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My name is Dr. Joe Eichinger. I am an orthopedic surgeon at the Medical University of South Carolina. I'm a specialist in shoulder and elbow surgery. And I have an interesting case to present regarding treatment of an elbow problem in a 13-year-old male baseball player. He presented with a four month history of atraumatic left elbow pain. His primary symptoms were pain. But he also had symptoms of locking, particularly elbow flexion and extension, and overall decreased motion at the elbow.

He also had swelling about the elbow. And he developed pain such that he was unable to throw a baseball without significant symptoms. His pain level was 6 out of 10 at rest and 9 out of 10 at worst, particularly with the catching and with any sort of resisted or throwing activity. His subjective elbow value was rated at 50% of normal.

His clinical examination was significant for marked motion loss including inflection of extension. And he had tenderness to palpation both over the medial epicondyle and the ulnar collateral ligament. He also had a tenderness over the lateral epicondyle and radial head. He did have no signs of elbow instability. The elbow was stable at varus and valgus stresses around 30 degrees of elbow flexion. And he had a negative moving valgus stress test. Both tests which were used to assess the ligaments of the elbow.

His plain film x-ray showed some cystic changes at the capitellum. And the lateral x-ray reveals a small osseous fragment within the elbow joint. He also has some changes over the medial insertion of the ulnar collateral ligament on the humerus.

His MRI, as shown here, reveals not only a loose body in the elbow, but also the subchondral changes and cartilage defect over the capitellum.

The coronal imaging similarly shows the defect, but without collapse of the subchondral bone.

The coronal MRI series also reveals a small loose body and, again, no collapse of the subchondral bone but cystic changes in the capitellum.

He was taken to the surgery. And an elbow arthroscopy revealed synovitis in the elbow, which was irritation. That's the redness seen. His elbow was otherwise stable. His radial head was normal in appearance. And a chondral lesion or chondral loose fragment was identified and subsequently removed.

Following completion of this, the elbow was brought into extension to evaluate the donor site or the lesion on the capitellum. As shown here, the probe is probing at the location of the donor site and it is revealing although there are changes to the articular cartilage, it does not probe deeply down to bone. Fortunately, this is only a partial thickness lesion to the cartilage. And given that he has open growth plates on his x-rays suggests that with rest

this can be a lesion that can heal. Patients of younger age can heal more readily than those of an older age.

Here are his x-rays at one year. And it shows improvement in the radiographic appearance, both the insertion on the humeral side of the ulnar collateral ligament appears normal. He has preserved joint space indicating no arthritis. And the prior cystic changes that were evident on his x-rays from one year ago appear to now be mostly resolved or have nearly gone away.

He was kept out of baseball for approximately six months and was not allowed to resume pitching until one year later. And now he is back to full baseball and has resumed pitching without pain or any dysfunction.

So in adolescent athletes with pain about the elbow and swelling, particularly gymnasts or baseball players, close evaluation for potential osteochondral injuries is important. For simple cartilage injuries, particularly for younger kids, an arthroscopic removal of the lesion with time off from sports participation can result in resolution of the problem and healing of the subchondral bone.

For larger lesions, or for lesions that cause the collapse of the bone, particularly in older kids, it may require not only an arthroscopic removal, but potentially what is called an osteochondral transfer in which cartilage from either a cadaver or from a healthy knee can be transferred to the defect in the elbow.

Fortunately, for most patients, including this patient, a simple removal of the loose body with rest to allow the subchondral bone and cartilage to heal resulted in an excellent outcome and a return to sport.