

## Peer Review File

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### Reviewer A

**Comment 1:** The title is misleading and should read as, Primary repair of complete Achilles tear augmented with amnion allograft wrap in college basketball player with a history of contralateral Achilles rupture: a case report.

**Reply 1:** We thank reviewer for the comment. The title has been changed as suggested.

**Comment 2:** Need more details on operative technique: suture material and an intraoperative image showing amnion wrap.

**Reply 2:** We have included more details on the operative technique. As for the intraoperative imaging, we thank the reviewer for the comment, but unfortunately, no intraoperative pictures were taken.

**Changes in the text** (Page 6-7, Line 124-144): Dissection was carried down through skin and subcutaneous tissue down to the paratenon. The paratenon was incised and the Achilles tendon rupture was encountered. At this point, the Achilles tendon complete rupture could be visually appreciated at the musculotendinous junction. A small amount of tendon was identified approximately. The proximal Achilles tendon was freed up using blunt finger dissection. This was done to prevent any scar tissue and encouraged excursion. Using suture tape, Krackow sutures were placed up and down the Achilles tendon both proximally and distally. The suture tape had great fixation and hold in the proximal musculotendinous portion. The suture tapes were passed into the opposing tendon with a Keith needle using a gift box technique. This led to reduction of the Achilles tendon and the suture tape was tied off. Once this Achilles tendon was reduced, the Thompson test was utilized to observe function. At this time, the patient had a negative Thompson test. Squeezing the calf did produce plantar flexion of his ankle. The passive range of motion of the ankle was tested and dorsi and plantar flexion was possible. Following motion testing, an Arthrex Amnion Matrix skin substitute 3 x 8 cm was applied over the Achilles tendon. This was used to improve healing rates due to the abundant amount of growth factors in the matrix. Thus, the skin substitute was applied over the Achilles tendon repair and sutured in using 3-0 Vicryl. Closure of the incision was conducted, and the patient was then placed in a posterior short-leg splint with the ankle held in approximately 20 degrees of plantar flexion. The patient was to have no weight bearing to the operative extremity.

**Comment 3:** Need more details on follow-up, clinical outcome at three months, six months, and one year.

**Reply 3:** More information was included on his clinical outcome.

**Changes in the text** (Page 7, Line 145-161): The patient was instructed to be nonweight bearing until the 2 week follow up appointment. At 2 weeks follow up, the cast and sutures were removed, and the patient was transitioned into a fracture boot with a heel lift. Outpatient physical therapy began at this time with two sessions per week. One-month post-operation, the patient noted no numbness of the posterior calf but did note weakness and minor stiffness which he has been working on at physical therapy. At three month follow up visit, the patient started to regain full range of motion in his left ankle. He has returned to regular daily activities while maintaining the heel lift inside his boot. He started to participate in stationary biking at a low resistance at this time with no pain of the lower extremity. Patient noted continued tenderness in his posterior calf and ankle; however, it has reduced since his one-month visit. At his sixth month follow up visit, his physical therapy progression has been satisfactory as he has been cleared to return to low impact sports participation. He had full motor control of his lower extremity with good balance. At this time, he is cleared to start running and slowly return to basketball court with caution on pivoting motions. He also is instructed to return to normal sneakers without the heel lift. At the one year follow up, patient notes he feels his strength has returned fully and has no complaints. He has returned to the basketball court and is continuing his college basketball career.

**Comment 4:** Need more details on how the contralateral right-sided achilles injury, when did that happen, and how it was treated.

**Reply 4:** We thank reviewer for the comment and known information about prior surgical intervention have been included.

**Changes in the text** (Page 4-5, Line 89-92): Prior surgical intervention was performed at an outside hospital and detailed operative report was not obtained. It was a successful repair as the patient has been playing basketball post first operation for a couple of years now. The patient believes that his tendon was fixed with approximation without the use of any graft material.

**Comment 5:** I don't see unique factors, as stated in lines 157-158. High-intensity sport with eccentric contraction is a routine risk factor.

**Reply 5:** We appreciate the comment, we were just saying that compared to other sports in which the physical environment changes, such as football or baseball, that there is more ground consistency on a basketball court.

**Comment 6:** Conclusions are overstated without adequate follow-up; So, need major revisions.

**Reply 6:** We thank reviewer for the comment. The patient follow-up information has been included. Patient made a full recovery in 12 months' time and had returned to playing basketball (Page 7, Line 145-161).

## **Reviewer B**

**Comment 1:** It would be interesting to know in details about his anatomy, does he have any anatomical abnormalities such a pes planus? what is his height?

**Reply 1:** We thank reviewer for the comment. Details of the patient anatomy have been included.

**Changes in the text (Page 5, Line 92-97):** The patient was physically fit of normal body mass index (BMI) and lived an active lifestyle. He is an above average height male at just over six feet. He had no anatomical abnormalities on physical exam that could have led to this. His heal arch was within normal range and no supination or pronation of the ankles were noted with full weight bearing.

**Comment 2:** Has he had any symptoms prior to his injury? chronic tendinitis? injections? use of anabolic steroids or other materials?

**Reply 2:** We thank reviewer for the comment. Details of his prior medical history/symptoms have been added.

**Changes in the text (Page 4, Line 85-98):** Prior to the tear, the patient had not experienced any symptoms in his left lower extremity. He had no prior history of trauma in this leg. He has a past medical history of a previous Achilles' tendon tear in the right lower extremity which also occurred while playing basketball.

(Page 5, Line 97-99): He denied any recent antibiotic or steroid usage prior to his injury. He did not know of any family medical conditions or genetic disorders that could have predisposed him to these injuries.

**Comment 3:** About the first side - how and when the repair was done there? is it successful? has he returned to full activity and ROM following the repair?

**Reply 3:** Sadly, we do not have much information about his prior repair as he had it done at another hospital.

**Comment 4:** It would be great for the article to include some clinical and imaging pictures.

**Reply 4:** We appreciate the comment, but, unfortunately, we do not have any clinical imaging.