

Manipulation Under Anesthesia (Knee)

Physical Therapy After MUA for Arthrofibrosis · General Guideline

Published, procedure-specific rehabilitation protocols after knee MUA are limited; this is a general, evidence-informed guideline for progression as tolerated, drawing on the multicenter randomized trial of MUA for post-TKA stiffness (Abdel et al., 2024) and institutional post-MUA instructions. The defining principle is immediate, frequent motion work to retain the range gained under anesthesia.



AT A GLANCE

TIMELINE	6 weeks of focused rehabilitation; the first 2 weeks are decisive for retaining manipulated ROM
WEIGHT BEARING	WBAT immediately, consistent with the patient's underlying TKA/surgical status; assistive device 24–48 hours for comfort only
KEY MILESTONES	PT initiated within 24–48 hours · flexion within ~10° of ROM achieved under anesthesia maintained through week 2 · full active extension throughout
RETURN TO ACTIVITY	Resume prior post-TKA/post-surgical activity progression by weeks 4–6 once gained motion is consolidated

KEY PRECAUTIONS

- Recurrent motion loss occurs fastest in the first 2 weeks; missed PT sessions or home-program lapses in this window directly threaten the result - schedule frequent visits before the procedure when possible.
- Notify the surgeon if flexion falls more than 10°–15° below the range achieved under anesthesia, or if extension lag or a firm early end-feel develops.
- Aggressive stretching should reproduce stretch discomfort, not sharp pain; monitor for hemarthrosis, wound drainage, or signs of periprosthetic fracture after manipulation (rare) and refer promptly.

PHASED REHABILITATION

PHASE 1 — INTENSIVE MOTION RETENTION		Weeks 0–2
GOALS	- Retain the flexion and extension achieved under anesthesia - Control pain, effusion, and post-manipulation inflammation - Maintain quadriceps activation without extensor lag	
INTERVENTIONS	- Begin PT within 24–48 hours of the procedure; frequent supervised sessions the first 2 weeks (commonly 3–5x/week or daily per surgeon) plus a home ROM program performed several times daily - Aggressive but controlled PROM/AAROM into flexion and extension: heel slides, wall slides, supine and seated flexion with overpressure, low-load long-duration extension stretching - CPM machine per surgeon preference, progressing daily toward the flexion achieved in the operating room - Patellar and soft-tissue mobilization to limit adhesion re-formation - Quad sets, SLR, NMES for quadriceps activation; stationary bike (rocking progressing to full revolutions) as flexion allows - Cryotherapy with compression after sessions; oral analgesia timed before therapy to permit productive stretching	
CRITERIA TO ADVANCE	- Flexion maintained within ~10° of the range achieved under anesthesia - Full active extension without lag - Effusion and pain controlled enough to tolerate daily ROM work	

PHASE 2 — CONSOLIDATION & STRENGTHENING		Weeks 2–6
GOALS	- Consolidate ROM gains and convert passive range to active, functional motion - Restore quadriceps/hamstring strength and normalize gait - Transition to independent maintenance program	
INTERVENTIONS	- Continue end-range flexion and extension stretching daily; taper supervised frequency as measurements remain stable - Progressive strengthening: long-arc quads, hamstring curls, leg press, sit-to-stand, step-ups, wall sits - Stationary bike with progressive resistance; pool or elliptical work as tolerated - Gait training without assistive device; balance and stair progression - Ongoing home ROM program 2–3x daily with self-overpressure techniques	
CRITERIA TO ADVANCE	- Stable or improving ROM across consecutive visits (goal ≥90°–110° flexion or per surgeon expectation, with full extension) - SLR without lag and functional quadriceps strength for stairs and transfers - Independent with maintenance home program; resumption of prior activity progression	

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. Abdel MP, Salmons HI, Larson DR, et al. The Chitranjan S. Ranawat Award: Manipulation Under Anesthesia to Treat Postoperative Stiffness After Total Knee Arthroplasty: A Multicenter Randomized Clinical Trial. J Arthroplasty. 2024;39(8S1):S9-S14.e1.
2. Jazrawi LM (NYU Langone Orthopedic Center). Knee Manipulation Under Anesthesia and Lysis of Adhesions: Post-Operative Instructions and Rehabilitation.
<https://www.newyorkortho.com/pdf/knee-manipulation-under-anesthesia-and-lysis-of-adhesions-post-op-instructions-and-rehab-14jan.pdf>

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