

MESSAGE FROM THE FASIG PRESIDENT

Happy summer to all FASIG members! We are glad you are contributing to our SIG, first by checking out this column and then, by considering how YOU can grow with us! The FASIG is about 600 members strong and is comprised of some of the best researchers and clinicians in the world...folks who spend much of their time on the foot and ankle as a particular region of study. I, for one, am consistently amazed by the breadth and clarity of the research that our members continue to publish!

Our SIG is devoted to bringing that research directly to your desk, as evidenced by the article submitted this month by lead author, Steve Pettineo. Steve is a clinician, instructor, and researcher who has published some intriguing research about capsulitis at the ankle. Like you, his observations began to generate questions about how physical therapists should assess and then treat orthopaedic conditions. Then, he went out and answered those questions.

Orthopaedic Physical Therapy Practice (OPTP) is often the source of early research concepts and effectively becomes a starting point for more in-depth discussions and ultimately, large and extensive studies. Try placing yourself in Steve's shoes and consider developing a plan to answer the questions floating around in *your* head. This column is the perfect place to start! Call or E-mail me with your thoughts, questions, or ideas and let's get rolling! In the meantime, please enjoy Steve's work!

FYI: Dr. Chris Neville, the chair of the FASIG "Entry-level Curriculum Content Task Force" has recruited members for the Task Force and they are now in the process of developing the framework they will use to develop the model foot and ankle curriculum for entry-level physical therapy programs. The Task Force will present preliminary recommendations at the 2013 CSM in San Diego. The FASIG leadership is excited to finally see this project started. If you would like to be involved with the Task Force, please contact Chris or me.

*Best regards,
Clarke Brown,
FASIG President*

Adhesive Capsulitis of the Ankle

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Adhesive capsulitis is a diagnosis most commonly associated with frozen shoulder. Though volumes have been written in

books and the peer reviewed literature on adhesive capsulitis of the shoulder, there is a dearth of information regarding adhesive capsulitis of the ankle (ACA). Though it is often misdiagnosed as post-traumatic arthritis, adhesive capsulitis of the ankle is a distinct entity that is characterized by a global loss of capsular volume in the talocrural joint.

On a cellular level, the pathophysiology of the shoulder and ankle adhesive capsulitis is similar. Initially, there is an infiltration of lymphocytes and synovial inflammatory cells in the joint capsule. Over a period of 3 to 4 weeks the capsular fibrous layer becomes thickened and the presence of new collagenous tissue inhibits joint range of motion.¹⁻³ This is most pronounced in the anterior and posterior capsule recesses, hence the loss of dorsiflexion and plantarflexion mobility seen clinically.

The limited case studies that are found in the literature suggest ACA often occurs following trauma such as ankle or pilon fractures and recurrent ankle sprains.^{2,4,5} Because many of these patients have suffered trauma requiring open or external fixation, a large percentage require prolonged immobilization. More research is needed to determine if these factors contribute to idiopathic ACA.

Diagnosis of adhesive capsulitis of the ankle has historically involved invasive testing to confirm the diagnosis. Radiographs are nonspecific to the capsular tissue involved in the diagnosis of ACA and, therefore, have no benefit in assisting with diagnosis. In fact, given the number of posttraumatic ACA cases, it has been our experience that x-rays can lead many physicians to discount the patient's complaints of pain and stiffness as "arthritis."

In 1976 Goldman et al³ proposed arthrography as the test of choice for the diagnosis of adhesive capsulitis of the ankle. These authors suggested that a decrease in ankle joint volume from a normal of 10-25 ml to 3-5 ml total was indicative of ACA. A recent clinical review of ACA has supported the use of MRI for diagnosis of ACA.⁶ Specifically, decreased joint fluid and thickening of the anterior and posterior capsule seen on MRI images, may indicate adhesive capsulitis of the ankle (Figure 1A & B). The authors acknowledge that further research is necessary to establish a role for MRI in the diagnosis of this pathology.⁶

Conservative management of ACA with physical therapy has been proposed by multiple authors and is the first line of treatment at our facility. Thorough examination to identify the various impairments associated with ACA is crucial. Mobility deficits at the talocrural and subtalar joints should be treated with joint mobilization or manipulation techniques along with appropriate stretching (Figure 2A, B & C). As joint range of motion improves, mobilization with movement techniques can also be of benefit. Static progressive or dynamic splinting should be considered early on in this patient population to assist with range of motion return. Given the global loss of motion at this weight-bearing joint, associated impairments during gait and balance dysfunction will be slow to improve. It is important to educate the patient on the importance of compliance with their home exercise program in order to optimize their conservative outcomes.

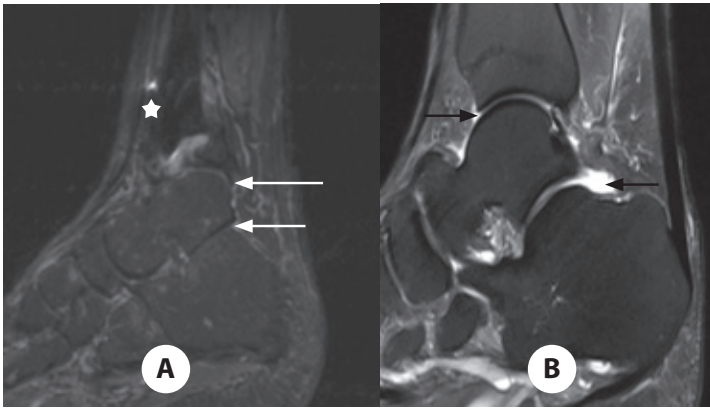


Figure 1A, B. A. Sagittal FSE T2 weighted image in a patient with postraumatic and postsurgical ACA showing complete paucity of synovial fluid in the ankle joint (long arrow) and in the posterior subtalar joint (short arrow). Note magnetic susceptibility artifact from surgical hardware (star). B. Normal ankle with normal fluid in the ankle (long arrow) and posterior subtalar joint (short arrow). Reprinted with permission from Pettineo S, et al.⁶

In the event conservative care with physical therapy is unsuccessful, arthroscopic debridement of the ankle is often necessary.⁴ It is common when performing arthroscopy in a postraumatic ankle with adhesive capsulitis to visualize the adhesions upon entering the joint. Due to the paucity of joint volume remaining in the joint space, it can be challenging to visualize the entire joint and it is necessary to use motorized shavers to debride the joint capsule adequately to gain full visualization. A typical anterior portal placement is used but a posterior arthroscopic approach has been proposed. Due to the potential for sural neuropathy, the posterior approach is not preferred. With sufficient debridement and adequate inflation of the joint, the anterior arthroscopic approach can be successful in treating ACA. Aggressive postoperative rehabilitation can begin as early as 10 days postoperatively.

In conclusion, it is important for physical therapists to recognize adhesive capsulitis of the ankle as an uncommon but distinct pathology. Manual therapy, splinting, and patient education are vital to a successful outcome. Further research is needed to assist in identification and treatment of this patient population in order to optimize outcomes.

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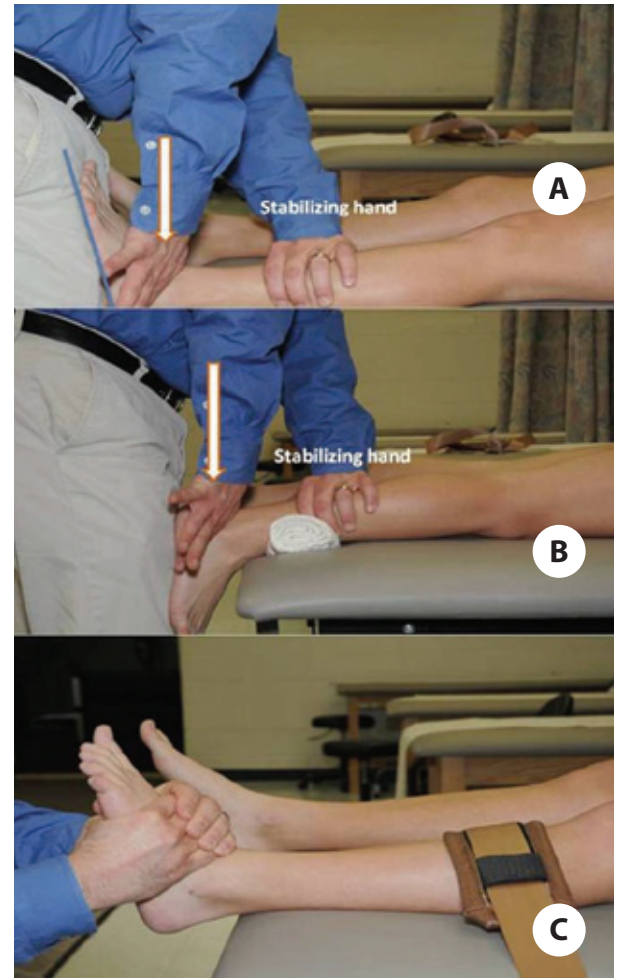


Figure 2A, B, C. From top to bottom: A. Posterior talocrural glide mobilization for dorsiflexion range of motion return. B. Anterior talocrural glide mobilization for plantarflexion range of motion return. C. Talocrural joint distraction mobilization. Reprinted with permission from Pettineo S, et al.⁶