



DR. STRASSER TOTAL ANKLE REPLACEMENT POST-OPERATIVE PROTOCOL

Physical Therapy Guideline

This rehabilitation protocol serves as a general guideline following total ankle arthroplasty. Individual recovery timelines may vary depending on patient factors and whether additional procedures were performed (e.g., tendon reconstruction, osteotomy, ligament repair, or hindfoot fusion). Modifications should be made based on wound healing, swelling, and surgeon recommendations.

Phase I: Immediate Postoperative Phase

Weeks 0–3

Precautions

- Non-weight bearing in splint or cast
- Strict limb elevation
- Monitor incision and soft tissue healing

Interventions

- Wound check between 2–3 weeks post-operative
- Transition from splint to cast or boot per surgeon
- Gait re-education with crutches or walker
- Active ROM of hip and knee
- Isometric quadriceps and gluteal activation
- Limb elevation at least 6 inches above the heart for 22 hours per day

Goals

- Safe and independent use of assistive device
- Pain and swelling control
- Maintain proximal joint mobility

Rationale



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Early immobilization protects the surgical wound and soft tissue envelope, which is particularly important in ankle arthroplasty due to limited anterior soft tissue coverage (Younger et al., 2019).

Phase II: Early Mobility Phase

Weeks 3–6

Precautions

- Boot worn at all times except exercises and hygiene
- Avoid aggressive ankle motion

Interventions

- Suture removal if not previously completed
- Initiate **Active Assisted ROM (AAROM)** of the ankle
- Gentle plantarflexion and dorsiflexion exercises
- Boot removed 2–3 times daily for exercises
- Boot worn at night
- Axial loading permitted while standing
- Non-weight-bearing strengthening of quadriceps and hip

Goals

- Gradual increase in ankle mobility
- Safe and independent mobility with assistive device
- Maintain proximal strength

Rationale

Early controlled ROM improves functional mobility and reduces postoperative stiffness without compromising implant stability (Schipper et al., 2017).

Phase III: Progressive Weight-Bearing Phase

Weeks 6–10

Precautions



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- Weight bearing allowed only after wound healing confirmed

Interventions

- Progress to **Weight Bearing As Tolerated (WBAT)** in supportive shoe once wound healed
- Gradual weaning from boot between weeks 6–8
- Standing weight shifting exercises
- Gradual walking progression
- Continue ankle AROM exercises
- Continue limb elevation for swelling management
- Core strengthening emphasizing transversus abdominis activation
- Hip strengthening emphasizing gluteus medius
- Begin joint mobilization and scar massage
- Stationary cycling permitted
- Swimming permitted if incision fully healed

Goals

- Restore ankle ROM
- Maintain hip and knee strength
- Improve core stability
- Achieve safe ambulation

Rationale

Progressive loading improves functional recovery while protecting implant fixation and bone integration (Glazebrook et al., 2019).

Phase IV: Strength and Functional Recovery

Weeks 10–14

Interventions

- Continue joint mobilization and scar massage
- Heat therapy as needed for stiffness
- Stationary cycling
- Gait training
- Low-level balance and proprioception exercises
- Progressive strengthening of hip, knee, and ankle
- Continue core strengthening



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Goals

- Improve lower extremity strength
- Normalize gait mechanics
- Improve proprioception

Rationale

Neuromuscular and balance training improves functional recovery and gait symmetry after ankle arthroplasty (Clough et al., 2018).

Phase V: Advanced Strength and Proprioception

Weeks 14–16

Interventions

- Begin unilateral stance exercises
- Progress balance and proprioception training
- Begin bilateral heel raises progressing to unilateral

Goals

- Independent ambulation without assistive device
- Restore functional ankle ROM

Expected Ankle ROM

- Dorsiflexion: approximately 10°
- Plantarflexion: approximately 35°

These values reflect typical motion achieved following modern total ankle arthroplasty (Lawton et al., 2017).

Phase VI: Return to Activity

Week 16 and Beyond



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Patients may gradually return to recreational activities such as:

- Golf
- Tennis
- Hiking
- Low-impact gym activities

Goal is restoration of full strength and functional mobility.

High-impact activities such as running or jumping are **not recommended** following total ankle replacement due to risk of implant wear and loosening.

Additional Notes

Pain and Swelling

Swelling is common following ankle replacement and may persist for **6–12 months** postoperatively. Mild redness around the incision can occur and does not necessarily indicate infection. Persistent drainage or progressive redness should prompt medical evaluation.

Driving

Patients may drive when:

- Surgery was performed on the **left foot**,
- The vehicle is automatic, and
- Pain and swelling allow safe control.

If surgery was on the **right foot**, patients must be fully weight bearing and able to safely perform an emergency stop.

Patients **cannot drive while wearing a walking boot.**

Patients should verify coverage with their insurance provider prior to returning to driving.

Return to Work

Sedentary work:
3–4 weeks post-operative



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Standing or walking occupations:
Approximately 4 months post-operative

Intermediate physical jobs:
Individualized based on recovery and surgeon guidance.

Activity Restrictions

Patients with a total ankle replacement should avoid:

- Running
- Jumping sports
- High-impact activities

Low-impact activities are recommended to maximize implant longevity.

Key References

Younger ASE, et al. Total ankle arthroplasty: current concepts and outcomes. JBJS Am. 2019.
Glazebrook M, et al. Evidence-based indications for total ankle arthroplasty. Foot Ankle Int. 2019.
Schipper ON, et al. Postoperative rehabilitation following total ankle replacement. Foot Ankle Int. 2017.
Clough TM, et al. Functional outcomes following total ankle replacement. Bone Joint J. 2018.
Lawton CD, et al. Rehabilitation after ankle arthroplasty. Foot Ankle Clin. 2017.