SOUTH BEND ORTHOPAEDICS

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MIDFOOT FUSION PROTOCOL

Midfoot fusion or arthrodesis is frequently utilized for primary midfoot arthritis, ligamentous midfoot injury, deformity correction including cavovarus, flatfoot, and hypermobility of the first ray leading to hallux valgus or painful bunions. The goal of treatment is to maximize long-term function of the midfoot by restoring and maintaining alignment. Successful union is achieved in 92% of patients with greater than 90% patient satisfaction.[1] However, smoking, poor nutrition, poorly controlled diabetes, and early weightbearing increases risk of delayed union, nonunion, and need for reoperation.

General Rehabilitation Guidelines

Plates and/or screws, staples, or other hardware may be used to obtain solid fixation for fusion of the midfoot. Bone allograft or autograft is frequently utilized at the time of surgery to help bone healing and improve rate of successful bone fusion.

This is a general guideline. Specific changes may be indicated on a case by case basis at the discretion of your surgeon

Preoperative Physical Therapy: Pre surgical Gait Training, Balance Training, Crutch Training and Knee Scooter Training

Phase I – Initial Stability (0 to 6 weeks)

GENERAL TREATMENT:
- General lower extremity strengthening (SLR, quad sets, etc)
- AROM may begin around 2 weeks post op if fixation secure/stable
- Edema control
- Scar massage (once sutures removed)
- Nonweightbearing (NWB) until allowed by physician.

WEEK 1: Strict elevation of the leg above the heart (23 hours/day!)
- Ice behind knee (vascutherm or ice bag) to minimize swelling and control pain
- Wiggle toes, bend hip and knee to avoid muscle atrophy
- 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 POST OP (5-7 DAYS): Dressing changed, cast applied to control swelling
- Continue ice, elevation

WEEK 2-3: Sutures out, transition to boot
- Come out of the boot and begin to move your ankle up and down for 5-10 minutes, 5 times per day to maintain range of motion (ROM)
- Compression stocking to be worn to control swelling along with ice/elevation
- Sleep in boot

Phase II – Early Range of Motion/Gait Training (4 to 8 weeks)

WEEK 6:
- ***Weightbearing as determined by physician.*** Depends on fracture pattern, bone quality, and healing. Healing may be longer; your surgeon will x-ray your midfoot and tell you when it is safe to begin putting weight on your foot.
- **Weightbearing Fusion Protocol.** Progressive weight bearing in boot, using crutches/walker, starting with 25% weight and increasing by 25% every 1-2 weeks until fully weightbearing (WB) in boot
- NOTE: 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
- Continue with edema control strategies as necessary.
- **PT**: AROM to tolerance//Initiate AAROM/stretching program//Seated towel crunch for intrinsics//Soft tissue mobilization//Stationary bike

WEEKS 6-10 (STABLE FUSION):
- Continue to be weightbearing as tolerated in boot for 3 months following surgery
- You may exercise on recumbent stationary bike with boot on.
- Advance daily stretching

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- PT: Ankle isometrics progressing to open chain isotonics//Closed chain exercise (Weight machines, weight shifts, seated BAPS)//Proprioception exercise (SLB, diagonal doming and foot intrinsic strengthening)//Joint mobilizations to increase talocrural and subtalar ROM

Phase III – Return to Function (8 to 12 weeks)

WEEKS 8-12:
- Continue to be weightbearing as tolerated in boot for 3 months following surgery
- Compression stocking at least 16 hours per day (do not wear while sleeping)
- Do not need to sleep in boot

WEEKS 12-16:
- Transition to normal shoe. When transitioning to regular shoe, ambulate first around the house and then progress to outside.

WEEK 16:
- May return to jogging program, running, and higher impact activities
- Fit for orthotics if needed
- Progress previous strengthening, stretching and proprioception exercises
- Sport and agility drills/tests

PHYSICAL THERAPY: Start 6 weeks post op, focus on motion and swelling at first, then gait training and strengthening. At 12 weeks transition to normal shoe.
DRIVING: Prior to driving, you must be able weightbear on your right foot without crutches for 2 weeks. If left midfoot, you may drive automatic transmission car when off narcotic pain medication
FULL RETURN TO FUNCTION: Once you can come up and down on your toes (single heel rise) on the surgical side, or you can hop on the surgical foot (single leg hop), you may return to sports and all activities. This may take 6 months to a year.
PHYSICAL THERAPY: start between 4-6 weeks post op, focus on motion and swelling at first, then gait training and strengthening
- focus on hip/knee/core for first 6-10 weeks
- 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 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.

REFERENCES:

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