SBO SOUTH BEND ORTHOPAEDICS

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CAVUS FOOT RECONSTRUCTION PROTOCOL

The cavus foot defies gravity leading to plantar contractures resulting from a variety of etiology including congenital, neurogenic like Charcot-Marie Tooth, idiopathic, and post-traumatic causes. It may lead to lateral column overload and increased risk o flateral ankle instability, peroneal tendonitis, and even stress fractures. When conservative management fails, surgery may be necessary to restore more normal biomechanics, alleviate pain, and resotre a plantigrade foot.

This surgery involves bone, tendon, and/or ligament reconstruction to stabilize the ankle and hindfoot. An osteotomy (or controlled fracture) and arthrodesis (fusion of the joint) in the calcaneus and first metatarsal is frequently part of the surgery. Screws or plates are then used to fix the bone. The peroneal tendons on the outside of the leg, as well as the Achilles tendon, are often addressed. The plantar fascia may be released, and the lateral/outside ankle ligaments fixed or reconstructed. Recovery is limited by bone correction and healing of the controlled fractures

Below is a general outline for these fusion procedures. MD recommendations and radiographic evidence of healing may always affect the timeline.

This is a guideline for recovery, and specific changes may be indicated on an individual basis. Note that your recovery, especially for this surgery, may vary. These are rough guidelines but may be tailored by your surgeon.

Preoperative Physical Therapy

Pre surgical Gait Training, Balance Training, Crutch Training and Knee Scooter Training

Phase I- Protection (Weeks 0 to 6)

GOALS:
- Cast or boot for 6 weeks
- Elevation, ice, and medication to control pain and swelling
- Nonweightbearing (NWB) x 6 weeks
- Hip and knee AROM, hip strengthening
- Minimize Deconditioning: Core and upper extremity strengthening
- Pool therapy at 3 weeks if incisions are healed.

WEEK 1: STRICT NWB in splint
- Elevate the leg above the heart to minimize swelling 23 hours/day
- Ice behind the knee 30 min on/30 min off (Vascutherm or ice bag)
- Minimize activity and focus on rest
- 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.

1ST POSTOP (5-7 DAYS AFTER SURGERY): Dressing change and cast application
- Continue strict elevation, ice, NWB

WEEK 2-3: Sutures removed and cast change
- Continue strict elevation, ice, NWB
- Transition to boot at 2 weeks → begin showering and change to dry dressing as necessary

WEEK 4-5: Return for another cast change (hygiene purposes)

Phase II- Range of Motion and Early strengthening (Weeks 6 to 12)

GOALS:
- Partial weight bearing progress to FWB in boot based on healing and physician instruction
- Active/passive ankle ROM to non-fused joints:
  - Subtalar arthrodesis: all planes; TC, mid and forefoot
  - Triple arthrodesis: DF and PF only
- Isometric all planes allowed and early isotonic ankle planes mentioned above according to procedure
- Foot intrinsic strengthening
- Scar massage
- Joint mobs to NON-fused joints as needed for ROM gains

Developed in conjunction with the physicians at South Bend Orthopaedics

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- Stationary bike **IN** boot start at 6 weeks

WEEK 6-8: Transition to boot if bonoe healing sufficient (**weight bearing begins when xrays demonstrate adequate healing; some patients take longer than others!!**)

- Progressive weight bearing in boot, using crutches/walker, starting with 25% weight and increasing by 25% every 1-2 weeks until fully WB in boot
- Use a scale if available to estimate weight bearing. Put most of your weight on the crutches and opposite leg, then load the scale with the operative leg until it reads 25% of your weight. This is a rough guide that should be used for the first week, then increase to 50%, etc
- When you hit 75%, begin to use one crutch in the OPPOSITE arm
- Begin PT, focus on active ROM first, especially with dorsiflexion/plantarflexion
- Gradually wean out of boot at 10-12 weeks per MD orders

Phase III- Progressive Strengthening:

WEEKS 12-14:

- Transition to a regular shoe, once able to fully weight bear in boot; start using a shoe inside the house and advance to outside activities gradually
- Use ankle stabilizing orthosis when outside or on uneven surfaces
- Low level balance exercise
- Gait training
- Continue PT with progressive hip, knee, and ankle strengthening
- Stationary bike, elliptical, swimming okay

WEEKS 14-16:

- May resume running, impact activities
- Normalize gait mechanics
- Full functional ROM TC joint and other joints as allowed depending on procedure
- Single leg balance and proprioceptive exercises to advance as able (Single Limb Heel Raise)
- Bilateral to progress to unilateral heel raises
- Goal of full strength at 16 weeks
- Gradual progression to non-impact cardio-vascular and fitness activities

PHYSICAL THERAPY: start between 3-6 weeks post op, focus on motion and swelling at first, then gait training and strengthening. Pool therapy may begin at 3 weeks if inicisions have healed.

- Focus on hip/knee/core for first 6-10 weeks to minimize deconditioning
- Patient specific desires on gait training with/without therapist
- DO NOT attempt to gain motion in the planes that were fused: for subtalar/triple arthrodesis, focus only on dorsiflexion/plantarflexion (DO NOT ATTEMPT side to side motion)

DRIVING: Prior to driving, you must be able weightbear on your right foot without crutches. In addition, you may begin driving at 9 weeks if surgery on right ankle; if left ankle, may drive automatic transmission car when off narcotic pain medication

FULL ACTIVITY: This may take 6 to 18 months. 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

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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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