



For Sports Medicine & Orthopaedics

*Because Life Happens In Motion*

## Total Knee Arthroplasty Protocol

NAME: \_\_\_\_\_

DOS: \_\_\_\_\_

### Phase I: Early Function (week 1 -6)

- **ROM**

- 0 – 90 degrees
- Patellar mobilizations
- Hamstring and gastroc-soleus stretches
- Ankle pumps
- Towel extensions
- Heel slides

- **Strengthening**

- Active quadriceps isometrics
- SLRs
- Knee extension (active-assisted, range as tolerated)
- SAQs
- Heel raises

- Hamstring curls (no resistance initially)

- **Goals**

- Improve ROM
- Increase strength
- Adequate quad contraction
- Decrease inflammation/edema

- **Weeks 1 -4**

- A/PROM for flexion (>90 degrees) and extension (active 90 – 0 degrees)
- Stationary bike- partial revolutions then progress to full revolutions
- Isometrics: quadriceps,

- hamstring, and gluteals
  - SLRs in 4 planes as tolerated by patient
    - standing if unable to perform supine
  - Gait training
  - Wean off AD between 2 – 4 weeks: per patient status
  - Balance training
    - Weight shifts side to side and forward/backward
    - Balance board
    - Single leg stance
    - Cup walking
    - Mini squats
  - Leg Press
  - Knee flexion (active 0 – 90 degrees)
  - Knee extension (active 90 – 0 degrees)
  - Sit to stand exercises to improve knee flexion and strength
  - Begin front and lateral step up and step downs
  - Wall sits (>5 weeks)
- **Goals**
    - ROM 0 -110 degrees
    - Muscle control
    - Full weight-bearing
    - Control inflammation/edema
  - **Progression to next phase**
    - Good voluntary quadriceps control
    - Good patellar mobility
    - Active ROM 0 – 110 degrees
    - Minimal pain and inflammation

## Phase II

- **Weeks 4-6**
  - Continue as above
  - ROM (passive to 0 – 110 degrees)
  - Heel/Toe Raises

## Phase III

- **Week 7 – 12**

- Continue with exercises listed in Phase II with progression of strength, resistance, and repetitions
- Initiate endurance program
- Progress age appropriate proprioception and balance activities
- SLRs with resistance (weights or tubing)
- Hamstring Curls with resistance ( 0 – 90 degrees)
- Knee extension with resistance ( 90 – 0 degrees)
- Leg Press (Bilateral to Unilateral)
- Closed chain
  - Wall sits
  - Mini-squats ( 0 – 40 degrees, tubing)
  - Forward/Lateral step-ups ( 2 – 4 inch block)
  - Eccentric step downs
  - Single Leg Stance
  - ¼ front lunge
  - Treadmill

- ROM 0 – 115 to 120 degrees
- Good patella mobility
- good strength progression and muscle control

#### **Phase IV**

- **Week 12 – 16**

- Continue with previous exercises
- Continue progression of strength, endurance, and proprioception as needed for ADLs and recreational activities
- May initiate return to specific recreational activity: golf, doubles tennis, progressive walking or biking

#### **Discharge criteria**

- Independent, non-antalgic gait
- Pain-free AROM
- Independent step over step stair use
- Age appropriate balance and proprioception
- Minimum of 4/5 on MMT for all lower extremity musculature
- Independent with HEP

