KEVIN O'DONNELL, MD

Orthopaedic Surgery · Sports Medicine

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PHYSICAL THERAPY PROTOCOL

Total Knee Replacement

Total knee arthroplasty

Rehabilitation after knee replacement emphasizes early motion and quadriceps control, with immediate weight bearing. Regaining extension and flexion early is the priority, because a stiff knee is the most common rehabilitation problem. Long-term activity is low-impact.

General Precautions

- Weight bearing as tolerated with a walker or crutches, weaning as strength and balance allow.
- Priority on regaining full extension and flexion early to avoid stiffness.
- Manage swelling; ice and elevate.
- Low-impact activity only long term (avoid running and jumping).

Phase I — Motion & Mobility Weeks 0–2

Goals

- Full passive extension
- Flexion ≥90°
- Restore quad control
- Independent gait with assistive device

Precautions / Restrictions

- Assistive device for gait
- Avoid prolonged sitting with the knee bent

Exercises & Interventions

- Quad sets, straight-leg raises, ankle pumps
- Heel slides / seated flexion
- Full passive extension (heel props)
- Patellar mobilizations
- Gait and transfer training
- Ice / elevation

Criteria to Advance

- Full extension
- Flexion ≥90°
- Safe independent transfers/gait

Phase II — Progressive Motion & Strength Weeks 2–6

Goals

- Flexion ≥110–120°
- Wean assistive device
- Improve strength and gait

Exercises & Interventions

- Progress flexion (goal 0–120°)

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- Wean walker/crutches to cane then none as safe
- Closed-chain strengthening (mini-squats, step-ups)
- Stationary bike
- Balance training
- Stair training

Criteria to Advance

- Flexion ≥115°
- Normal gait without assistive device

Phase III — Strengthening Weeks 6–12

Goals

- Restore strength, endurance, and function

Exercises & Interventions

- Progressive resistive strengthening
- Single-leg balance and control
- Endurance conditioning
- Functional / stair training

Criteria to Advance

- Independent with daily activities
- Strength improving symmetrically

Phase IV — Return to Activity Months 3–6

Goals

- Return to low-impact recreation

Exercises & Interventions

- Continue strengthening and conditioning
- Low-impact activity (walking, cycling, swimming, golf) as cleared

Criteria to Advance

- Functional painless motion and strength

This protocol is a general guideline. Progression is criteria-based and may be advanced or slowed by Dr. O'Donnell based on intraoperative findings, tissue quality, fixation, and individual healing. Time frames are approximate. Direct questions to the office at (305) 393-8810.