Medial Elbow Pain

PIER DOCUMENT

PROBLEM:

Throwing injuries among baseball players are on the rise with a 54% and 58% increase in disability and days missed, respectively, over a one year period.[5,6]

Recent evidence suggests that up to 50% of professional pitchers and 47% of youth level players can expect an injury limiting their participation in baseball.[1,12]

The highest rate of elbow injury in youth players occurs at age 12 likely secondary to the increase in skeletal growth and tissue remodeling found in children.[5,6]

"Little League Elbow" is a term used to describe any one of a group of elbow disorders in a skeletally immature throwing athlete resulting from an overuse injury. Pain results from repetitive micro trauma to the medial collateral ligament and the flexor/pronator muscles (also known as medial epicondyle aphophysitis).[3,9,10,16]

A common mechanism of injury in these throwers is the excessive compression and tensile forces placed on the elbow during the throwing motion placing strain on the ligaments, muscles, and bones comprising the elbow joint.

Risk factors for arm surgery secondary to injury in young athletes include averaging 80 pitches/game with a 4 times greater risk,[12] pitching for greater than 8 months in a year with a 5 times greater risk.[13] Arm fatigue is also a risk factor for surgery with pitchers who report either occasional or consistent fatigue demonstrating a 4 or 36 times greater risk for surgery, respectively.[13]

A final risk factor is volume of pitches in a season with either less than 300 pitches/season or greater than 600 pitches/season estimated as more at risk for upper extremity injury.[13]

INTERVENTION:

Physical Therapists can offer an analysis of a thrower's mechanics, pitch count, pitch type, and pitch velocity to determine a successful treatment approach to reduce throwing injuries in an athlete.

Prescription of a scapular, shoulder, and elbow strengthening program can assist in balancing the joint loading of the shoulder and elbow to reduce injury risk or rehabilitate an athlete back to pre injury levels.

Strengthening of the flexors and pronators of the forearm can improve the dynamic stability of the elbow joint during throwing by reducing tension placed on the ligaments of the elbow.[3]

Evidence also suggests joint mobilization of the elbow to increase extension and to prevent and reduce the occurrence of elbow flexion contractures.[18]

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EVIDENCE:

PT screening can reduce injury risk by identifying poor mechanics, training errors, range of motion impairments, and muscle imbalances which may place an athlete at risk of elbow pain. Specifically, recent evidence suggests a loss of shoulder range of motion places a player at a 4 times greater risk of developing an arm injury during the season.[14]

Depending on the severity of the injury Physical Therapists will utilize an initial period of rest, stretching, and strengthening to reduce pain and inflammation in the involved elbow. Advanced rehabilitation stages are comprised of strengthening, neuromuscular/proprioception training, plyometric training, sport specific drills and a personalized throwing program designed to return the athlete to previous functional levels.[4,7,18]

Exercise interventions are designed to improve the endurance and strength of the arm musculature to prevent excessive forces applied to bones, ligaments, and growth plates of the elbow.

Interval training may assist in the performance of the pitcher during and after games by decreasing the time needed to recover from the athletic activity.[2,15]

REFER:

Early identification of symptoms is the key to successful management of this disorder to prevent further symptoms or surgical intervention.

Athletes complaining of a gradual onset of medial elbow pain commonly experienced with the acceleration phase of throwing, gripping, lifting activities, and possible numbness and tingling in the ring and small fingers will benefit from a PT evaluation and treatment to allow a safe return to sport or activities and prevent future elbow injuries.

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