

**University Orthopedics, Inc.
Adult Reconstruction Division**

Total Knee Arthroplasty (TKA) POST-OP REHABILITATION PROTOCOL

The following is a protocol for post-operative patients following Total Knee Arthroplasty (TKA) rehabilitation. The primary goal of this protocol is to protect the reconstruction while steadily progressing towards maximizing functional potential. Each patient following reconstruction will progress at a different rate. Achieving the criteria of each phase should be emphasized more than the approximate duration. If a patient should develop an increase in pain or swelling, or decrease in motion at any time, the plan of care should be re-visited with the physical therapist and/or surgeon.

If you have any questions or concerns regarding your care please call our office at (401) 277 – 0790 to speak with your surgeon, or (401) 330 – 1428 to speak with your physical therapist.

Key Points

- Achieving **FULL** range of motion is critical to a full recovery (**Goal: 0 – 120 degrees AROM**)
- If 0 (Knee straight) – 90 degrees (Knee over toes) is not achieved by 6 weeks then a patient would need to consult with their surgeon for an additional surgical procedure of *manipulation under anesthesia*, which is rarely required and should be avoided if at all possible
- At **MINIMUM** AROM should be 5 – 90 degrees by week 4
- Full functional return without restrictions should occur at approximately 12 weeks
- Be sure to take prescribed medications that will aid in post-operative healing and pain control during PT
- **DO NOT sleep with pillow underneath knee at any point after surgery**
- **DO NOT sleep in a recliner with your knees bent at any point after surgery**
- When at rest, position knee into full extension (straight): you can place a rolled towel or pillow behind your calf to aid in achieving full extension
- Ice 2-3 times per day for the first 2 weeks post-surgically
- Emphasize terminal knee extension stretching at 3 weeks if knee is not completely straight on table

PHASE I: 0 – 3 DAYS POSTOPERATIVE

GOALS:

- Progressive reduction in swelling
- PROM: 0-90 degrees
 - Prevent postoperative stiffness
- Progress knee extension strength to $\geq 3+/5$
- Independent with ambulation using rolling walker
 - Weight-bearing as tolerated

ACTIVITIES:

Patellar Mobilizations
Superior and Inferior Glides
Modalities to control pain
Ice limb 2-3x/day 15-20 minutes
Elevate limb as able when lying supine or sitting
Gait training with rolling walker
Stairs – If needed

Stretching - Passive Therapist-Assisted

Extension: Quad set with overpressure at distal thigh using heel prop

- Patient education on importance of achieving terminal knee extension for normal gait

Flexion: Seated in chair and/or lying supine

Active Assisted ROM - Completed throughout the day

Extension: Quad Set w/ overpressure in long-sit using heel prop (Bed or Chair). 10-second holds x 5 repetitions (Moderate Pressure)

Flexion: Heel Slides – 10-second holds x 5 repetitions (Moderate Pressure)

Proprioception – Bilateral Heel Raises, Lateral weight-shifting with walker, and modified tandem stance with walker.

Gait Training – Education on knee extension

Strengthening: Seated ankle pumps, Long arc quads (active assist if needed), hip flexion, and hip abduction

PHASE II: ~ 3 DAYS – 4 WEEKS POSTOPERATIVE

GOALS:

- Progressive reduction in swelling
- AROM 0-120 Degrees (knee straight to knees over toes)
- Knee Extension Strength \geq 4/5
- Independent straight leg raise without extensor lag
- Independent with ambulation using least restrictive device

ACTIVITIES:

Patellar Mobilizations

Modalities for pain control

Limb elevation as needed

Gait/stair training - Wean Devices

Stretching - Add as needed

Extension: If appropriate - Prone Knee extension (w/ or w/o overpressure), Prone Quad Set

Flexion: Seated knee dangle, prone knee flexion stretch with strap/hand, hook-lying wall slide (w/ or w/o overpressure)

Stationary bike when knee flexion > 90 degrees

Strengthening/Proprioceptive Exercises*

Add SLR (Therapist assist - if needed)

Short arc quads supine, supine hip flexion, Squats with assist as needed

Prioritize stretching - No post-op stiffness

PHASE III: ~4 – 8 WEEKS POSTOPERATIVE

GOALS:

- Swelling < 2cm of contralateral limb
- Pain free with activities of daily living
- AROM: Symmetrical to contralateral limb
- Quadriceps Index 85%
- Independent with ambulation (No Device)

ACTIVITIES:

Continue Stretching

Continue Open Chain long arc quads, knee flexion

Advance Closed Chain Exercises

Bilateral squats, partial split squats, single limb balance, step-ups (6-8inch), banded walks, leg press, and lunges

Add core strengthening and aerobic conditioning as appropriate

PHASE IV: ~ 8 – 12 WEEKS POSTOPERATIVE

GOALS:

- Swelling <1cm of contralateral limb
- Pain free with activities of daily living and moderate recreational activity
- Quadriceps Index 90%
- Girth within 2cm of contralateral limb
- Unrestricted ambulation distance (Varies based on prior levels of function)

ACTIVITIES:

Advance strengthening as tolerated

Lunges (Forward, Backward, and Lateral), resisted squats, elliptical, treadmill, standing knee flexion, long arc quads, leg press

Add core strengthening and aerobic conditioning as appropriate

At this point the patient may slowly return to the gym/health-club for continued land based training with therapist-approved exercises

PHASE V: ~ 12 – 16 WEEKS POSTOPERATIVE

Average person and recreational athlete:

GOALS:

- Swelling < 1cm of contralateral limb
- Pain free with all activities
- Quadriceps Index 95%
- Full Return to all competitive activities
- AROM: Symmetrical to contralateral limb

ACTIVITIES:

Continue stretching as needed 2-3x/week

Engage in progressive resistive strengthening to maximize limb strength and full functional return

Competitive Athlete

Consult with surgeon and/or therapist regarding specific program design involving high-risk sports/activities.