

2009 Scientific Program Abstracts — Thursday

(An asterisk () by an author's name indicates the presenter.)*

Thursday, December 17, 2009

CONCURRENT SESSION V — FOOT & ANKLE

Moderators: LTC Kevin L. Kirk, DO, Army
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Moderator

0705-0710

Post-Operative Management Following Anatomical Reconstruction of the Lateral Ankle Ligaments: A Randomized Prospective Trial

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Objectives: This is an interim report of a randomized prospective clinical trial designed to determine the functional and mechanical outcomes of three rehabilitation protocols following anatomic reconstruction of the lateral ankle ligaments for chronic lateral ankle instability. The use of an ankle stabilizing orthotic (ASO) brace was compared with both conventional immobilization with a short leg cast as well as with a walker boot. The ultimate goal was to establish a safe, efficacious, cost effective post-operative protocol that enables patients to return to full activity more quickly.

Methods: A prospective randomized clinical trial comparing the functional and mechanical outcomes of a post-operative course using an ASO brace and early range of motion versus conventional immobilization with a short leg cast or walker boot was conducted at one institution. 32 patients with both functional and mechanical instability demonstrated by clinical, radiographic, and physical exam findings underwent a diagnostic ankle arthroscopic exam followed by a standardized modified Brostrum-Gould reconstruction by one surgeon. Clinical and radiographic assessments were performed pre-operatively and at 6, 12, 26 and 52 weeks. Specific pre and post-operative data points included range of motion, plantarflexion, dorsiflexion, inversion, eversion strength, anterior talar translation, talar

tilt, time to return to community ambulation, and time to return to full activity/sports. Outcomes were measured based on the proceeding data points as well as with the use of pre and post-operative Foot and Ankle Outcomes Scores (FAOS), American Orthopaedic Foot and Ankle Society (AOFAS) ankle-Hindfoot scale, and the Cumberland Ankle Instability Tool.

Results: At the time of this interval follow up thirty two patients have undergone Brostrum Gould reconstruction and are currently enrolled in the study. 12 patients have been treated with the ASO protocol. 13 patients have been treated with the standard cast immobilization, and 7 have been treated with the boot immobilization. Currently the data has shown a trend towards earlier return to ambulation, return to full activity and a more rapid improvement in standardized scoring with the use of an ASO and early range of motion and peroneal strengthening. Full detailed clinical and functional data results will be provided with the manuscript in both written and chart form.

Conclusions: Early range of motion may be beneficial for accelerating return to function in the early post-operative period but the benefits may decrease over a one year time frame. There appears to be no detrimental effects to early aggressive rehabilitation with an ankle ASO.

Notes:

0710-0715

The Incidence of Plantar Fasciitis in Active Duty United States Military Servicemembers

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Background: Although, plantar fasciitis is the most common cause of heel pain, little has been reported on incidence rates

of this disorder. We sought to determine the incidence rate and demographic risk factors of plantar fasciitis in an ethnically diverse and physically active population of United States military servicemembers.

Methods: A query was performed using the U.S. Defense Medical Epidemiology Database (DMED) for the International Classification of Diseases, Ninth Revision, Clinical Modification code for plantar fasciitis (728.71). Multivariate Poisson regression analysis was used to estimate the rate of plantar fasciitis per 1,000 person-years, while controlling for sex, race, rank, service, and age.

Results: The overall unadjusted incidence rate of plantar fasciitis was 10.5 per 1,000 person-years. Females, compared with males, had a significantly increased adjusted incidence rate ratio (IRR) for plantar fasciitis of 1.96 (95% CI 1.94-1.99). The adjusted IRR for black servicemembers when compared to white servicemembers was 1.12 (95% CI 1.09-1.12). With junior officers as the referent category, junior enlisted, senior enlisted and senior officers rank groups had a significantly increased adjusted IRR for plantar fasciitis: 1.20 (95% CI 1.18-1.23), 1.19 (95% CI 1.17-1.22) and 1.56 (95% CI 1.52-1.61), respectively. Compared to Air Force servicemembers, those in the Army 1.85 (95% CI 1.82-1.87) and Marines 1.28 (95% CI 1.25-1.30) had a significantly increased adjusted IRR for plantar fasciitis. The adjusted IRR for the 40+ age group compared to the 20-24 group was 3.42 (95% CI 3.34-3.51).

Conclusions: Female sex, black race, junior enlisted, senior enlisted and senior officers, service in the Army or Marines and increasing age were all risk factors for plantar fasciitis.

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0715-0720

Endoscopic Resection of Symptomatic Os Trigonum

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Introduction: Hindfoot pathology has many etiologies and can present a diagnostic challenge. A prominent posterior talar process, a fractured synchondrosis or a true os trigonum can

be a source of persistent pain and disability precluding return to full athletic activities, especially those requiring extreme plantar flexion. **Objective:** We describe the endoscopic technique utilized at our institution to resect the posterior talar process and the clinical results in patients who underwent surgery for a symptomatic posterior talar process or os trigonum.

Methods: A retrospective review was performed of all patients who presented to our sports medicine clinic with hindfoot pain unresponsive to nonoperative rehabilitation and who underwent posterior talar process resection. Foot and ankle scores were obtained on all patients to assess objective and subjective results.

Results: Eight patients were indicated for posterior talar process resection. Five patients were high-level athletes, two were recreational athletes and one was a non-athlete. All patients completed at least six months of nonoperative management. A CT scan was obtained in seven of the eight patients to assess the posterior talar process preoperatively. All patients underwent endoscopic talar process resection in the prone position utilizing a two-portal technique. The only postoperative complication was persistent portal drainage in one patient which resolved without intervention. All patients had resolution of their symptoms and returned to pre-injury activities at an average of 9 weeks postoperatively. The average foot and ankle score improved from 40 preoperatively to 95 postoperatively.

Conclusion: Endoscopic resection of a symptomatic posterior talar process/ os trigonum can be done safely and results in excellent clinical results in properly selected patients with hindfoot pathology who are unresponsive to conservative treatment.

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0720-0725

Epidemiology of Medial and Syndesmotic Ankle Sprain at the United States Military Academy

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Objectives: Medial and syndesmotic ankle sprains constitute only up to 20% of all ankle sprains in the general athlete popu-