

PARTIAL KNEE REPLACEMENT

Physical Therapy Protocol · Medial or Lateral (Unicompartmental)

PATIENT

SURGEON

Andrew L. Merritt, MD

DATE OF SURGERY

PT START DATE

For the patient

A partial knee replacement replaces only the damaged side of your knee and keeps everything else, including your ligaments. **Recovery is faster than after a total knee, but the first ten days deserve the same respect.** Swelling shuts down your quad muscle, and your quad drives your recovery. Early on, **ice 20 minutes on, 20 minutes off**, keep your leg up, and squeeze your quad every hour. **Getting your knee fully straight comes first.** Never rest with a pillow under your knee; put it under your calf or heel.

PROTOCOL AT A GLANCE

WEIGHT BEARING	Full weight as tolerated from day 1, with a rolling walker
WALKER · CANE	Walker at first. Most people move to a cane around week 2 and walk without anything by weeks 3 to 4
MOTION GOALS	Full straightening (0°) is the first priority. About 80–90° of bending by 2 weeks (often sooner), past 110° by 6 weeks, past 120° by 12 weeks
PHYSICAL THERAPY	Starts 5 to 7 days after surgery, 2 times a week at first, then weekly and as needed after 6 weeks
KEY PRECAUTIONS	Never put a pillow under the knee , only under the calf or heel. Ice 20 minutes on, 20 minutes off while awake. Don't force bending early
RETURN TO ACTIVITY	Most people reach their activity goals by 2 to 3 months . Running and jumping are not recommended

Recovery Timeline

Phase	When	PT visits	Focus
1	Days 0–10	2× a week	The Quiet Knee: walker, control swelling, quad sets, full straightening, working toward about 80–90° by 2 weeks
2	Weeks 2–6	2× a week	Cane by week 2, no device by weeks 3–4; bike, step-ups, stairs, everyday activities
3	Weeks 6–12	1× a week, then as needed	Strength to match the other leg; walking, cycling, golf, pickleball, hiking

For the Therapist

Check the surgeon notes first. They override anything else in this protocol. Questions or setbacks: call (425) 656-5060.

Surgeon notes and special instructions

General principles

- **The Quiet Knee applies fully to UKA.** First 7–10 days: cryotherapy 20 min on, 20 min off while awake, minimal PT intensity, and control of inflammation before chasing motion. The principles are the same as TKA; the timeline is faster.
- **UKA recovers faster than TKA.** Do not artificially slow progress once milestones are met. The preserved ACL and PCL give proprioceptive input that speeds neuromuscular recovery. When milestones are met early, advance early.
- **Full extension is the priority from day 1.** No pillow under the knee; pillow under the calf or heel. An extension lag reflects quad inhibition and must be addressed from the start.
- **Quad activation** begins on day 1 with quad sets. AMI affects UKA less than TKA but remains the main early barrier to functional recovery.
- **NMES** is provided by the therapist at PT visits only (no home unit), starting at the first PT visit.
- **Weight bearing as tolerated from day 1.** Most UKA patients advance to a cane by week 2 and no device by weeks 3–4.
- **PT frequency:** 2× a week in Phases 1–2. UKA is typically a same-day or 23-hour stay.

PHASE

1

The Quiet Knee

Days 0–10

For the patient: what to expect

A partial knee replacement recovers faster than a full one, but the first 10 days still deserve the same respect. **Ice 20 minutes on, 20 minutes off** while you are awake, and keep your leg up and straight. Do your ankle pumps and quad squeezes. You'll be moving well sooner than you expect, but only because you controlled the swelling from the start.

WEIGHT BEARING

As tolerated from day 1 with a rolling walker. Most UKA patients advance to a cane by week 2

BRACE

None

Goals

- Control inflammation and swelling; cryotherapy is mandatory
- Quad activation from day 1: quad sets, ankle pumps
- Safe functional mobility: transfers and household walking with a rolling walker
- Active flexion about 80–90° by the 2-week visit; extension lag <5°

Move on when

- ☐ Active flexion about 80–90° by the 2-week visit; extension lag <5°
- ☐ Pain controlled; swelling manageable
- ☐ Safe, independent transfers and household walking
- ☐ Discharged home on day 0–1

Exercises

Exercise	How
Quad sets	3 × 15 every 1–2 hours while awake
Ankle pumps	3 × 20 every hour (DVT prophylaxis)
Heel slides	Supine, gravity-assisted: 3 × 10; no forcing
Straight-leg raise	When quad control is present and the lag is <10°: 3 × 10
Seated knee flexion · extension	Active, in a chair: 3 × 10
Transfer training	Supine-to-sit, sit-to-stand
Gait training	Rolling walker; advance to a cane when safe
Stair training	Non-reciprocal, with the assistive device
Cryotherapy	20 min on, 20 min off while awake; mandatory
NMES	To the quadriceps at PT, if available (no home unit): 20-min sessions

Precautions

- No pillow under the knee; calf only, to keep the leg straight and protect extension
- Cryotherapy is mandatory: 20 min on, 20 min off while awake
- Avoid prolonged dependent positioning; elevate when resting
- Do not force motion. UKA patients often gain early flexion quickly; early gains are not permission to push harder. Respect the healing soft-tissue envelope

Why: Despite less bone and soft-tissue resection than TKA, UKA causes significant synovial inflammation in the first week. Effusion causes AMI and quad inhibition by the same mechanism as in TKA. The Quiet Knee approach applies the same first-week rules: minimize loading, maximize cryotherapy, protect full extension. The only difference from TKA is that the quiet period may pass more quickly.

PHASE

2

Motion and Strength

Weeks 2–6

For the patient: what to expect

This is where partial knee replacements shine: you'll gain motion and strength faster than after a full replacement. **Keep icing after every PT session.** Work on straightening and bending, walking normally, and stairs. Most people are off the cane by the end of this phase, often sooner.

WEIGHT BEARING	Full. Advance walker → cane → no device as quad control and gait allow. UKA patients typically advance 2–4 weeks faster than TKA
BRACE	None
Goals - Active flexion >110° and full extension (0°), often faster than TKA - No assistive device; most UKA patients reach this by weeks 3–4 - Normal gait; progress to reciprocal stairs - Quad strength: SLR without a lag; step-up and step-down progression - Independent with all ADLs Move on when ☐ Active flexion >110°; extension 0° ☐ No quad lag on SLR ☐ Walks without an assistive device with a normal gait ☐ Ascends a 6-inch step with good control ☐ Independent with all ADLs; minimal swelling after activity	

Exercises

Exercise	How
Motion	PROM and AROM flexion and extension: heel slides, wall slides, seated progression
Extension stretching	Prone hang or seated heel prop; maintain 0°
Straight-leg raise	All planes, with progressive resistance
Stretching	Quad and hamstring
Step-ups · step-downs	Start at 2–4 inches; advance with strength
Patellar mobilization	Once the incision is stable
Stationary bike	Short crank if flexion <90°; full crank once >110°; 15–20 min
NMES · EMG biofeedback	At PT, for quad re-education if a lag is present
Mini squats	With continued quad sets and SLR
Gait training	Heel strike, full knee extension at loading response, reciprocal arm swing
ADL training	Sit-to-stand, car transfers, tub or shower entry

Precautions

- Continue cryotherapy after every PT session through week 6
- Do not rush device weaning; gait quality comes before speed
- Criterion-based advancement: UKA patients often progress quickly, so resist skipping steps. Soft-tissue healing does not speed up because the implant is smaller

Why: UKA patients often advance faster than expected in Phase 2, and the temptation is to skip steps. The same collagen remodeling and ligament adaptation biology applies. Criterion-based advancement protects the preserved compartment and the native cruciate ligaments from overload during the soft-tissue remodeling window.

PHASE

3

Strength and Return to Activity

Weeks 6–12

For the patient: what to expect

By now most people are close to how they functioned before the arthritis. Keep strengthening, and get back to walking, cycling, and recreation. **Most people reach their activity goals by 2 to 3 months.** After a partial knee replacement you can often return to more active pursuits than after a total knee. Dr. Merritt clears you for specific activities at your follow-up visit.

WEIGHT BEARING	Full, no restrictions
BRACE	None

Goals

- Active flexion >120° with full extension maintained
- Symmetrical lower-extremity strength
- Return to recreational and community activities
- Discharge to an independent home program

Move on when

- ☐ Active flexion >120°; extension 0° maintained
- ☐ Lower-extremity strength ≥4+/5; symmetrical quad function
- ☐ Descends an 8-inch step without pain or deviation
- ☐ TUG ≤12 sec
- ☐ No significant swelling with community-level activity

Exercises

Exercise	How
Leg press	Bilateral → unilateral → eccentric
Step-ups · step-downs	Advance to 6–8 inches
Squats	Functional squats: wall, ball, body weight
Treadmill · elliptical	Retro treadmill → forward treadmill → elliptical; 20–30 min
Stationary bike	Progressive resistance; 20–30 min
Balance	Single-leg stance on flat ground, then foam; dynamic challenges
Single-leg work	Unilateral leg press, short-arc quads
Kinetic chain	Hip, hamstring, and calf as needed

Precautions

- Avoid high-impact activity (running, jumping): it risks overloading the opposite compartment and early degeneration
- Persistent effusion after activity calls for less load and an evaluation

Why: UKA preserves the opposite compartment and both cruciate ligaments, so the knee moves more like a native knee than after TKA, and low-impact recreation is generally well tolerated. High-impact loading, however, risks progressive degeneration of the preserved compartment and earlier revision to TKA. Activity guidance is individualized by Dr. Merritt based on age, alignment, and activity goals.

Return to Activity

Discharge to an independent home program once the Phase 3 milestones are met.

GREAT GOALS	Walking, cycling, swimming, elliptical, golf, pickleball, and hiking
NOT RECOMMENDED	Running and jumping
CLEARANCE	Dr. Merritt clears return to specific activities at follow-up

Questions about PT progress? Patients can call our office or bring them to their next appointment. We are always glad to coordinate with the therapist.