



## KNEE REPLACEMENT (TOTAL/PARTIAL) Physical Therapy Protocol

The intent of this protocol is to provide guidelines for your patient's therapy progression. It is not intended to serve as a recipe for treatment. We request that the PT/PTA/ATC use appropriate clinical decision-making skills when progressing a patient forward.

**Please call (833) 872-4477 to obtain the operative report from our office prior to the first post-op visit.** Please contact our office if there are any questions about the protocol or your patient's progression.

Please keep in mind common problems that may arise following knee replacement. If you encounter any of these problems please evaluate, assess, and treat as you feel appropriate, maintaining AHI precautions and guidelines at all times. Gradual progression is essential to avoid flare-ups. If a flare-up occurs, back off with therapeutic exercises until it subsides. Please use the following exercise progression timelines and precautions during your treatments.

Thank you for progressing all patients appropriately. **Successful treatment requires a team approach, and the PT/PTA/ATC is a critical part of the team! Please contact AHI at any time with your input on how to improve the therapy protocol.**

Please send therapy progress notes and renewal therapy prescription requests with the patient or by fax to (630) 323-5625. Notes by fax must be sent 3 days prior to the patient's visit to internally process this request. We appreciate your cooperation in this matter.

***Please Use Appropriate Clinical Judgment During All Treatment Progressions***

### **Immediate Postoperative Phase: day after surgery – day 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 & day 2 after surgery:**

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

**CPM/ROM** - as tolerated

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



**Day 1 & day 2 after surgery (continued):**

**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 – day 10 after surgery:**

**Weight Bearing** - as tolerated

**CPM/ROM** -- as tolerated

**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

**Motion Phase: week 2 – end of week 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 as tolerated
- 3) Minimal pain/swelling
- 4) Independent ambulation/transfers



**Week 2 – end of week 4:**

**Weight Bearing** - WBAT with assisted device

**ROM goals:**

**Full extension as early as possible**

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

**Intermediate Phase: week 5 – end of week 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 as tolerated
- 2) Voluntary quadriceps muscle control
- 3) Independent ambulation
- 4) Minimal pain/inflammation



**Week 5 – end of week 12:**

**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

**Advanced Activity Phase: week 12 – week 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 lifestyle

**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