“DO YOUR LATERAL ANKLE PROCEDURES ALL DO WELL?” Publications are now highlighting that the Broström repair can be improved with the InternalBrace ligament augmentation. In addition to biomechanical evidence showing time zero strength at the ATFL of ~250 N (Native ~150 N) there is now peer-reviewed clinical evidence showing faster rehabilitation and better outcomes with the InternalBrace ligament augmentation.1,2 InternalBrace ligament augmentation has been used successfully in both high-level athletes and normal active patients for 5+ years with documented clinical and biomechanical evidence of early return to activity and everyday life.2

Top articles highlighting InternalBrace ligament augmentation:

- Functional results of open Broström ankle ligament repair augmented with a suture tape [published online February 8, 2018]. Foot Ankle Int. doi:10.1177/1071100717742363.
  
  - Six to 24-month follow-up of 81 patients with a Broström and InternalBrace ligament augmentation
  - InternalBrace ligament augmentation shows accelerated rehabilitation and mean return to sport of 12 weeks (3 months) and average time to full weightbearing of 16 days (range, 1-64 days)
  - Motivated athletes were able to return to play, some as early as 8 weeks after surgery
  - Ankle joint mechanics (dorsiflexion and plantarflexion) comparison between operative and contralateral sides showed no major differences
  - Highlights limitations of standard Broström repair where ankle is often immobilized for 6 weeks before rehabilitation starts and usually takes 4-6 months before athlete can return to play

  
  - “All my Brostroms do well”... or do they?
  - 9-year follow-up of 42 athletes who had ankle ATFL Brostrom repair
    - 58% returned to preinjury level of activity, 16% returned to a lower level of activity, 26% abandoned athletic activity
    - In addition to 42% stepping down or abandoning activity, of the patients who had no evidence of degenerative changes preoperatively, 30% had radiographic signs of degenerative changes of the ankle at 9 years

  
  - ATFL InternalBrace ligament augmentation cadaveric biomechanical study testing ultimate load of failure at time 0
  - Broström and InternalBrace ligament augmentation = ~250 N
  - ATFL InternalBrace ligament augmentation is stronger and as stiff as the native ATFL at time 0
  - “Adding strength to Broström is valuable in patients with generalized ligamentous laxity, in large patients or elite athletes, or when allograft tenodesis reconstruction is not feasible”

  
  
  - (Human cadaveric study) Unprotected motion associated with significant lengthening of ligament after ATFL repair
  - Conclusion: Need to protect the ATFL and cast during conservative rehab
A review of ligament augmentation with the InternalBrace™: the surgical principle is described for the lateral ankle ligament and ACL repair in particular, and a comprehensive review of other surgical applications and techniques is presented. Surg Technol Int. 2015;26:239-255. Supports early mobilization of repaired ligament with minimal surgical morbidity

- Review of ligament reconstruction techniques and highlight of the application of InternalBrace ligament augmentation for ATFL Broström and ACL
- Highlights change in orthopedics from reconstruction with allograft or autograft to restoration of normal anatomy with InternalBrace ligament augmentation


- Novel surgical technique overview of Arthrex InternalBrace ligament augmentation repair to augment modified Broström
- Discusses how “increased construct strength allows the surgeon to consider implementation of an accelerated rehabilitation program, earlier return to activity and decreased recurrent instability”

Stabilizing the lateral ankle via a Broström repair with suture tape augmentation. Podiatry Today. 2015;28(5).

- The technique increases the strength of the repair
- Suture tape augmentation serves to protect the repair and allows for earlier rehabilitation.


- Ultimate load to failure of the surgically repaired ATFL is only about half that of the intact native ligament ~74 N of repaired ATFL versus ~150 N native ATFL.


- Described and defined the anatomic origins and insertions of the lateral ankle ligaments (ATFL and CFL)
- Supports anatomic repairs such as primary Brostrom with InternalBrace ligament augmentation


- Direct negative effects on joint mechanics and muscle atrophy
- Diminished proprioception (the ability to sense stimuli arising within the body regarding position, motion, and equilibrium)
- Casting negatively affects ligaments

Arthrex, Inc. LA1-0408-EN_A. Naples, FL; 2014.

- ATFL InternalBrace ligament augmentation with all 4 constructs of 3.5 mm and 4.75 mm BioComposite SwiveLock® anchors tested
- All above 150 N (native strength) and range from 181-352 N

Arthrex, Inc. LA1-00015-EN_A. Naples, FL; 2015.

- Tested tensioning from talus to fibula using 3.4 mm drill for 3.5 mm SwiveLock anchor (244 N) and 4.0 mm drill for 4.75 mm SwiveLock anchor (296 N)