Total Knee Arthroplasty

Physical Therapy Protocol · APTA Clinical Practice Guideline–Based

Per APTA guidelines, physical therapy should begin within 24 hours of surgery. Phases below follow the APTA CPG for physical therapist management of TKA.

AT A GLANCE

TIMELINE	24 weeks; PT begins within 24 hours of surgery
WEIGHT BEARING	As tolerated with walker/crutches from day of surgery
KEY METRICS	ROM (extension/flexion), 30-Second Sit-to-Stand, TUG, KOOS JR
MILESTONES	≥90° flexion by week 2 · ≥110° by week 6 · 0°–120°+ by week 12

KEY PRECAUTIONS

- If ROM <90° at 6–8 weeks, notify surgeon — manipulation under anesthesia may be considered.
- Avoid high-impact activities; return to activity guided by individual competency.

PHASED REHABILITATION

PHASE 1 — ACUTE / INPATIENT	Days 0–3
GOALS	• Safe ambulation day of surgery • Edema and pain control • Protect extension
INTERVENTIONS	• Ambulation initiated day of surgery with walker/crutches; weight bearing as tolerated • Knee immobilizer at night for comfort and extension maintenance • Quad sets, ankle pumps, SLR, gentle heel slides • Cryotherapy for edema control • Outcome measures: 30-Second Sit-to-Stand, Timed Up and Go (TUG)
CRITERIA TO ADVANCE	• Independent household ambulation with device • Safe transfers

PHASE 2 — EARLY OUTPATIENT	Weeks 1–6
GOALS	• ROM 0° to ≥90° flexion by week 2; ≥110° by week 6 • Wean assistive device
INTERVENTIONS	• PT 2–3 times/week (in-clinic or home-based) • Progressive strengthening: SLR all planes, mini-squats, step-ups, seated knee extension • Gait training with progressive assistive-device weaning • Stationary bike when ROM permits (~90° flexion) • Discontinue walker/crutches at ~4 weeks; cane for distances as needed
CRITERIA TO ADVANCE	• ROM 0°–110° • Ambulating without walker/crutches

PHASE 3 — INTERMEDIATE	Weeks 6–12
GOALS	• ROM 0°–120°+ flexion • Progressive strength and balance
INTERVENTIONS	• Progressive resistance exercises: leg press, wall squats, stair training • Balance and proprioception training • Recumbent bike, pool therapy, elliptical • If ROM <90° at 6–8 weeks, consider manipulation under anesthesia (surgeon decision)
CRITERIA TO ADVANCE	• ROM 0°–120°+ • Reciprocal stair negotiation

Guideline only — individualize per intraoperative findings and patient response. Questions: contact Dr. Pettit's office.

PHASE 4 — ADVANCED / RETURN TO FUNCTION	Weeks 12–24
GOALS	• Community-level function and recreation
INTERVENTIONS	• Functional training: community ambulation, recreational activities • Low-impact aerobic conditioning (walking, cycling, swimming) • Adjuncts with demonstrated benefit: pedaling exercise, weight training, balance/sensorimotor training • Patient-reported outcome: KOOS JR
CRITERIA TO ADVANCE	• Independent community ambulation • Return to low-impact recreation

GUIDING PRINCIPLES

This protocol follows criterion-based progression over rigid time-based advancement; phased rehabilitation balancing tissue healing with controlled stress application; objective milestones (ROM, strength LSI, functional testing) to guide phase transitions; individualization based on surgical findings, tissue quality, and patient factors; and ongoing surgeon–therapist communication throughout recovery.

REFERENCES

1. Jette DU, Hunter SJ, Burkett L, et al. Physical Therapist Management of Total Knee Arthroplasty (APTA Clinical Practice Guideline). Phys Ther. 2020;100(9):1603-1631.

2. Hsieh CJ, DeJong G, Vita M, et al. Effect of Outpatient Rehabilitation on Functional Mobility After Single Total Knee Arthroplasty: A Randomized Clinical Trial. JAMA Netw Open. 2020;3(9):e2016571.

3. Fortier LM, Rockov ZA, Chen AF, Rajaee SS. Activity Recommendations After Total Hip and Total Knee Arthroplasty. J Bone Joint Surg Am. 2021;103(5):446-455.

4. Scott RD. Posterior Cruciate-Retaining Total Knee Arthroplasty. Journal of Medical Insight (JOMI).

For clinical use by licensed physical therapists treating patients of Robert Pettit, MD. This document is a rehabilitation guideline, not a substitute for clinical judgment. Progression must be individualized based on intraoperative findings, tissue quality, and patient response. Scan the QR code for the current version of this protocol.