

Arthroscopic Irrigation & Debridement (Knee)

Physical Therapy After I&D; for Knee Infection · General Guideline

Published rehabilitation protocols after arthroscopic irrigation and debridement of the infected knee are limited; this is a general, evidence-informed guideline for progression as tolerated, based on the arthroscopic septic arthritis literature (early motion after drain removal, protected loading, and rehabilitation coordinated with the antibiotic course directed by infectious disease).



AT A GLANCE

TIMELINE	6+ weeks; pace is governed by infection response (exam, fevers, CRP/ESR trend) and the antibiotic course rather than fixed tissue-healing windows
WEIGHT BEARING	WBAT unless the surgeon specifies protection; some protocols protect weight bearing with crutches for up to 6 weeks when articular cartilage involvement is significant
KEY MILESTONES	ROM started within 24–48 hours (after drain removal if drains placed) · wound healed ~2 weeks · full ROM and normal gait by weeks 4–6
RETURN TO ACTIVITY	Progressive return after clinical and laboratory resolution of infection and completion of the antibiotic course, with surgeon and infectious disease clearance

KEY PRECAUTIONS

- Escalating pain, recurrent effusion, fever, wound drainage, or rising inflammatory markers may indicate persistent infection requiring repeat irrigation - hold progression and contact the surgeon promptly.
- Wound precautions: portals/incisions must be protected until healed; no submersion (pool, tub) until the wound is closed and cleared; monitor around any retained drain sites.
- Coordinate with the infectious disease treatment course (IV/oral antibiotics, PICC line care); schedule therapy around antibiotic infusions and monitor for medication-related fatigue or GI intolerance.
- If infection followed a prior reconstruction or arthroplasty, the underlying procedure's restrictions still apply - reconcile both protocols with the surgeon.

PHASED REHABILITATION

PHASE 1 — INFECTION CONTROL & EARLY MOTION		Weeks 0–2
GOALS	- Support infection clearance while preventing stiffness and quadriceps shutdown - Initiate early ROM (within 24–48 hours; after drain removal when drains are used) - Protect the wound and control effusion	
INTERVENTIONS	- WBAT with assistive device as needed unless the surgeon specifies protected weight bearing - Early PROM/AAROM: heel slides, wall slides, seated flexion, extension positioning; ROM as tolerated without forced end-range while the joint is inflamed - Quad sets, SLR, ankle pumps, hip strengthening within comfort; NMES if quadriceps inhibition is marked - Edema management: elevation, cryotherapy, compression as wound allows - Daily wound surveillance; temperature and symptom monitoring; communicate CRP/ESR trends with the surgical team - Patient education on antibiotic adherence, PICC precautions, and red-flag symptoms	
CRITERIA TO ADVANCE	- Afebrile with improving pain, effusion, and inflammatory markers - Wound healing without drainage - Flexion $\geq 90^\circ$ with full extension and independent quad set/SLR	

PHASE 2 — RESTORATION & RETURN TO FUNCTION		Weeks 2–6+
GOALS	- Restore full ROM, strength, and normal gait - Return to daily activity as the antibiotic course completes - Establish criteria-based return to higher-level activity with the surgical team	
INTERVENTIONS	- Progress to full weight bearing and normalized gait; wean assistive device - ROM progression to full flexion and extension; stationary bike advancing from rocking to resisted cycling - Progressive strengthening: closed-chain squats, leg press, step-ups, hamstring and calf work - Balance and proprioceptive training; stair and functional task progression - Low-impact conditioning (walking program, pool after wound clearance, elliptical) - Graded return to occupational/recreational demands after infection resolution is confirmed (normalized labs, completed antibiotics) and surgeon/ID clearance	
CRITERIA TO ADVANCE	- Full, pain-free ROM without recurrent effusion - Normal gait and functional strength for ADLs and stairs - Clinical and laboratory resolution of infection with completed antibiotic course - Surgeon and infectious disease clearance for full activity	

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. Stutz G, Kuster MS, Kleinstueck F, Gaechter A. Arthroscopic Management of Septic Arthritis: Stages of Infection and Results. *Knee Surg Sports Traumatol Arthrosc.* 2000;8(5):270-274.
2. Ivey M, Clark R. Arthroscopic Debridement of the Knee for Septic Arthritis. *Clin Orthop Relat Res.* 1985;(199):201-206.
<https://pubmed.ncbi.nlm.nih.gov/3899448/>
3. Faour M, et al. Arthroscopic Irrigation and Debridement Is Associated With Favourable Short-Term Outcomes vs. Open Management: An ACS-NSQIP Database Analysis. *Knee Surg Sports Traumatol Arthrosc.* 2019.
<https://esskajournals.onlinelibrary.wiley.com/doi/10.1007/s00167-018-5328-1>

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.