

**David Schneider, MD**

## **Total Knee Arthroplasty Rehabilitation Protocol**

### **Phase I (1-3weeks)**

#### **Goal:**

- Protect reconstruction
- Increase range of motion
- Control pain and swelling
- Improve gait
- Prevent muscle atrophy

#### **Precautions:**

- Immediate weight bearing with assistance of walker. **CPM use during hospital stay.**
- If used, staples and/or stitches will be removed at your first or second pos-op visit. Often, a clear bandage will be used allowing for visualization of the healing incision. Maintain a clean dry area around the incision sites.
- Contact MD with any signs of abnormal calf pain, fever, chills, or shortness of breath

#### **Therapeutic Exercise: (Begin formal physical therapy within two weeks after surgery)**

- Ankle pumps/alphabets
- Quad sets/ Straight leg raises
- Isometric hamstring contraction at varying degrees of knee flexion, progress to isotonic as motion increases.
- Incorporate stationary biking with no resistance as soon as motion allows
- Patellar/Joint mobilization
- Heel slides, prone hangs, seated leg extension (2-3 times per day)

#### ***Criteria for progression to phase II:***

1. Knee ROM 0-100deg by week 3
2. Good quad and hamstring contractions
3. Progress to next phase with pain and swelling as a guide.

### **Phase II (4-8weeks)**

#### **Goals:**

- Return to normal gait
- Maintain full range of motion
- Increase difficulty of resistance training

#### **Precautions:**

- Wean from walker as tolerated

#### **Therapeutic Exercise:**

- Gait training
- Initiate aquatic therapy as wound healing allows
- Initiate squats, leg press, and bridging
- Include hip external rotation exercises
- Begin proprioception exercises
- Continue hamstring/quad/calf stretching 2-3 times per day

#### ***Criteria for progression to phase III:***

1. Normal gait
2. Full range of motion

3. Minimal joint swelling or pain after activity

### **Phase III (8-12 weeks)**

#### **GOALS:**

- Increase cardiovascular conditioning as needed
- Improve balance training

#### **Therapeutic Exercise:**

- Progress activities from phase II
- Increase focus on single leg strengthening
- May begin walking program as tolerated
- Maintain stretching program

#### ***Criteria for progression to phase IV:***

1. Single leg balance for full 30 seconds
2. Patient able to tolerate 30 min. cardiovascular exercise with bike treadmill, or elliptic trainer
3. Patient maintains full ROM

### **Phase IV (3 months and beyond)**

#### **Therapeutic Exercise:**

- Begin multi-directional movement patterns
- Maintain exercise regimen
- Maintain stretching program

#### ***Criteria for return to activity:***

1. MD Clearance
2. Single leg leg press and hamstring curl within 90% strength of contralateral leg
3. Equal thigh/calf girth