

# Return to Sport and Daily Activities After Modification of the Broström Procedure in Patients with Chronic Lateral Ankle Instability: Utilizing One Internal Brace for Augmentation of Both the ATFL and CFL

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# Disclosures

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# Background

- Modification of the Broström repair using suture tape as an internal brace for ligament augmentation has been used to address chronic lateral ankle instability.
- Results of application of an internal brace for anterior talofibular ligament (ATFL) repair augmentation have been promising.
- There are only a few studies in the literature reporting either functional outcomes or return to sport activity after this procedure.
- There is limited data on return to sport clinical outcomes after fixation of both the ATFL and calcaneofibular ligament (CFL).



# Purpose

To evaluate the return to activities of daily living and sport after modification of the Brostöm repair procedure, specifically using ***one internal brace for fixation of both the ATFL and CFL.***



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Purpose:

To  
evaluate  
the return

# Methods

- Retrospective case series
- 31 patients with grade III ankle sprains, all failed conservative management.
- ***Augmentation of both the ATFL and the CFL using an internal brace.***
- Clinical outcome evaluation
  - **FAAM Activities of Daily Living (ADL) subscale**
  - **FAAM Sports Subscale**
  - **Karlsson-Peterson scoring questionnaire**
  - **Time of the return to sport**
  - **Level of sports activity**



# Statistical Analysis

- Two-tailed t-tests on pre-op and post-op average scores.
- Karlsson-Peterson scoring criteria was only obtained post-op, therefore comparative statistics were not utilized.



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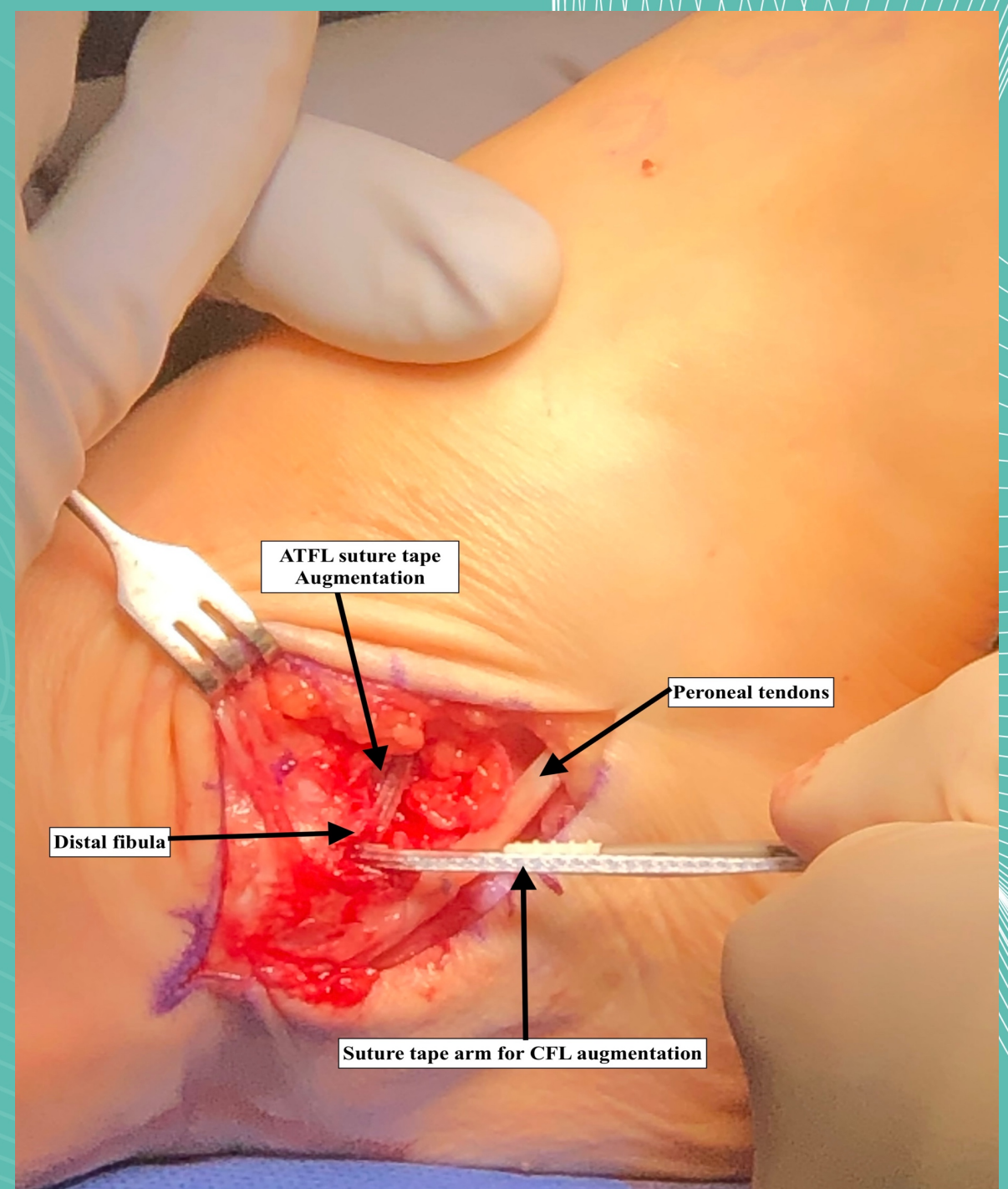
# Surgical Technique

1. Lateral talus drilled and 4.75mm SwiveLock loaded with fiber tape tapped into place
2. Anatomic origin of the ATFL was drilled and tapped and 3.0mm SutureTaks placed superiorly and inferiorly
3. SutureTaks passed distally into the joint capsule recreating ATFL and CFL
4. SutureTak ends secured into the fibula with 2.5mm PushLock
5. Fiber Tape secured into the anatomic origin of the ATFL with suture anchors
6. With peroneal tendons retracted, CFL Calcaneal insertion drilled
7. 4.75mm SwiveLock used to secure Fiber Tape into lateral aspect of the calcaneus



# Surgical Technique

- Operative image of the lateral ankle. Patient is in the supine position



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# Results

- FAAM ADL Subscale
  - 84 possible points
  - **Post-operative scores significantly improved from Pre op**
- FAAM Sports subscale
  - 32 possible points
  - **Post-operative scores significantly improved from Pre-op**
- Karlsson and Peterson score
  - 100 possible points
  - Post-operative scores indicative of excellent return of functionality

	FAAM ADL	FAAM Sports	Karlsson-Peterson
<b>Pre-op average</b>	<b>46</b>	<b>4</b>	-
Standard deviation (pre-op)	8	3	-
<b>Post-op average</b>	<b>77</b>	<b>19</b>	<b>83</b>
Standard deviation (post-op)	11	8	20
<b>P-value</b>	<b>&lt;0.001*</b>	<b>&lt;0.001*</b>	-
99% confidence interval	26-36	11-19	-

FAAM = Foot and Ankle Ability Measure

ADL = Activities of Daily Living

\*statistically significant improvement in scores pre-op to post-op

# Results

- 14/31 patients engaged in recreational sports activity
- **Mean time to return to sport activity: 5.7 months post-op.**
- Mean age of the surveyed patient population: 41 years.
- Mean follow-up time: 24 months.

	Mean	Standard Deviation
Age (years)	41	13
Mean follow-up (months)	24	11
Number of patients engaged in Sports	14	-
Time to Return to Sport (months)	5.7	2.9
Level of Return to Sport (1-10)	8.4	1.3
Overall Satisfaction with Surgery (Yes/NO) (%)	97	-
Surgery Rating (1-100)	83	12

# Conclusion

The proposed modification of ligament reconstruction with suture anchors and ***augmentation of both the ATFL and CFL*** was effective in helping patients return to their pre-injury functionality level in both daily life and sports activity.



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