How Fast Can You Make a Patient With Ankle Instability Reconstruction Return to Sports

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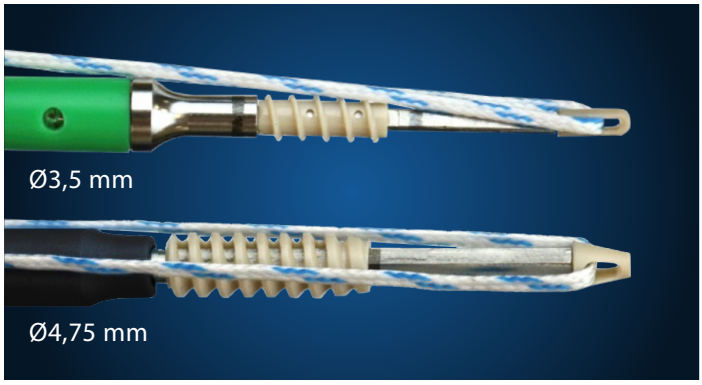


Fig: GMReis Fastlock Knotless Tape Loaded Anchors.

Introduction:

The most common injury seen by an orthopedic surgeon is an ankle sprain. This lesion most commonly affects the lateral ligaments. It may also compromise medial ligaments (deltoid and or spring) and syndesmotic injury. Up to 30% of acute ankle sprain may continue with problems, being ankle instability one of the most common ones. Most patients will recover uneventful, but there is a 2-fold increased risk of reinjury within 1 year, and up to 34% of patients will reinjure the lateral ankle ligaments within 3 years.[1]

Ankle instability is a common complaint that could be severe disabling. Besides recurrent ankle sprains, patients may even end up with arthritis. This could mean many days away from work, sports and even daily activities. For this reason it is more common to even decide to go for early surgery in selective cases, specially in elite athletes.

Diagnosis:

Clinical diagnosis begins with the history of recurrent ankle instability. When this instability is going on for a long period of time patient may also have associated injuries like osteochondral defects, peroneal tendon ruptures, bone edema, fractures, arthritis, etc.

Physical examination may show a positive anterior drawer test or a talar tilt asymetric finding compared with the contralateral side. It must be considered that some patient may have significant laxity as a normal finding without any association with symptomatic instability. The other way around may also occur, which is someone with ankle instability but with no clear laxity on physical examination.

Fig.: Classical swelling and hematoma in the lateral aspect of the ankle.

Regular X-rays are typically normal when there are no associated bony or joint pathology. Stress X-rays may demonstrate anterior talar translation (anterior drawer test) or varus instability (talar tilt). But since there is significant variability between normal and abnormal ankle stability there is no consensus definition for a radiologic limit between normal and abnormal.

It must be mentioned that any pain in the ankle may produce the subjective sensation of instability, and when the pain is improve with appropriate treatment, then instability goes away. But if pain and instability persist long enough it will always end in formal ankle instability.

Ligaments may be easily seen with ultrasound or even better with MRI, lateral , medial and syndesmotic. It can also help to rule out differential diagnosis.

It has recently been described what has been called by Jordi Vega “microinstability”. This is defined as a subjective sensation of giving way and instability of the ankle but no mechanical instability on physical examination. This finding seems to be related to an isolated injury of the anterior fascicle of the anterior talofibular ligament.

Conservative Treatment:

Conservative treatment is always worth trying. It should include restriction of risky activities like sports. Protection against new injuries using an ankle brace and always a thorough rehabilitation including strengthening exercises and propioceptive treatment.

Surgical Treatment

In general terms ankle ligament repair is reserved for chronic injuries but it may also be considered in acute ankle sprain for athletes to reduce the incidence of future problems an lost of sports practice.

A meta-analysis has suggested that there is a lower incidence of chronic instability with early surgery compared with conservative treatment and this may be considered in the elite athlete acute ankle sprains. In case of a chronic ankle instability, if conservative treatment does not have satisfactory result after 3 to 6 months, then surgical treatment may be recommended.

There is a lack of standardization among researchers related to both the criteria to establish the CAI diagnosis leading to the surgical indication and the modality chosen to evaluate the effectiveness of surgical treatment. Anyway, surgical options are broadly divided into 2 categories: anatomic (repair or reconstruction) versus nonanatomic reconstruction.[2]

Non-anatomical reconstructions, such as the Evans and Chrisman-Snook procedures, have been associated with high incidences of stiffness of the ankle and subtalar joints and osteoarthritis, and other complications related to abnormal kinematics, and have largely gone out of favour.

The most common technique used has been the Brostrom Gould in which the ligaments are imbricated and reinforced with the superior extensor retinaculum. This technique showed good results in 90% of the patient proving to be safe and reproducible. Since suture was not intrinsically stable from the beginning it typically needed a long recovery time with protection and restriction of weightbearing. Some authors published more recurrencies that initially shown.

More recently, authors showed that just repairing the anterior talo fibular ligament was enough, without the need to suture the calcaneo-fibular ligament. This finding opened up the possibility of performing different ways of arthroscopic repairs with similar results compared to open treatment but with less potential soft tissue damage. At the same time, it was observed that there are some risk factors that compromise the prognosis like:

1. **Recurrency;**
2. **Long term instability;**
3. **Heavy patients;**
4. **Hyperlaxity and,**
5. **Poor soft tissue quality.**

In these cases, something else needed to be done and the option of an allograft is appealing, but since it is associated with more morbidity and a longer recovery time it is reserved for cases in wich there is no tissue left to suture.

For all the other cases a new surgical option has been added to our surgical armamentarium. This has been the concept of an ILA - Internal Ligament Augmentation.

ILA - Internal Ligament Augmentation:

In order to decrease recurrency and allow earlier recovery time with less restrictions, adding an augmentation fixed in the exact isokinetic anatomical position as the original anterior talofibular ligament has recently gained popularity.[3]

Biomechanical and clinical studies have shown that is a safe and reproducibly technique that allows initial ligament suture to become three times stronger when adding this augmentation. During surgical technique, lateral ligaments are directly sutures and an augmentation tape is fixed between the fibula and the neck of the talus in the anatomical and isokinetic position of the ATFL.

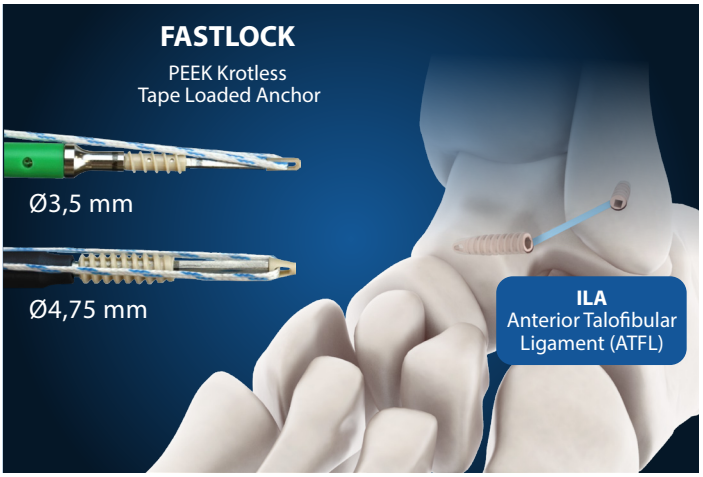
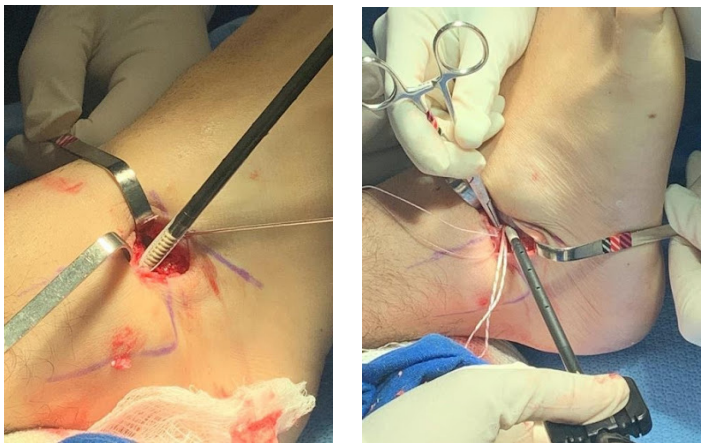


Fig.:ATFL ILA – Internal Ligament Augmentation with GMReis Fastlock Knotless Tape Loaded Anchors. Recently textile medical technology had developed tapes strong enough to support forces on this type of repairs.

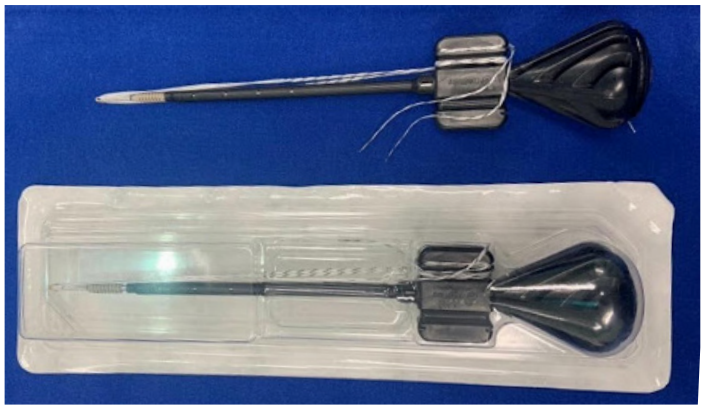
Arthroscopic lateral ligament augmentation using suture tape shows comparable clinical outcomes to arthroscopic Broström repair in the treatment of chronic ankle instability at intermediate-term follow-up time. Arthroscopic lateral ligament augmentation using suture tape has a significant superiority in the terms of less operation time and no need for cast or brace immediate after surgery which allows early rehabilitation. It also has a significant superiority in the terms of FAAM scores at sports activity.[3]

This made surgeons confident to make postoperative recovery quicker without external brace (like a boot) so patients were able to start rehabilitation as soon as the wound was ok. Everyone´s experience showed that actually patients did not need any protection after surgery and rehabilitation can go as fast as the patient tolerates: This has reduced recovery and return to sports significantly making the indication of repair plus augmentation a worldwide recommendation.

ILA Surgical technique:



Figs.: Intraoperative pictures of ATFL ILA – Internal Ligament Augmentation.



Figs.: GMReis Ø4.75 x 19.1 mm Fastlock Knotless Tape Loaded Anchor product presentation form.

On the rare occasions when recurrent instability occurs following a modified Broström procedure, an anatomical reconstruction using a tendon graft may be considered. Autologous or allogenic semitendinosus or gracilis grafts are usually used. The same augmentation with graft is needed when there is no tissue to rapair. Instructional Review[4]:

It must be considered that associated injuries influences the time to return to sports. In a recent study of 42 exclusively professional athletes, White found that all were able to return to full sports after a modified Broström procedure but those with associated injuries, such as OCLs or deltoid ligament injuries took significantly longer (a mean of 116 days compared with 72 days, p = 0.01). Instructional Review[4]:

Rehabilitation

Early mobilization after ankle ligament surgery appears to be appropriate, followed by a criteria-based milestones protocol to return patients back to activity safely.

After the initial post-operative immobilization to allow tissue healing and the resolution of the inflammatory response, it would appear that an accelerated rehabilitation program with early range of motion and protected weight bearing is appropriate, followed by a protocol with criteria-based milestones for progression to return patients safely back to activity.[5]

When we use ILA – Internal Ligament Augmentation as associated with ligament repair we typically wait 7 days for the soft tissues to settle down and then we move forward with progressive return to daily activities and sports without protection. Some patients prefer to use an ankle brace or taping for the first weeks. Most patients are able to go back to competitive sports even before 3 months because they begin progressive specific training 4 weeks after surgery.

Summary

It seem to be clear that early reapair rehabilitation leaves to better tissue and better results. Unfortunaltely, classic techniques force the surgeon to protect the surgery and delay rehab and return to daily life activities. If repair is augmented with ILA, rehablitiation has not restriction but patient pain and personal limitation. This approach seems to provide better results and earlier return to sports.

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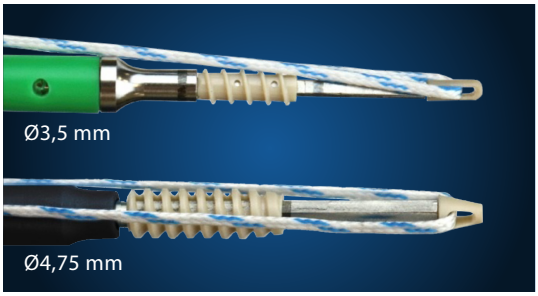

Fig.: GMReis Fastlock Knotless Tape Loaded Anchors.

FASTLOCK IMPLANTS

CODE	DESCRIPTION
320-475191-PE5	Fastlock Knotless Tape Loaded PEEK Anchor Ø4.75 x 15.0/19.1 mm
320-351580-PE1	Fastlock Knotless Tape Loaded PEEK Anchor Ø3.5 x10.1/15.8 mm

FASTLOCK INSTRUMENTS

CODE	DESCRIPTION
320-110	Fastlock Drill Guide
320-110-34	Ø3.4 x 110 mm Drill Bit
320-FL-475	Ø4.75 mm Fastlock Tap
320-135	Ø1.3 mm K Wire
320-110-27-C	Ø2.7 x 110 mm Cannulated Drill Bit
320-110-27	Ø2.7 x 110 mm Drill Bit
320-FL-35	Ø3.5 mm Fastlock Tap

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