Peroneal Tendon Subluxation / Dislocation

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Q1: Where does peroneal longus and brevis tendons pass through?

Both longus and brevis tendons pass together through the fibula groove in posterior fibula. They are fixed in the place by the superior peroneal retinaculum.

Q2: What are the peroneals primary actions?

Planter Flexion and Eversion
What is Peroneal Tendon Subluxation / Dislocation?

- Peroneal tendon subluxation and dislocation is an uncommon injury. It often misdiagnosed as a lateral ankle sprain.

**Subluxation**
- Subluxation of peroneal tendons is an injury that peroneal tendons itself snaps out from peroneal groove and back in due to injury to the superior peroneal retinaculum.

**Dislocation**
- Dislocation of peroneal tendon is an injury that peroneal tendons slips out from peroneal groove and not be able to back in due to rupture of the superior peroneal retinaculum or avulsion of the fibula.
How Does Peroneal Subluxation / Dislocation occur?

- A sudden dynamic forceful passive dorsi flexion of the everted foot with sudden strong reflex contraction of the peroneal muscle and the plantar flexors.
- Foot inversion with a sudden contraction of the peroneals.
- Repeated lateral ankle sprains.
- Direct blow to the posterior lateral malleolus.
MOI Cont...

- Turning and sharp cutting is the most common causes in athletics.
  - Skiing
  - Ice skating
  - Soccer
  - Basketball
  - Rugby
  - Gymnastics

- An acute dislocated peroneal tendon is frequently unrecognized. It often misdiagnosed as an ankle sprain.
Non-traumatic Cause

- Fibula groove may be too shallow.
  (Normal range is from 5-10mm wide and up to 3mm deep.)
- Absence or too small of the ridge at fibula that helps to deepen the fibula groove.
- Laxity of retinaculum
Fig 1. Classification of pathology in peroneal tendon dislocations. (A) Normal. (B) Grade I: superior peroneal retinaculum stripped off the fibula. (C) Grade II: fibrous rim avulsed from the posterolateral part of the fibula along with the superior peroneal retinaculum. (D) Grade III: bony avulsion of the posterolateral part of the fibula by the superior peroneal retinaculum. (Adapted and reprinted with permission.)
Signs and Symptoms

- Popping and snapping sensation.*
- Unable to continue play, or walking.*
- Diffuse lateral swelling and ecchymosis behind of lateral malleolus.*

- Apprehensive about attempting to dorsi flex and evert of the foot.
- Pain behind/posterior to the lateral malleolus and above the joint line.
- Possible clicking feeling behind the lateral malleolus.
- Tenderness along the peroneal tendon.
- Significant discomfort with pivoting or cutting.

*seen more often in Acute phase
Differential Diagnosis

Lateral Ankle Sprain

- Tenderness over the anterior talofibular ligament or the calcaneofibula ligament.

Peroneal Tendon Subluxation/Dislocation

- Tenderness along the posterior border of the fibula and above the joint line.
Special Tests

- Anterior Drawer Test

- Assessment for the instability of anterior talofibular ligament.

Pt. Position:
- Long sitting position on the table.
- Foot off from the edge of the table.
- Foot at 20° of planter flexion.

Test:
- The examiner hold distal of Tib/Fib with one hand to stabilize the leg. Grasp Pt's calcaneus and apply force toward anterior.

+ signs
- Excessive anterior movement.
- Laxity, Pain, Gapping

Indication:
- instability of ATL
Talar Tilt Test

- Assessment for the integrity of the calcaneofibular ligament.

Pt. Position:
- Long sitting position on the table.
- Foot planter flexed and off from the table.

Test:
- The examiner hold distal of Tib/Fib with one hand to stabilize the leg. Grasp Pt’s calcaneous and place thumb on calcaneo-fibular ligament. apply force laterally toward floor.

+ signs
- Pain, Laxity, Gapping

Indication:
- Instability of CFL
Special Tests Cont…

- **Peroneal Stability Test**

  - Assessment for stability of peroneal tendons.

  **Pt. Position:**
  - Have Pt. lying down on the table in the prone position with knee flexed @ 90º.

  **Test:**
  - The examiner resists lateral aspect of pt.’s foot while Pt. is performing eversion of the foot against the resistance.

  **+ signs**
  - Pain
  - Reproduced subluxation of tendon

  **Indication:**
  - Peroneal Subluxation or Dislocation
Possible Further Tests…

- X-ray
- MRI
- Ultrasonography
Treatments

Non-operative
- Conservative Treatment (5~6 weeks)
  RICE and NSAIDs
  Compression with horseshoe
- Non-weight bearing
- Ankle in a short leg cast for 4~6 weeks.

Operative
- Retinaculum Repair
- Groove Reconstruction
- Bone Blocks

- Early operative treatments are recommended for particularly active or competitive athletes.
Recovery/Rehabilitation

Return to Play…

Non-operative

- If surgery and/or casting is not required, the patient can usually return to activity in 1-2 weeks with bracing or taping.
- Strength and function are back to 90-100% of the non-affected ankle in order to return to play.

After Surgery…

- A cast immobilization from 2-6 weeks
- A walking boot for another 2-3 weeks
- Light range of motion exercises → progressing it to stretching exercises.
- 90% of their strength and function as compared with the non-affected ankle in order to participate in activities with a brace or ankle taping.
  (Bracing and taping has been recommended for as long as 6 months)

- MMT, ROM, and Functional tests are performed to determine if pt. have enough strength and function to return to play.
Work sites

- Traumatic Peroneal Tendon Instability.
- Peroneal tendon subluxation in athletes: new exam technique, case reports, and review.
- Subluxation and Dislocation of the Peroneal Tendons
- http://www.orthogate.org/
- American College of Foot and Ankle Surgeons. FootPhysicians .com
  http://www.footphysicians.com/footankleinfo/peroneal-tendon.htm
  http://www.ajronline.org/cgi/content/abstract/183/4/985
  http://www.wheelessonline.com/ortho/peroneal_tendon_dislocation