

## Clinical Results Of Arthroscopic Anatomical Reconstruction Of The Lateral Ankle Ligaments

Haruki Odagiri, MD, JAPAN

Stéphane Guillo, MD, FRANCE

Masato Takao, MD, PhD, JAPAN

Hiroshi Mizuta, MD, PhD, JAPAN

Centre de Chirurgie Orthopédique et Sportive de la Clinique du Sport  
Mérignac, Bordeaux, FRANCE

### Summary:

Arthroscopic technique for anatomical lateral ligament reconstruction using a gracilis tendon for chronic lateral ankle instability is good surgical procedure for the patients who have insufficient local tissue for a Broström-Gould reconstruction such as in revision cases

### Abstract:

#### Introduction:

Lateral ankle sprain is very common injury and patients who injured are mainly successfully treated conservatively. However about 10% of them change over to chronic lateral ankle instability (CLAI). CLAI leads to repeated ankle sprains, articular cartilage injury and the development of degenerative arthritis of the ankle. Therefore, they need surgical intervention. There are many surgical techniques reported for the treatment of CLAI. One of the procedure of the anatomical reconstruction, Broström procedure, leads good clinical results in long time. However, some patients who had attenuated lateral ligaments or failed previous reconstruction of lateral ankle ligaments or high-level athletic activity or obesity or ankle laxity had poor results by Broström procedure. They need anatomical reconstruction using by some graft augmentation. We can find some reports about anatomical reconstruction of lateral ankle ligaments, however there are few reports performed by arthroscopy and we recently reported an all-arthroscopic technique for anatomical reconstruction of the anterior talofibular ligament (ATFL) and the calcaneofibular ligament (CFL) by gracilis graft. Therefore, the purpose of this study is to assess the clinical results of this technique for CLAI retrospectively.

#### Methods:

We retrospectively reviewed 34 ankles from 34 patients, followed up more than 2 years, who had been surgically treated for CLAI. Summary of the surgery is as follows: 1. Make the bone tunnels at fibular, talar and calcaneal attachments of the lateral ligaments. 2. Introduce the tendon graft to each bone tunnel. 3. Fixation of the tendon graft is with an endobutton in the fibular bone tunnel and interference screws in the talus and calcaneus. The results were assessed by the Karlsson-Peterson Ankle Score (Karlsson) and American Orthopedics Foot, Ankle Society Ankle Hindfoot Scale (AOFAS) and Ankle Activity Score.

#### Results:

Of the patients, (67.6 %) played competitive or recreational sports before the injury (Ankle Activity Score:  $5.5 \pm 3.0$ ). At a mean follow-up of  $32.5 \pm 5.1$  months (range, 24-43 months), the Karlsson and AOFAS score improved significantly from  $47.4 \pm 11.5$  and  $57.8 \pm 12.0$  preoperatively to  $88.3 \pm 9.9$  and  $94.7 \pm 6.3$  points postoperatively ( $P < 0.01$ ). After operation, they recovered same sports activity level except 1 patients, who has ankle pain (Ankle Activity Score  $5.2 \pm 2.9$ ) (N.S.)

#### Conclusion:

All-arthroscopic technique for anatomic reconstruction for CLAI leads to good clinical results. Further studies need to confirm the indication and superiority of this procedure.