feet. Additionally the cranium itself in its arrangement of cranial bones reflects the same imbalances and distortions as found throughout the body. There are specific relationships between cranial bones and the structures of the cd described above. This structure is extensively described in (last article).

The greater the imbalance the greater the loss of strength, flexibility and function, and the more likely the soft tissue associated with the structural distortion will have been injured. In addition after the injuries the soft tissue will not be able to help maintain structural balance and therefore leads to a greater structural imbalance and larger risk of future injury.

This can be easily seen in a case history. Charles, a 41 year old sprinter, had injured his semitendinosus and medial head of the biceps femoris of his left leg numerous times. His times in the 100 and 200 meter had dramatically fallen off and when he injured them again in training he was really frustrated, and sought treatment with me. Structural evaluation revealed that his left ilium was anteriorly rotated, and right ilium posteriorly rotated. With the left ilium anteriorly rotated it had created a functional long left leg. To compensate for this longer left leg Charles left knee was medially rotated and hyperextended. Lining up to the knee and looking at the lower leg it was obvious that the lower leg including the foot was laterally rotated with some collapse eversion of the foot. Looking at only this aspect of Charles' structure there was a lot in his rehabilitation that would be gained if the ilium could be evened bringing in even leg length.

Kinesiology, both applied and functional, also showed a different aspect of the problem. Using functional kinesiology testing the strength of the hip flexors and quadriceps revealed a significant weakening of more than 50% due to the more than 15 degree rotation of the ilium. Testing the semimembranosus and semitendinosus also revealed a significant weakening, both due to a rotation of the ilium and the medial rotation of the knee. Using applied kinesiology (testing with a strong muscle while challenging another muscle or joint) weaknesses showed up around the knee. The medial attachments of both the adductors and the hamstrings tested strong, the lateral attachments of the hamstrings, biceps femoris, tested weak. Thus when examining Charles' injuries it was clear that part of the reason the hamstrings were being injured was there was an inherent weakness due to the structural imbalance and that it was more extensive in that there was distortion all the way through the knee which when tested showed significant weakening that was also affecting performance. In addition the significant weakening around the knee was also an injury waiting to happen. The muscles that needed to stabilize the knee were significantly weakened and

susceptible to injury which would also include a lack of stability of the knee and potential dislocation leading to sprain or worse. This was further stressed by the misalignment of the knee and lower leg as the lower leg rotated laterally and the knee rotated medially which had led to a lateral rotation and eversion of the foot. Again functional kinesiology was used to test the gastroc soleus which tested weak to go along with the collapsed arch. The peroneus longus was also tested and it too tested weak using applied kinesiology. The plantar fascia was tested using applied kinesiology and it also tested weak on the medial side. This evaluation of the knee and lower leg while part the cd and rotation of the ilium were contributing to the problems of the hamstring and were in themselves starting to become as big a problem if not bigger as what was happening with the hamstring. The knee going medial and the lower leg going lateral while producing significant strain on the knee along with the lack of supporting muscles necessary to stabilize. Consequently there was lack of strength and flexibility and an alignment that was weakened and with the wrong stresses would further misalign. This further misalignment could take place suddenly and rapidly and a sprain, dislocation which would result in a tearing of the tendons, ligaments and cartilages of the knee or just by repetitive use in training the misalignment would cause uneven wear and tear with the cartilages and ligaments slowly increasing the imbalance and damage to the soft tissue until there was enough damage that it would become a significant issue. At the foot the collapsing arch and stress put on the plantar fascia was again an imbalance that was creating an injury and it was only a matter of time before the plantar fascia would become inflamed and become a serious enough injury to stop training and limit performance.

This left leg in the cd had injuries and was set up for many more due to its structural imbalances. One of the quickest ways to bring the body back into balance and out of the cd is the CSCDR (footnote). The almost immediate increase in structural balance allows for the majority of the musculature that is working with severe limitation to regain 70%-80% of its structural strength. This is due to the actual structural balance where after returned the lever function of the muscles can operate at a higher capacity. In the case of Charles' hamstring they would be strengthened but they would also need myofascial work to address the scar tissue and adhesions that had built up from previous injuries. The additional work around Charles' knees in the soft tissue would be necessary to again release myofascial holding patterns, adhesions and chronic shortness in tissue that had helped maintain the medial rotation and the hyperextension. The work with the gastroc and soleus would again help take out some of the hyperextension and also normalize out some of the pressures of the arch due to the soleus. Work around the lateral malleolus and peroneus muscles that had been shortened to maintain the lateral rotation of the foot and support that lateral rotation being released and the foot being brought into balance. There will be many other muscle fibers and imbalances corrected with the CSCDR that will also make available better rom, function and strength.

Charles' result specifically with the leg was that it returned to full rom and strength while running. In addition muscles and joints that were in the process of being injured were balanced and released from the injury patterns and brought t back to full function. Charles' leg had been rehabilitated and with this came a dramatic increase in performance potential. Due to the length of this article it was not possible to include other changes that would have taken place in Charles structure that would also have expanded potential, decreased injuries, and addressed other old injury patterns. After rehabilitative structural sports therapy has been accomplished with athletes they will have extended careers because rather than accumulating more imbalances and weaknesses when the CSCDR is released their whole body finds a stronger alignment and muscles can do their job of both stabilizing joints and lifting, running, etc pain free. Again let me reiterate with so many issues that can be easily rehabilitated by releasing the CD we are slow prolonging an athlete's career.

Cranial / Structural
Core Distortion
Sports
Injuries
Spinal Conditions
Legs/Lower Body
Torso
Kinesiology
Case Studies