Accessory Navicular Excision with Posterior Tibialis Tendon Advancement

Rehabilitation Protocol

Procedure Overview: This surgery involves the excision of the accessory navicular bone, which may be causing pain or irritation, and advancing the posterior tibialis tendon to restore proper alignment and function of the foot. The rehabilitation protocol aims to protect the surgical site, promote healing and improve foot function.

Timeframes mentioned in this protocol should be considered approximate with actual progression based on clinical presentation and physician direction.

General Considerations:

- Patient is non-weightbearing until 4 weeks post op
- Physical therapy begins approximately at 4 weeks post op
- Monitor the incision scar and tendon for mobility; implement regular soft tissue mobilization to avoid fibrosis.
- Discontinue boot between 6-8 weeks post op
- Discontinue night splint at 6 weeks post op

Phase I: Protection Phase (Weeks 0–4)

Goals:

- Protect surgical repair and anchor fixation
- Control swelling and pain
- Maintain cardiovascular and proximal joint strength

Precautions:

- No active or passive ankle ROM
- No weight-bearing

Interventions:

- Immobilization: Short leg splint with ankle in neutral positioning for 10-14 days post-op. Transition to short leg cast with ankle in neutral at 10-14 days post-op until 4 weeks post op.

Weight Bearing: Non-weight bearing (NWB) with crutches, walker, or knee scooter.

Exercises:

- Isometric quads, glutes, core
- Toe curls/spreads
- Hip/knee ROM
- Upper body conditioning

Phase II: Early ROM & Strengthening (Weeks 4-6)

Goals:

- Gradually restore passive and active ROM
- Transition to full weight-bearing in pneumatic walking boot

Precautions:

- Avoid active inversion/eversion until cleared
- No loaded plantarflexion exercises initially
- Avoid barefoot walking

Weight Bearing: Gradually increase weight-bearing in the pneumatic walking boot by week 6.

ROM: Begin gentle, passive and active-assisted ankle dorsiflexion, plantarflexion, inversion, and eversion.

Manual Therapy: Soft tissue mobilization for scar tissue and modalities as indicated

Exercises:

- AROM
- Double Leg Proprioception (weight shifts, double leg standing, etc)

- Intrinsic foot strengthening
- Theraband exercises
- Manual resistance and isometric exercises
- Well-leg stationary biking
- Aquatic exercises including deep-well exercises.

Phase III: Strengthening & Functional Activities (Weeks 6-12)

Goals:

- Improve foot and ankle strength
- Normalize gait pattern
- Improve proprioception and neuromuscular control
- Transition to supportive shoes with an ASO ankle brace by week 8.

Precautions:

- Avoid high resistance or eccentric exercises until cleared by the surgeon
- No running, jumping, or high-impact activities until later stages

Interventions:

- **Footwear:** Transition out of boot to supportive shoe by week 8 with ASO ankle brace
- **Gait Training:** Emphasize push-off and calf control.

ROM: Progress to full ankle AROM/PROM

Manual Therapy: Soft tissue mobilization of scar tissue and modalities as indicated.

Exercises:

- Stationary bike
- Progress seated heel raises to standing heel raises
- Mini-squats (bilateral progress to unilateral)
- Closed chain step exercises (step-ups progress to step downs)
- Leg Press (bilateral to unilateral)
- Proprioceptive training (single-leg balance challenged as able)
- Eyes open/closed
- BOSU ball/Airex Pad
- With ball tosses

Progression Criteria:

- Physician indication
- Equal AROM and PROM bilaterally
- Single leg stance equal bilaterally or objective testing (STAR Excursion balance test, Y-Balance test, etc).
- Gait normalized

Phase IV: Return to Desired Level of Activity (Weeks 12-24+)

Goals:

- Full restoration of ankle function
- Return to full activity and sports
- Maintain tendon integrity and prevent recurrence

Precautions:

- Avoid high-impact activities until strength, stability, and function are restored
- Continue monitoring for any signs of tendinopathy or discomfort in the posterior tibialis tendon

Manual Therapy: Soft tissue mobilization for scar tissue and modalities as indicated.

Exercises:

- Eccentric heel drops (Double leg progress to single leg)
- Double leg heel raises progress to single leg heel raises

- Lunges (multidirectional and walking)
- Plyometric progression (Begin low-load jumping/hopping drills/double leg to single leg)
- Progress jogging and return to run program (approximately 16-20 weeks, once patient can perform a single leg heel raise with good mechanics)
- Agility drills (approximately 16-20 weeks, cleared by MD)
- Ladder drills, shuffles, sprints, sport specific drills
- Endurance training (low-impact cardio, elliptical, biking)

Discharge Criteria:

- Full, pain-free ROM
- 90% calf strength compared to uninvolved side
- Normalized gait and balance
- Return to desired activities and ADLs
- Physician indicates