# Platelet-Rich Therapy for a hamstring strain in a College Football Athlete

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## Abstract

**Athlete**

An adult male football athlete (70 inches and 165 lbs) who was a NCAA Division-3 football athlete. The athlete strained his left hamstring (1 month ago) and right hamstring (2 weeks ago) before football pre-season. Palpation revealed point tenderness of the middle to proximal end on the lateral side of the hamstring. The athlete struggled with initial firing of the hamstring but had full AROM in knee flexion. When compared bilaterally, RROM revealed a 3/5 in left knee flexion and hip extension. Three days prior to the platelet rich plasma (PRP) injection, the athlete participated in a traditional conservative treatment protocol. After the PRP injection, it was advised to rest, stretch, and no forms of modalities for 48 hours. After 48 hours, the athlete began to follow a more traditional conservative rehabilitation plan that involved modalities, manual therapy, strengthening and lower body stretching protocols.

### Introduction

The athlete had been complaining of tight hamstrings after coming back from his recent hamstring injuries. During a drill on the first preseason practice, the athlete made a cut, took a stride, and felt a pop in his left hamstring. The initial evaluation revealed antalgic gait, favoring of the left lower extremity, and ecchymosis.

### Purpose

One domain of athletic training is treatment and rehabilitation. This case demonstrates an alternative approach to traditional treatment and rehabilitation protocol to return an athlete to play in a shorter time period.

### Background

- 22 year old male NCAA Division 3 football athlete
- Prior medical history of a right quadriceps contusion that calcified ten months ago. In addition, the athlete strained his left (1 month ago) and right (2 weeks ago) hamstring before football pre-season.

### Differential Diagnosis

- Hamstring strain
- Ischial tuberosity avulsion.

### Clinical Evaluation

- Point tenderness of the middle to proximal end on the lateral hamstring group
- Full AROM in knee flexion but struggled with initial firing of the hamstring.
- RROM revealed a 3/5 in left knee flexion and hip extension.

### Treatment

The three days prior to the platelet rich plasma (PRP) injection, the athlete participated in a traditional conservative treatment protocol of the following: rest, compression, and using the MarcPro for 1+ hour multiple times throughout the day. After the PRP injection, it was advised to rest, stretch, and no forms of modalities for 48 hours. After 48 hours, the athlete began to follow a more traditional conservative rehabilitation plan that involved modalities, manual therapy, strengthening of the gluteal muscle group, and lower body stretching protocols.

### Conclusion

This case highlights an alternative treatment option for a grade 2 hamstring strain for a collegiate football player. This case further highlights the success of PRP therapy and returning an athlete to play faster with the incorporation of traditional conservative treatment protocols after 48 hours of receiving the PRP injection. In addition, this case further highlights that there needs to be more research done on specific guidelines and protocols to follow after a PRP injection for optimal results.

### References
