

Treatment of Partial Ulnar Collateral Ligament Tear in Elbow with Platelet Rich Plasma (PRP) and Physical Therapy in High School Baseball Pitcher; A Case Study.

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Background: Injuries to the Ulnar Collateral Ligament (UCL) of the elbow are commonly seen in overhead athletes. Conservative management of partial thickness tears of the UCL has been shown to be effective in some cases. The recent increase in use of Platelet-Rich Plasma (PRP) to heal damaged tissues has led to evidence suggesting that PRP combined with rehabilitation can be useful in healing partial thickness tears of the UCL allowing athletes to return to play.

Purpose: The purpose of this case study is to demonstrate a case in which PRP injection combined with physical therapy intervention allowed for healing of a partial thickness tear of the UCL of the elbow permitting an individual to return to previous level of play.

Case Description: 17 YO male high school baseball pitcher presented with elbow pain after pitching. MRI revealed partial thickness tear of UCL. At six weeks post injury patient was sent to physical therapy (PT) for conservative management of injury. At initial PT evaluation patient demonstrated positive elbow valgus stress test for pain, positive milking maneuver, elbow pain with shoulder in 90/90 position, posterior shoulder tightness and shoulder weakness. PRP injection under ultrasound guidance was administered two weeks after initiation of PT (eight weeks post injury). Following the PRP injection, patient continued a supervised PT program focusing on shoulder strengthening, posterior shoulder stretching, core strengthening and cardiovascular training. Strengthening of wrist and forearm musculature, as well as valgus stress to the elbow was avoided at this stage per PRP guidelines as dictated by referring physician. At 12 weeks post injury forearm and wrist strengthening was initiated in addition to continuation of shoulder and core strengthening and flexibility program. At 16 weeks post-injury an upper extremity plyometrics program was initiated as well as an interval throwing program under the supervision of his PT and ATC. The interval throwing program continued for 6 weeks at which time the patient returned to pitch for his team.

Outcomes: A repeat MRI was performed at 16 weeks post injury showing a healed UCL tear. Patient returned to pitch for his senior year, pitching more innings than his previous season with an improved ERA and WHIP.

Discussion: This case study supports the effectiveness of PRP injection combined with a supervised physical therapy program for treating athletes with partial thickness tears of UCL and with the goal of the patient returning to previous level of play.