Peroneal Tendon Dislocation

1. What Procedure to do?

Driven by the tendons. If the tendons are normal, and the groove is deep, a simple retinaculum repair should suffice.

The reality though is that in most dislocations the tendons are either not normal and/or the groove is too shallow.

I always look for a low lying muscle belly and excise it if present. It reduces the volume in the groove.

![Normal Retinaculum repair groove deepening](image)

If the groove is shallow, a groove deepening is done by drilling just deep to the posterior cortex and then impacting the surface, but leaving the smooth periosteal surface in place.

2. Abnormal tendons

Dislocated and tendinosis/thickening – groove deepening might not be enough. I use a fibula slide in these cases to create a shelf to prevent dislocation of the tendon. This is not necessary a true anatomic repair, but is sometimes the only way to keep the tendons behind the fibula.
Fibula Osteotomy

Literature


Title CI, Jung HG, Parks BG, Schon LC. The peroneal groove deepening procedure: a biomechanical study of pressure reduction. Foot Ankle Int. 2005 Jun


Zhenbo Z et al. Sliding fibular graft repair for the treatment of recurrent peroneal subluxation. Foot Ankle Int. 2014 May


I. Defining the Problem
   A. Problems often associated with a varus hindfoot that are recalcitrant to conventional surgical treatment
      - Ankle instability
      - Subtalar instability
      - Peroneal tendon pathology
      - Recurrent stress fractures- 5th MT, medial malleolus

II. Pathomechanics of Varus Hindfoot
   A. Usually associated with some degree of midfoot locking
      1. Stiffens foot as lever arm but at the cost of shock absorption
   B. Limb WB axis moves medial, increasing load on both static (ligaments) and dynamic (tendo, muscle) structures

III. Prevalance of Pes Cavus/ Hindfoot Varus
   • LeDoux, Sangeorzan 20% normal volunteers
   • DuMontier 23% college football players

IV. Evaluating the Hindfoot
   A. Examination
      1. Posture, flexibility on bench exam
         - Can be associated with internal tibial torsion, femoral anteversion and genu varus
      2. Standing alignment – including hindfoot as well as knee and hip
      3. Gait- knee thrust, symmetry, etc
      4. Coleman block test*
   B. Radiographs
      1. Plain WB films
      2. Hindfoot alignment view (“Saltzman view”)
      3. In certain cases entire limb alignment view

V. Is the Hindfoot the problem? (important to know before you cut the heel)
   A. Other factors may be largely responsible for persistent problems
      1. Ankle Instability- tight gastroc, underpowered surgical correction, obesity, hyperelasticity
      2. Peroneal pain- unrecognized P. Quartus (13%). Inappropriate orthotic
      3. Recurrent stress fractures- nutrition, too fast to WB?, rehab?
VI. Are there non-operative solutions for the Varus Hindfoot?

A. If varus is flexible and symptoms are relatively low grade
   1. Simple bracing or more rigid (MAFO) for training, certain activities
   2. Orthotics
      - Arch Rival
      - Custom orthotic prob. 1st MT head recess, lateral post

VII. Cutting the heel- At index operation or wait and roll the dice and see what happens?

If the deformity is flexible and can be accommodated by nonoperative means, proceeding with the primary index operation without considering calcaneal osteotomy is most commonly done. In cases in which the hind foot deformity is inflexible or incompletely flexible, so that the repair/reconstruction will not be in a biomechanical environment in which it can succeed, combining lateralizing calcaneal osteotomy with the index procedure is likely more appropriate. This may include, of course, a dorsiflexing osteotomy of the first metatarsal as well. Keep in mind the risks of lateralizing calcaneal osteotomy as discussed elsewhere, including, but not limited to acute tarsal tunnel syndrome or damage to posterior medial neurovascular structures. Consider doing this operation without regional anesthesia, at least until a postoperative examination can be performed in the recovery room.

VIII. Special Considerations in Calcaneal Osteotomy in Athletic patients

A. 2 incision for calcaneal osteotomy with peroneal surgery- keep the interval skin flap full thickness
B. Consider avoiding pre-operative regional block so that a thorough NV exam can be done post op, especially in “valgusizing” osteotomies
C. They tend to have a bit more trouble with symptomatic heel screws- consider headless screws and/or have a low threshold to remove hardware after osteotomy healed

IX. References

Bruce, DiGionvanni CW. The Effect of Medial and Lateral Osteotomies on the Tarsal Tunnel. FAI 35(4) 2014.

Blackwood CB, Yuen TJ, Sangeorzan BJ, Ledoux WR. The Midtarsal Joint Locking Mechanism, Foot Ankle Int. 2005 Dec;26(12):1074-80
