

# LATERAL ANKLE INSTABILITY: Is it Really The Subtalar Joint?

*Gary J. LaBianco, DPM*

### INTRODUCTION

Each day surgeons are asked to evaluate patients with lateral ankle pain. Often this pain is due to an athletic injury, but there are many injuries that are not sports-related. In most cases, conservative care standards are used and the patients get better with time. However, there is a large population that continues to have not only pain but instability well into the future. Some of these patients present to the office many years after treatment with chronic instability following an acute lateral ankle ligament repair. Additionally, these patients state that they never felt stable after the initial procedure and in many cases no stress radiographs were performed prior to the surgery. If we assume that the ankle ligaments were ruptured and that the repair of those ligaments was successful then the long-term instability must be from the subtalar joint complex. In fact it appears that the injury was most likely to the subtalar joint complex all along and the acute repair of the anterior talofibular and the calcaneal fibular ligaments was most likely not necessary. With no stress view or magnetic resonance imaging documentation, we cannot be certain. In the case of those with long-term instability without prior surgical correction, the answer can be found in the physical examination and the stress views.

### DIAGNOSTIC TECHNIQUES

Patients in the author's practice over the last 2 years with long-term ankle instability were used in this study to determine how often the lateral ankle instability was due to the lateral ankle ligaments versus the subtalar joint complex. Each of the patients was examined for pain in the lateral ankle and a set of 3 standard weight-bearing views was obtained. Following this, the ankle was then anesthetized with a local block of 2% plain lidocaine. An anterior draw test and a talor tilt test were then performed in the usual standard manner.

The results were interpreted for lateral ankle instability versus subtalar joint stability. Each of the cases was long-standing instability. It was not difficult to interpret the results because the anterior draw and the talor tilt tests were either positive or unchanged when compared with the initial radiographs. If the results of the stress radiographs were unchanged, then the instability was interpreted as coming from the subtalar joint interosseus ligament.

### SURGICAL TECHNIQUES

Once the true nature of the instability was detected, the split peroneus longus lateral ankle stabilization procedure was used as indicated by the literature for a 2-ligament repair. Additionally, this procedure was also used to correct the subtalar joint instability in these patients due to the position of the anterior arm versus the axis of the subtalar joint.

A lateral ankle incision was made from the tip of the fifth metatarsal base and carried to the distal tip of the fibula. The incision was then carried proximally up the fibula to the area where the peroneus longus tendon is beginning to form at the distal one-third junction of the lateral leg. Dissection was carried down to the deep fascia, and the longus tendon was then dissected out and split. Dissection was carried down along the longus tendon sheath leaving the peroneal retinaculum intact. The tendon was split to the level of the fifth metatarsal base and then the split tendon was transferred under the extensor digitorum brevis muscle insertional area and up to the anterior aspect of the fibula. A drill hole was then created through the fibula allowing the split tendon to be passed through the fibula and then anchored into the calcaneus. A layered closure was done and the patient was placed in a cast for 5 to 6 weeks nonweightbearing. Following this, gradual weightbearing was increased, and the patient had physical therapy.

## RESULTS

There were 24 patients over 2 years that presented with chronic lateral ankle instability. Each had a history of injury and none were complicated with other medical problems that would affect the ligament or bone structure following the original injury. Of the 24 patients 6 had positive anterior draw and talor tilt radiographs. The remaining 18 had no sign of lateral ankle ligament ruptures, but had all of the symptoms of chronic instability. With further examination even when the author already had the stress view results it was very difficult to distinguish CF ligament pain from subtalar joint pain in this patient group. In the case of the pure subtalar joint instability patients, the calcaneus had a loose clinical feel but without the stress radiographs it would not have been possible to make consistently correct diagnosis. Each of the patients recovered uneventfully from the procedure and returned to work within 3 months of the operative date.

## DISCUSSION

The purpose of this small study was not to grade the clinical outcome of the procedure, but to discover how often the subtalar joint complex was involved when we as physicians think it is a lateral ankle injury. The author had been thinking about this concept for several years when while speaking with a Podiatry Institute colleague the idea emerged from both of us that the STJ was involved more often than the literature professed. The other author had modified the lateral ankle 2-ligament Brostrum-type technique to include a subtalar joint repair due to continued instability following the initial 2-ligament repair. It appears that both authors had arrived at the same concept through different pathways. One author had the stress radiographs to prove the subtalar joint was involved prior to surgery, while the other author had the additional subtalar joint repair added to the lateral ankle procedure he preformed. Both authors achieved good results from their procedures.

A more thorough study should be done in the future as this study was done based on the theory that there is more to the lateral ankle injury than many physicians understand. The major point to remember is that you must be sure you are repairing the correct ligaments or the surgery will not have successful results.

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