

## REHABILITATION FOLLOWING PATELLOFEMORAL ARTHROPLASTY

### *Post-Operative Physical Therapy Protocol*

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#### **Phase I: Immediate Postoperative Phase (Day 1 -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 edema, inflammation and bleeding

#### Day 1 to 2:

- Weight Bearing – Walker/two crutches WBAT in brace, locked
- Brace- locked at 0 degrees when walking
- CPM – 0 to 70 degrees as tolerated
- Cryotherapy – Commercial unit if available – continuous first 10
- Days (appx) or as needed for comfort.

#### Exercises:

- Ankle pumps with leg elevation
- Passive knee extension
- SLR
- Quad sets
- Knee extension – 90 – 30 degrees
- Knee flexion stretches (gentle)

#### Day 4 to 14:

- Continue WBAT
- CPM – 0 to 90 degrees, increasing as tolerated
  - Discontinue CPM once maximum flexion attained for 2 days

#### Exercises:

- Ankle pumps with leg extension
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- Passive knee extension
- Active assistive ROM knee flexion
- Quad sets
- SLR
- Hip abd/adduction
- Knee extension - 90 – 0 degrees
- Continue cryotherapy
- Gait training – Continue safe ambulation WBAT
- Brace – 0-20 when walking
  - Once quad contraction obtained may increase brace flexion to 90 degrees

### **Phase II: Motion Phase (Week 2 – 6)**

- Goals:
1. Improve ROM
  2. Enhance muscle strength/endurance
  3. Increase dynamic joint stability
  4. Diminish edema/inflammation
  5. Establish return to functional activity

#### Criteria to enter Phase II:

1. Quad control – Good SLR
2. Active ROM 0 – 90 degrees
3. Minimal pain/edema
4. Independent ambulation/transfers

#### Week 2 – 4:

- Weight Bearing as Tolerated
- Begin weaning from crutches, goal no crutches by end of 4<sup>th</sup> week
- Brace- Goal to discontinue by end of Week 3 or 4

#### Exercises:

- Quad sets
- Knee extension 90 – 0 degrees
- SLR
- Hip abd/adduction

- Hamstring curls
- Mini squats
- Stretches – lower extremity
- Bike for ROM
- Continue passive knee extension stretches
- Continue cryotherapy
- Patellar/Scar mobilization
- VMO recruitment – EMS during isometrics/SLR

Week 4 – 6:

Exercises:

- Continue all exercises listed previously
- Initiate front/lateral step ups (minimal height)
- Front lunges – partial
- Continue compression, ice, elevation for edema control

**Phase III: Intermediate Phase (Week 7 – 12)**

- Goals:
1. Progress ROM – 0 – 120 degrees or greater
  2. Enhance strength and endurance
  3. Eccentric/Concentric control of lower extremity
  4. Cardiovascular fitness
  5. Functional activity return

Criteria to enter Phase III:

1. ROM 0 – 120 degrees
2. Quad control
3. Independent ambulation
4. Minimal pain/inflammation

Week 7 – 10:

Exercises:

- Continue all exercises listed in Phase II
- Initiate progressive walking program
- Initiate pool program – if available
- Return to functional activity
- Lunges, ½ squats, step ups (start with 2 inch height)
- Emphasize eccentric/concentric knee control

**Phase IV: Advanced Activity Phase (Week 14 – 20)**

- Goals:
1. Return to advanced level of function
  2. Maintain/Improve strength/endurance
  3. Return to normal lifestyle

Criteria to enter Phase IV:

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

Exercises:

- Quad sets
- SLR
- Hip abd/adduction
- ½ Squats
- Lateral step ups
- Knee extension 90- 0 degrees
- Bike for ROM and endurance
- Stretching
  - (knee extension to 0 degrees, flexion to 120 degrees)
- Initiate return to golf, tennis, swimming, bike, and walking program