SOUTH BEND ORTHOPAEDICS

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POSTERIOR ANKLE IMPINGEMENT/OS TRIGONUM PROTOCOL

Posterior Ankle Impingement. Posterior ankle impingement is a condition where an individual experiences pain at the back of the ankle, due to compression of the bone or soft tissue structures during activities that involve maximal ankle plantarflexion motion. It is most commonly seen in ballet dancers, soccer players, basketball players, volleyball players, and runners. Impingement of posterior aspect of talus between tibia and calcaneus may cause block to plantarflexion.

Os Trigonum. Os ("bone") trigonum is an anatomic variant in which extra bone is located behind the ankle bone. This bone can become inflamed and rub against some tendons and even cause tendon tears. Accessory bone found just posterior to talus which is usually asymptomatic. Present in 2-14% of normal feet. Patient with painful os trigonum exhibit symptoms of posterior ankle impingement including: pain is worse with passive PF and tenderness to palpation at posterolateral aspect of ankle posterior to peroneal tendons

Nonoperative Protocol

Phase I - Acute Stage (1 to 2 Weeks)

WEEKS 0-2: Modalities such as phonophoresis, cold whirlpool, ice, e-stim
- Soft-tissue work/myofascial release to gastroc-soleus complex and plantar fascia
- Mobilization to talus, calcaneus, midtarsal joint, and tibiofibular joints (Calcaneal and talus distractions)
- Flexibility exercises to gasroc-soleus complex in subtalar joint neutral
- Strengthening: Inversion/eversion, PF/DF, Hip external rotators
- Closed kinetic chain (CKC) exercises (Leg press, wall slides, multi-hip, intrinsics)
- Proprioceptive exercises (BAPS, single leg stance (eyes open/closed), proper foot placements, mini-tramp)

Phase II - Subacute Stage (2 to 4 Weeks)

WEEKS 2-4:
- Continuation of modalities, soft-tissue work and mobilizations
- Continuation of flexibility, strengthening, stabilization, proprioception and aerobic exercises

Phase III – Return to Function (4 to 6 Weeks)

WEEKS 4-6:
- Jumping progression
- Progressive return to activities

Postoperative Protocol

Phase I – Protect Incisions & Promote Healing (1-2 Weeks)

WEEKS 0-2:
- Progressive WB (PWB to FWB) in boot
- Control/Eliminate Swelling - Ice behind knee (vascutherm or ice bag) to minimize swelling and control pain
- Wiggle toes, bend hip and knee to avoid muscle atrophy
- Gentle AROM (Gentle proprioceptive exercises as WB increases)
- Acetaminophen (e.g. Tylenol) 500mg every 6 hours alternating with ibuprofen 600mg every 6 hours or meloxicam 15mg once daily. Narcotic pain medication (hydrocodone or oxycodone) should be reserved for breakthrough pain as second line medication. Do not take over 4,000mg of acetaminophen per day.

WEEKS 2-3: Sutures out, transition to shoe once incisions healed and pain allows
- Compression stocking to be worn to control swelling along with ice/elevation

Phase II – Early Range of Motion/Weightbearing (2 to 10 Weeks)

WEEKS 2-6:
- AROM to tolerance with goal to obtain symmetric dorsiflexion
- Initiate AAROM/stretching program
- Seated towel crunch for intrinsics
- Soft tissue mobilization
- Midfoot joint mobilizations
- Begin stationary bike
- Continue to ice behind knee (vascutherm or ice bag) to minimize swelling and control pain Goals
- Continue modalities as needed
  - Increase AROM and PROM

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- Single leg CKC exercises
- Manual Therapy: Talocurual joint, subtalar joint, mid foot, and 1st MTP mobilization

WEEKS 6-10:
- Goal to obtain near full ROM and strength
- Continue/progress phase II exercises
- Gentle proprioceptive/agility drills
- Return to jogging program on treadmill
- Functional Testing (Y Balance Test, Lateral Step Downs)

Phase III – Return to Function (10+ weeks)

WEEKS 10-14:
- Goal to obtain full ROM and strength and return to restricted sports
- Continue manual therapy and may begin plyometric, jumping, and multidirectional training
- Functional Testing: Y Balance Test, Single leg hop test, Triple Hop, Crossover Hop

WEEKS 14+:
- Goal to return to sports unrestricted
- Sport Specific Training
- Functional Testing (Involved should be ~90% of uninvolved)

PHYSICAL THERAPY: start between 2-6 weeks post op, focus on motion and swelling at first, then gait training and strengthening. At 12 weeks begin gentle running / higher impact activities.
DRIVING: Prior to driving, you must be able weightbear on your right foot without crutches. If left heel, may drive automatic transmission car when off narcotic pain medication
FULL RECOVERY: may take up to one year for complete recovery depending on pain, swelling, and the scarring that is common. There is no guarantee on outcome. All conservative management options have risk of worsening pain, progressive irreversible deformity, and failing to provide substantial pain relief. All surgical management options have risk of infection, skin or bone healing issues, and/or worsening pain. Our promise is that we will not stop working with you until we maximize your return to function, gainful work, and minimize pain.
SHOWERING: You may shower with soap and water 1 day after surgery. Avoid lotions, creams, or antibiotic ointments on surgical site until directed by your orthopaedic surgeon. No baths or submerging operative site under water until incision has completely healed.
SKIN CARE: Steristrips are typically placed on your incision at your follow up appointment. Steristrips will typically fall off on their own. Remove steristrips in shower after 3 weeks if they remain on incision. Incisions may become sensitive. Some surgical incisions based on their location and patient factors are more likely to require postoperative scar desensitization with physical therapy. You may use Mederma or other skin protectant lotion once incisions have completely healed and approved by your orthopaedic surgeon. Do not placed cortisone or other steroid on your incision unless directed by your orthopaedic surgeon. Incisions and surgical site scars are more prone to burn by ultraviolet radiation when out in the sun. Always apply sun screen onto the healed incision once fully healed.
STOOL SOFTENERS: While on narcotic pain medication (e.g. Norco/hydrocodone or Percocet/oxycodone) especially within first 72 hours of surgery, you should take stool softener (e.g. Miralax, docusate, senna). Discontinue if you develop loose stool or diarrhea.

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