Lateral Ankle Sprain in a Collegiate Soccer Athlete

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Abstract

Background: Ankle sprain is the most common sports injury. The athlete was a 18-year-old female NCAA D1 soccer player. Sprain was due to sport specific motions. Primary ligaments to be damaged in a sprain are the talar navicular ligament and the calcaneal fibular ligament. The purpose of this case report was to further investigate the possible effects they may have on the athlete. This case report can be used to further narrow the different choices when determining an athlete's treatment plan. This case report can be used to further narrow the different choices when determining an athlete's treatment plan.

Purpose

The purpose of the case report was to further investigate the possible injuries that may arise from a lateral ankle sprain while exploring the different modes of treatment and the possible effects they may have on the athlete. This report explored the differences of using a conservative rehabilitation protocol in comparison to an aggressive rehabilitation protocol and the different effects that they may have had on the athlete. The research also investigated the different styles of prophylactic support that can be applied to help further increase the support that the ankle has.

Introduction

Lateral ankle sprains (LAS) are one of the most common injuries occurring in sports today. Studies demonstrated that lateral ankle sprain is the most common sports injury. The athlete was a 18-year-old female NCAA D1 soccer player. Sprain was due to sport specific motions. Primary ligaments to be damaged in a sprain are the talar navicular ligament and the calcaneal fibular ligament. The purpose of this case report was to further investigate the possible effects they may have on the athlete. This case report can be used to further narrow the different choices when determining an athlete's treatment plan.

Clinical Evaluation

The clinical evaluation from this study proceeded as normal. Swelling present distal to lateral malleolous. Active and passive range of motion were within normal limits as compared bilaterally. Manual muscle testing resulted that the athlete had a lack of strength 4/5 in eversion, dorsi flexion, plantar flexion and inversion. During palpations she was tender to palpate over the distal lateral malleolous, anterior talofibular ligament tenderness and the calcaneal fibular ligament tenderness. The athlete progressed to running on elliptical, to the treadmill, 4 Way Lunges 3 x 12 and Calf Raises 3 x 15 Progress to eccentric calf raises hanging and a 2 progress to eccentric calf raises hanging and a 2.

Differential Diagnosis

- Lateral Ankle Sprain Grade 1 ATF Sprain
- Calcaneal Talus Sprain Grade 1
- Fibular Fracture

Treatment Continued

- Calf Raises 3 x 15 Progress to eccentric calf raises hanging heels off step stool.
- Wobble Board 3 way 1 min each direction (DF, PF, INV, EV, CW, CCW)
- Single Leg Balance Exercises: Solid Surface Progress to Airpad
- Massage on lower leg to decrease swelling or spasms that could accumulate in the area.

As the athletes strength and confidence increased, increased intensity of rehab and incorporation of functional activities increased.

- Eccentric Calf Raises 3 x 25
- 4 Way Ankle exercises 3 x 12 (Black Band)
- BOSU Ball w/ Medicine Ball Squats 3 x 6
- Wobble Board 3 way 1 min each way
- Single Limb Support on Airpad with Distractions 3 x 1 min each way
- 4 Way Lunges 3 x 12
- Landing Technique 3 x 8 drops
- The athlete progressed to running on elliptical, to the treadmill, eventually leading to running on grass with soccer ball contact

Implications

Lateral ankle sprains are one of the most common injuries in sports today. It is imperative to know the reasons why they happen so often. It is also important to know multiple methods of rehabilitation for every injury due to the variety of athletes and the different ways that each person may react. This research and case report demonstrated that a more aggressive rehabilitation approach with applied prophylactic tape for practice showed to have the best effect on the athletes functional ability as well as mental toughness. Having an aggressive style rehabilitation that started in the acute stages of the injury showed to have a greater effect on returning the athlete to play quicker in comparison to using a conservative treatment.

Conclusion

The research and case report demonstrated that a more aggressive rehabilitation approach with applied prophylactic tape for practice showed to have the best effect on the athletes functional ability as well as mental toughness. Having an aggressive style rehabilitation that started in the acute stages of the injury showed to have a greater effect on returning the athlete to play quicker in comparison to using a conservative treatment.

References