

Therapist \_\_\_\_\_

**REHABILITATION FOLLOWING TOTAL KNEE ARTHROPLASTY  
(ACTIVE PATIENT)**

**I. Immediate Postoperative Phase (Day 1 to 10)**

- Goals:**
- 1) Active quadriceps muscle contraction
  - 2) Safe (isometric control), independent ambulation
  - 3) Passive knee extension to 0 degrees
  - 4) Knee flexion to 90 degrees or greater
  - 5) Control of swelling, inflammation, bleeding

**Day 1 to 2**

**Weight Bearing** - Walker/two crutches WBAT

**CPM** - 20 to 70 degrees as tolerated

**ROM** – 0-70°

**Cryotherapy** - Commercial unit used continuously or ice 20 min of each hour

**Exercises:**

- \* Ankle Pumps with leg elevation
- \* Passive knee extension exercise
- \* Electrical stimulation to quads
- \* Straight leg raises (SLR)
- \* Quad sets
- \* Knee extension exercise 90-30 degrees
- \* Hamstring stretches (gentle)

**Day 4 to 10**

**Weight Bearing** - As tolerated

**CPM** - 0 to 90 degrees as tolerated

**ROM** – 0-90°

**Exercises:**

- \* Ankle pumps with leg elevation
- \* Passive knee extension stretch – emphasis on full knee extension
- \* Active assistive ROM knee flexion
- \* Quad Sets
- \* Straight leg raises
- \* Hip abduction/adduction
- \* Knee extension exercise 90-0 degrees
- \* Continue use of cryotherapy

**Gait Training** - Continue safe ambulation. Instruct in transfers

## II. Motion Phase (Week 2-6)

- Goals:**
- 1) Improve range of motion
  - 2) Enhance muscular strength/endurance
  - 3) Dynamic joint stability
  - 4) Diminish swelling/inflammation
  - 5) Establish return to functional activities
  - 6) Improve general health

### Criteria to enter Phase II

- 1) Leg control, able to perform SLR
- 2) Active ROM 0-90 degrees
- 3) Minimal pain/swelling
- 4) Independent ambulation/transfers

### Week 2-4

**Weight Bearing** - WBAT with assisted device

**ROM** - Week 2: 100-105°  
Week 3: 110-115°  
Week 4: 125°+

### **Exercises:**

- \* Quad Sets
- \* Knee extension exercise 90-0 degrees
- \* Terminal knee extension 45-0 degrees
- \* Straight leg raises (flexion/extension)
- \* Hip abduction/adduction
- \* Hamstring curls
- \* 1/4 Squats
- \* Stretching
  - Hamstrings, Gastrocnemius, Soleus, Quads
- \* Bicycle ROM Stimulus
- \* Initiate pool program
- \* Continue passive knee extension stretch
- \* Continue use of cryotherapy
- \* Discontinue use of TEDS hose at 2-3 weeks (physician's approval)
- \* Begin front lunge & lateral step up week 3
- \* Begin machine program (gentle) week 4
  - Leg press
  - Hip abduction/adduction

## III. Intermediate Phase (Week 5-12)

- Goals:** 1) Enhancement of strength/endurance

- 2) Eccentric/concentric control of the limb
- 3) Cardiovascular fitness
- 4) Functional activity performance

**Criteria to enter Phase III**

- 1) Range of motion 0-115 degrees
- 2) Voluntary quadriceps muscle control
- 3) Independent ambulation
- 4) Minimal pain/inflammation

**Week 5-10**

**Exercises:**

- \* Continue all exercises listed in Phase II
- \* Initiate progressive walking program
- \* Initiate endurance pool program
- \* Continue closed kinetic chain & machine exercises
- \* Progress to entire lower extremity strengthening
- \* Return to functional activities
- \* Emphasize eccentric/concentric knee control

**IV. Advanced Activity Phase (Week 10-26)**

- Goals:**
- 1) Allow selected patients to return to advanced level of function (recreational sports)
  - 2) Maintain/improve strength and endurance of lower extremity
  - 3) Return to normal life style

**Criteria to enter Phase IV**

- 1) Full non-painful ROM 0-120/125 degrees
- 2) Strength of 4+/5 or 85% of contralateral limb
- 3) Minimal to no pain and swelling
- 4) Satisfactory clinical examination

**Exercises:**

- \* Continue maintenance program
- \* Quad Sets
- \* Straight Leg Raises (flexion/extension)
- \* Hip abduction/adduction
- \* 1/2 squats
- \* Lateral step ups
- \* Knee extension exercise 90-0 degrees
- \* Machine weights as tolerated
- \* Bicycle for ROM stimulus and endurance
- \* Stretching
  - Knee extension to 0 degrees
  - Knee flexion to 105 degrees
- \* Initiate gradual golf, tennis, swimming, bicycle, walking program