

Medical Advances Lead to New Problem

Increase in Degenerative Osteoarthritis Expected As Athletes Play Longer

By Todd Lazenby, MA, ATC

As medical advances continue to improve the quality of care for players in the National Football League, players are now able to remain competitive longer than in previous years. Therefore, athletic trainers will begin to see an increase in the number of players suffering from degenerative osteoarthritis as a result of increased stress and trauma from longer playing careers. It will then be necessary to have techniques available to aid in the management of injuries to help the players participate with less irritation and pain.

During the 1997 football season, San Francisco 49ers starting linebacker Gary Plummer was suffering from the degenerative effects of 15 professional football seasons. Of primary concern was the development of left hip osteoarthritis, which would cause enough discomfort to keep him from displaying a normalized gait pattern. X-rays and an MRI scan revealed arthritis in the weight bearing area of the left hip, specifically the superior aspect of the acetabulum of the left femur.

Clinically, the player presented with complaints of debilitating pain with a significant decrease in hip internal rotation and a lack of proper hip flexion movement. In order to achieve a functional range of hip flexion, he compensated the movement with added external rotation to aid the hip from loading the degenerative arthritic site. In addition, repeated cutting, change of direction, running and tackling take a tremendous toll on a normal hip, let alone an arthritic hip joint. Pain and disability will continue to increase if left untreated or improperly managed.

Standard Operating Procedures

Normal management protocols to decrease stress on an arthritic joint include increasing the flexibility and strength of the soft tissue structures surrounding the joint, the use of non-steroidal anti-inflammatory drugs (NSAID) to decrease the inflammatory response within the joint itself and, most importantly, rest. In addition, cortico-steroid injections, which reduce localized swelling, can be introduced periodically to control pain symptomatically. Unfortunately, in professional football, rest can be one of the

more difficult treatment options to utilize to its best therapeutic value. Therefore, it is necessary to also rely on other treatment modalities.

During the course of the season, in order to aid in the management of Plummer's pain, team physicians utilized various anti-inflammatory modalities during the span of the 25-week season which decreased and managed his pain to a tolerable level that allowed partial practice and full game participation. However, any attempts to increase his range of motion either passively or through traditional active-assistive techniques yielded an increase in discomfort and residual pain. So, in conjunction with the player, a method for stretching the static and dynamic components of the hip joint was devised that provided excellent results over time, with minimal to no complaints of increased pain.

The stretch consisted simply of a combination of both distraction and passive stretch. It was easily performed with the use of an electric hi-low treatment table. The player would lie supine on the floor with his hip flexed to 90 degrees. He would then place the lower leg of the involved extremity on the table with the athletic trainer stabilizing the leg by holding the ankle and lower leg to the table. The table could then be slowly raised until the optimal amount of distraction is achieved (that being the point at which the player feels a relief in the discomfort in the joint).

The Turning Point

While distraction is achieved through the player's body weight, he then can begin to turn his torso, resulting in internal rotation of the hip. The stretch can then be held for whatever duration is deemed appropriate by the athletic trainer. Likewise, the player can shift his body in the opposite direction to stretch the hip into external rotation.

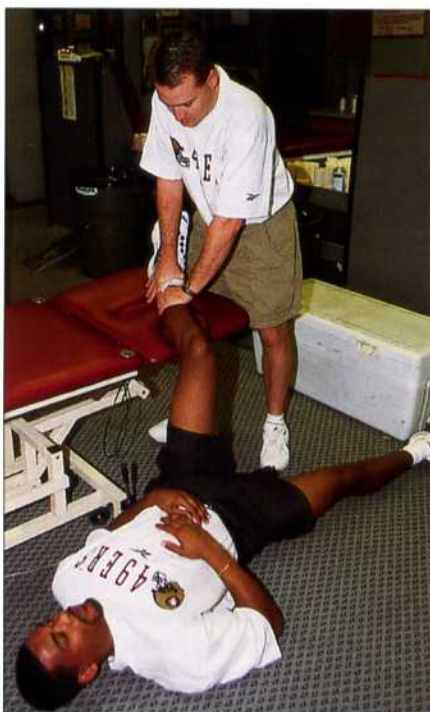
The advantage of utilizing this method over one in which the athletic trainer provides both distraction and rotation is two-fold. First, the player has total control over the amount of distraction and stretch that is applied to the joint. This is an advantage because stretching should not cause pain, and the player certainly doesn't want to create any increased discomfort to an already painful arthritic joint. Therefore, a better result will be achieved because there is more comfort physically and psychologically for the athlete since he has complete control. The athlete will also be more willing to complete the stretch repeatedly due

to the ease and lack of irritation to the joint. Second, it requires much less effort on the part of the athletic trainer with little to virtually no lower back stress.

The stretch was performed on a daily basis with notable results of decreased pain and increased range of motion almost immediately. Over a period of two weeks, a significant increase in Plummer's left hip internal rotation was noted with improvement in the quality of active hip flexion.

The player was able to complete the regular and post-season with complaints of only transient minor discomfort of his left hip and improved overall motion. Also noted by the player was the decrease in post-practice and game soreness during the subsequent days following heavy activity.

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San Francisco 49ers assistant athletic trainers Todd Lazenby (standing) and Jasen Powell demonstrate a stretching technique used to treat degenerative osteoarthritis of the hip.

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