

TCM For Hip Internal Rotation Injuries in Athletes

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Over the years I have been privileged enough to work with professional and Olympic teams. One of the sports I work with is professional hockey. The common areas I treat are hip, knee and low back compensation patterns. I would like to address compensation patterns dealing with internal rotators of the hip joint increasing the athlete's career longevity.

It is important to understand the anatomy, movement and biomechanics of the hip joint to understand how the compensation patterns are triggered. The hip joint includes the articulation of the two bones the ilium and femur. The muscles involved with hip joint internal rotation includes both primary and secondary movers. The primary movers are the anterior gluteus medius, TFL and pectineus. The secondary movers include the gracilis, adductor longus, brevis and magnus and the semitendinosis and semimembranosis. The degree of limitation of this range of motion (ROM) depends on the compensation pattern with which it stems from. So it is important to assess the synergistic muscles surrounding the area for imbalances. It is important to understand the sport and position, the player plays to understand the mechanics. It is very helpful to watch video of these athletes playing their sport to understand the movement patterns and identify compensation patterns specific to the individual player. The compensation patterns are associated with muscle overuse and in many cases tendonitis due to the nature of the athletes training and playing regimen. Typically discomfort and/or pain triggers a compensation pattern either at the origin, insertion or in the belly of the particular muscle affected. What typically ends up happening is the treatment focuses on the painful area rather than what is causing the pain, which is a compensation pattern typically stemming from other surrounding areas.

It is necessary to compare normal hip internal rotation mechanics to abnormal mechanics with these overuse compensation patterns and identify the limitations of the surrounding tissues involved. The basic treatment protocol focuses on accurately assessing of joint function, increasing range of motion by identifying the compensation patterns and releasing the muscles involved, thus preventing long-term injuries from occurring, increasing the athlete's career longevity.

Mechanical and function compensation patterns occur through overuse compensation patterns. Mechanical compensations include degenerative changes over time; pathological laxity within the hip joint and pubic symphysis ends up in vulnerable positions during functional activities; arthrokinematic restrictions that include compensation patterns dealing with excessive range of motion or decreased ROM; and lastly synovial changes that identifies impinged or hypertrophied synovial tissue.

Function compensation patterns include impaired postural control that identifies the balance of synergistic muscle tissues; impaired neuromuscular function that identifies muscular recruitment patterns are diminished; impaired proprioception that identifies synergetic ability of nerve conduction

velocity becomes diminished; and strength deficits that identifies decreased muscle strength of the surrounding muscle tissues.

The standard protocol treatment focuses treating this either as a strain in most cases or tendonitis. Depending upon the philosophy of the certified athletic trainer, chiropractor, physical therapist, massage therapist implementing the treatment of R.I.C.E. (rest, ice, compression, elevation) is the key concept here so as to manage the edema, which can last up to three weeks. Focus then moves to restoring ligament stability by correcting subluxation and treating accessory motion restriction using joint mobilization. Exercises (closed and open chain) are then implemented to restore range of motion then we add resistance to restore strength. Once strength is restored, and we have established normal gait with normal joint mobility, the focus shifts to neuromuscular control in order to maximize dynamic and reflexive stability of the surrounding tissues. If the therapist is treating tendonitis then rest and heat would be applied rather than cold over the belly of the muscle rather than the insertion of origin site. In either case NSAIDs would be used for managing inflammation.

Traditional Chinese Medicine treatment uses the same assessment procedures, the focus here is multi-faceted depending upon the compensation pattern. The mechanism of injury is due to overuse so pre-existing factors that contribute to the internal rotators includes the consuming of the *qi* and Blood (creating LV and K deficiency), accumulation of dampness, invasion of external pathogens (Wind, Cold, Damp), and, of course, Blood and *qi* stagnation. Thus, pre-existing patterns allow external pathogens to invade more easily, disrupting *qi* and Blood at the specific location of pain and/or discomfort.

Qi/Blood Stagnation

This is to maintain the flow of *qi* and Blood circulation throughout the body. By maintaining this circulation of *qi*/Blood, the physiological manifestation of injuries and pain are non-existent. However, if this *qi*/Blood become stagnant, the flow within the channels around the affected joint becomes blocked and impaired creating pain along the affected joint. The main physiological manifestation includes pain that is stabbing and fixed for Blood stagnation and wandering and distended pain for *qi* stagnation.

LV/K Deficiency

The LV supports the tendons by nourishing them through LV Blood, and the K nourishes the bones. Over years of overstraining, working long hours (standing all the time), constitutional weakness and/or prolonged illness, the *qi* and Blood depletes/consumes specifically the *qi* and Blood of the LV and K. In either case, the lack of nourishment of both the tendons and bones gives rise to ankle joint injuries. Once again, age is a factor. As we get older the LV/K functions decline and the K Jing and LV Blood are unable to nourish the tendons and bones sufficiently.

Wind, Cold, Damp Invasion

Wind, Cold and Damp pathogens are able to invade through the joints because that is where *qi* enters and exits. Wind characteristics tend to be always moving and changing, and present with pain moving. Cold characteristics create *qi* and Blood stagnation due to the contracting nature within the channels and tendons; and thus present with severe ankle pain. Damp characteristics create obstructions within the channels, due to the accumulation creating heaviness leading to stagnation, thus present with fixed ankle pain, swelling with a heavy sensation and possible numbness.

Pre-existing conditions that allow these external pathogens to invade include Yang and/or Yin Deficiency. Heat is another factor that can be a result of Wind, Cold Damp invasion. If an athlete has had long term W-C-D invasion and has accumulated sitting stagnation, this will generate heat. This also disrupts the *qi* and Blood circulation in the channels causing accumulation, and progresses to stagnation in the channels around the affected joint. In TCM, this is referred to as Damp Heat. Heat presents with redness, feeling of heat around the joint and swelling.

The internal rotators can vary depending upon individual presentation, however for the sake of simplicity we will focus on the association with the Kidney channel. When addressing the Kidney channel, points that can be used would follow bleeding K1, along with the following points following include K3 (same side), R3, HT7 (opposite side), K6/LG7, pick points for *Zang/Fu* organ imbalances and *qi* and Blood relationships and see if *Ah Shi* points are still present or so then puncture.

If using electroacupuncture for the internal rotators then using Kidney channel setup unilateral leads with (+) lead on UB23 to the (-) lead on SP11 or K9 for 2 Hz continuous for 20-30 minutes. Usually I use homeopathic remedies like Arnica Montana 30c internal and topical rather than herbal formulas because the athletes get drug tested for banned substances. For those athletes/patients without drug testing then appropriate formulas (these are just examples there are many different combinations depending upon the company formulas are ordered from): Blood and *qi* Stagnation - Die Da Wan; *Qi*/Blood Stagnation plus Wind/Dampness (excess) - *Shu Jing Huo Xue Tang*; Deficiency - *Ren Shen Yang Ying Wan*; LV/K Deficiency as well as Wind & Dampness - *Du Huo Ji Sheng Tang*; Clear Heat - *Jiang Huang Wan*. Again these are just examples.

Use The Right Points

Using acupuncture points for treating underlying conditions - pick points that you feel are appropriate for your patient. Here are a few examples of traditional points that can be used.

Qi and Blood Stagnation

Ah Shi points - regulates circulation of Qi and Blood in channels

SP10 - disperses Blood stagnation.

LI4 - Source point, dispels Blood stagnation, promotes circulation of Qi in the channels

LV3 - Source point, dispels Blood stagnation, promotes circulation of Qi in the channels

GB34 - Sea point, harmonizes movement of affected joints and strengthens tendons

SP6 - crossing point of the Three Yin Channels of the Foot

UB17 - gathering point of the Blood.

Sedating method all points

LV/K Deficiency

K3 - Source point, strengthens bones and tonifies K. Tonify method

LV3 - Source point, strengthens tendons and tonifies LV. Even method

GB34 - Gathering point for Marrow. Even method

GB39 - Gathering point for tendons and reinforces tendons and bones. Tonify method

ST36 - Sea point of ST channel, promotes production of Blood and tonifies SP/ST. Tonify method

SP6 - crossing point three yin channels of the foot, tonifies Blood and strengthens SP/LV and K. Even method

Wind Invasion

Sedating method

LI4 - relieve external Wind and symptoms

SJ5 - relieve external Wind and symptoms

UB12 - relieve external Wind and symptoms

SP6 - crossing point LV/SP/K channels, eliminates wind by regulating Qi/Blood

SP10 - improves circulation of Blood and is able to eliminate Wind through increasing Blood circulation

Ah Shi - regulating local circulation of Qi/Blood

GB40 - regulating local circulation of Qi/Blood

GB41 - regulating local circulation of Qi/Blood.

Cold Invasion

Moxibustion *

LI4 - relieve external Wind and symptoms. Sedate *

SJ5 - relieve external Wind and symptoms. Sedate *

ST36 - Sea point, dispels cold, warms channels, and tonifies Qi. Tonify *

UB60 - local point, regulate Qi/Blood circulation Sedate *

GB40 - local point, regulate Qi/Blood circulation. Sedate *

Damp Invasion

SJ6 - resolve damp, eliminate wind, eliminate cold

SP6 - Crossing point three yin channels, eliminate damp, activate SP/ST

SP9 - Sea point, eliminate damp, activate SP/ST

ST40 - Connecting point, eliminate damp, activate SP/ST

GB40 - Source point, local point, regulate circulation Qi/Blood, eliminate damp

UB63 - Accumulation point, local point, regulate circulation Qi/Blood, eliminate damp

UB64 - Source point, local point, regulate circulation Qi/Blood, eliminate damp

Sedating method

Damp Heat Invasion

ST44 - eliminate Damp Heat

SP6 - crossing point three yin channels of foot, clear heat, eliminate damp in channels

SP9 - Sea point, clear heat, eliminate damp in channels

GB34 - Sea point, clear heat, eliminate damp in channels

GB40 - clear heat, eliminate damp in channels

UB60 - eliminate damp, promote urination, dispels external pathogenic factors

SJ6 - promotes circulation Qi in channels, reduces eat, eliminates damp, dispels external pathogens

The success in assessing compensation patterns for the prevention and treatment of internal rotators of the hip joint in elite hockey players is to understand the associated anatomical, biomechanical, physiological, neurological implications. It is also important to be familiar with the player's position within the sport, which provides information as to what muscles are primarily used. In addition to understanding the individual biomechanical compensation patterns of the athlete while skating fresh versus when fatigued. These interrelated components are very important with a TCM diagnosis. It is

important to understand that each athlete is different and TCM treatment strategies constantly vary among these individual athletes. It is also important to note that protocol based treatment strategies are not as effective and athletes may get short-term relief and ultimately end up injured mid to late season due to this approach especially in the use of electroacupuncture treatments.

The "thought process" used with elite athletes is no different than the "thought process" used with the general population. Where I see the main distinction tends to be when the individual patient comes in for treatment. Elite athletes tend to come in much earlier in the process of overuse compensation patterns than the general population. Thus, the ability to prevent more serious tendonitis compensation patterns are greater with the elite athletes because the sooner a compensation pattern is treated the quicker the athlete can return to play because the compensation was counterbalanced. Typically the general population waits until it is so bad before they get treated that there are numerous compensation patterns present; therefore, it takes longer to counterbalance the condition/s. So it is paramount that a go assessment is done to identify what compensation patterns are present and follow movement to look for the root of the problem so you have the whole picture rather than treating symptom based. This makes a big difference in the time and treatment outcome. This is called field expedience at its finest.

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