



REHABILITATION FOLLOWING TOTAL KNEE ARTHROPLASTY (TKA)

GENERAL GUIDELINES / PRINCIPLES

- Keep incisions clean & dry for designated time (usually 2 weeks).
- Wear TEDS hose for at least 2 weeks (or longer if physician chooses)
- Edema / Effusion management & attaining full extension are top priority for proper treatment.
- Weight bearing as tolerated with bilateral crutches or walker until independent with proper gait.
- This protocol, as well as most others, is a general guideline. Patients should not be progressed to the next phase until they demonstrate proper form with all activities and all criteria are met in the current phase.
- Properly assess the whole body and incorporate treatment for loss of mobility and stability throughout. Not doing so can prevent optimal outcomes and increase risks of future injuries.

PRE-OPERATIVE PHASE

- **Goals:**
 - Diminish inflammation, swelling, and pain
 - Restore ROM to fullest extent
 - Restore quad strength to fullest extent
 - Educate on goals, expectation, and precautions
- **Exercises / Treatment**
 - Isometric quadriceps setting
 - Passive knee extension to 0°
 - Passive knee flexion to tolerance
 - Heel slides
 - Bike or seated stepper
 - Straight leg raises
 - Ankle pumps
 - CKC exercises: mini squats, lunges, step-ups
 - Cryotherapy and muscle stimulation as needed
 - Compression wrap as needed for swelling
 - Gait training

IMMEDIATE POST-OPERATIVE PHASE (Days 1-14)

- **Goals:**
 - Restore full passive knee extension
 - Diminish joint swelling and pain
 - Restore patellar mobility
 - Gradually improve knee flexion
 - Re-establish quadriceps control
 - Progress towards independent ambulation
- **Exercises / Treatment (Day 1-3)**
 - Ankle pumps
 - Overpressure into full, passive knee extension

- Quad sets
- Gastroc towel stretch
- Hamstring stretches
- Muscle stimulation – 20 minutes, 3-4 times per day
- Ice for 20 minutes every hour if needed.
- **Exercises / Treatment (Day 4 to 14)**
 - Continue all previous exercises / treatment
 - Heel slides
 - Patellar mobilizations x 4 directions (3-4 times per day)
 - Straight leg raise (4 directions as able)
 - PROM
 - Progress to 90°
 - Continue overpressure into full knee extension
 - Short arc quadriceps
 - Instruct in transfers
 - Gait training on level surfaces

EARLY REHABILITATION PHASE (Week 2-6)

- **Criteria to progress to this phase**
 - Quad control (ability to maintain quad set with SLR)
 - Full passive knee extension
 - PROM 0-90
 - Good patella mobility
 - Minimal joint effusion
 - Independent ambulation / transfers
- **Goals**
 - Maintain full passive knee extension
 - Gradually increase knee flexion
 - Diminish swelling and pain
 - Muscle control and activation
 - Restore proprioception / neuromuscular control
 - Normalize patella mobility
- **Exercises / Treatment (Day 15-28)**
 - Continue all relevant previous treatment
 - ROM: 0-115°
 - Bicycle or Seated Stepper
 - Full Arc Quads
 - ¼ squats
 - Leg press
 - Lateral Step ups / downs
 - Standing hamstring curls
 - Proprioception training
 - Hamstring, calf, hip stretching
 - Pool program as needed
 - Properly assess and treat stability / mobility dysfunctions in upper body
 - Initiate functional activities / stair ambulation
- **Exercise / Treatment (Weeks 5-6)**
 - Continue all relevant treatment
 - PROM to 0-120 + degrees
 - Machine knee extension
 - Front step ups
 - Progress proprioception drills

- Initiate progressive walking program
- Progress functional activities

INTERMEDIATE PHASE (week 7-10)

- **Criteria to progress to this phase**
 - Active ROM 0-120°
 - Minimal to no full joint effusion
 - Minimal pain or inflammation
- **Goals**
 - Restore full knee ROM
 - Improve LE strength
 - Enhance proprioception, balance, and neuromuscular control
 - Improve muscular endurance
- **Exercises / Treatment**
 - Progress all OKC and CKC strengthening
 - Focus on return to all functional activities with minimal to no pain
 - Properly assess and treat all limitations in stability / mobility including those in trunk and LE's

ADVANCED ACTIVITY PHASE (Week 10-26)

- **Criteria to enter phase V**
 - Full ROM
 - LE strength 4/5 or higher
 - No pain or effusion
 - Satisfactory clinical exam
- **Goals**
 - Normalize LE strength
 - Improve LE endurance
 - Initiate / progress golf, tennis, swimming, walking, etc. program
- **Exercises / Treatment**
 - Progress strengthening / endurance exercises
 - ½ squats
 - Light sports specific drills
 - Dynamic stretching as tolerated exercises
 - Progress core stability

DISCHARGE TESTING (typically done 2-3 months post-op)

- Currently our criteria for safe return to all ADLs and light recreational activities include, but is not always limited to the following:
 - Symmetrical and acceptable comprehensive scores on CKC LE testing for those returning to light sporting activities (i.e. golf / tennis)
 - Symmetrical and acceptable scores for balance testing on firm surfaces with eyes closed and eyes open.
 - Demonstrate scores of 22 or higher on with dynamic gait index (DGI).
- Patients often schedule periodically during this phase to assess their progress and properly change their program until they are deemed safe to return to all activities.