



ORTHOPEDICS & SPORTS MEDICINE BAYCARE CLINIC

Patellofemoral Arthroplasty Therapy Protocol

Dr. Jon Henry

Phase 1 – Maximum Protection Phase (0-2 weeks)

Goals for Phase 1

- ▶ Emphasize restoring full knee extension (0°)
- ▶ AROM/PROM to 90 degree (no more than 90 degrees due to stitches)
- ▶ Control postoperative pain and swelling
- ▶ Restore quadriceps function

Precautions

- Limit walking to no more than required ADL's (we have this in the total protocol)
- Continue TED hose 23 hours per day for 2 weeks.
- No water submersion of the joint.

Immobilization/Weight Bearing

- WBAT with ambulatory device but can wean from crutches as tolerated

Range of Motion

- 0-2 weeks:** 0-90°, emphasis on extension

Brace

- 0-2 weeks:** Brace locked at 0° or unlocked 0-30° (MD decision)
- Progression of opening brace is dependent controlled pain, appropriate quad strength, and controlled effusion

Manual Therapy

- Scar massage
- Patellar mobilizations
- PROM/AROM knee flexion per ROM guidelines listed above
- CPM not routinely ordered but may be incorporated (surgeon's discretion)

Strengthening

- Exercises:
 - Ankle pumps
 - Straight leg raise with eventual goal of no lag sign
 - Patellar mobilizations
 - Quad, hamstring, gluteal sets
 - Heel slides
 - AAROM knee flexion
 - Hip adduction/abduction
- Quadriceps strengthening
 - **Weeks 0-2:** Quadriceps setting with focus on VMO activation
 - **Weeks 2-6:** Terminal knee extension in prone and in standing
- Core strengthening

Modalities

- Vasopneumatic compression for edema management 2-3x/week
- Cryotherapy, 3 x per day for 20 minutes each with knee elevated above heart
- NMES for quadriceps function
 - Home NMES unit with or without a garment to be issued for first 8 weeks following surgery, per MD and therapist discretion
 - NMES to be used at home, 3 x a day for 20 minutes each time



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Phase 2 – Motion Phase (2-6 weeks)

Goals for Phase 2

- ▶ Improve ROM
- ▶ Enhance muscular strength and joint stability
- ▶ Continue to control postoperative pain and swelling

Precautions

- Limit walking to no more than daily activities within the home.
- Continue TED hose during daytime hours. (up to you 4-6 weeks)

Immobilization/Weight Bearing

- FWB, wean from assistive device at the direction of MD & PT)

Range of Motion

- **2-6 weeks:** 0-120°, emphasis on extension

Brace

- **2-6 weeks:** Brace opened 0-90°, or more depending on quad control
- **Transition to smaller Recover knee brace**
- Weaning from brace is dependent on controlled pain, appropriate quad strength, and controlled effusion

Manual Therapy

- Gentle flexibility – hamstring, quad, gastroc-soleus

Strengthening

- Stationary bike for ROM
- Bilateral gym strengthening program (mini squats, mini lunges, leg press, 4-way hip strengthening, forward and lateral step-ups, bridging, calf raises)
- Core strengthening

Aquatics

- Initiate aquatic therapy program, if needed and when incisions are fully healed

Neuromuscular Control

- Proprioception on stable surface

Modalities

- Vasopneumatic compression for edema management 2x/week
- Cryotherapy, 2 x per day for 20 minutes each with knee elevated above heart
- NMES for quadriceps function if quad lag present with SLR
- Blood flow restriction training for strengthening/hypertrophy

Phase 3 – Intermediate Phase/Progressive Strengthening (7-12 weeks)

Goals for Phase 3

Goals:

- ▶ ROM 0-115 degrees or greater
- ▶ Return to ADLs
- ▶ Progress muscular strength and proprioception

Immobilization/Weight bearing

- FWB without assistive device

Range of Motion

- Restore full ROM (0°-115° or more)

Activities of Daily Living

- Resume most, if not all

Strengthening

- Stationary bike or elliptical for warm-up
- Bilateral gym strengthening with progression to unilateral as able (leg press, step-ups, hamstring curls, side-stepping, single leg squat, multi-directional lunges)
- Core strengthening

Neuromuscular Control

- Advanced proprioception on unstable surfaces and dual tasking

Modalities

- Cryotherapy after activity



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Phase 4 – Return to Functional Activities Phase (12+ weeks)

Goals for Phase 4

- ▶ Return to normal lifestyle
- ▶ Return to recreational activity per MD orders

Precautions (lifelong)

- Avoidance of heavy lifting that involves deep knee bending such as squatting, lunging or kneeling
- Avoidance of competitive sports that require deep knee bending

Weight bearing/Range of motion

- Full weight bearing without restriction

Manual Therapy

- Restore flexibility – hamstring, quad, gastroc-soleus, ITB

Strengthening

- Stationary bike or elliptical
- Bilateral gym strengthening program with focus on single leg strengthening and power development (single leg squats, eccentric single leg press, lateral step-downs, multidirectional lunges, OKC hamstring curls)
- Initiate impact activities (if goal is to return to light, straight ahead jogging/running)
 - **12+ weeks** : submaximal body-weight exercise (pool, GTS, plyo-press, Alter G)
 - **18+ weeks**: sagittal plane running with progression to multidirectional if able to avoid dynamic knee valgus and demonstrate good knee control
- Core strengthening

Neuromuscular Control

- Advanced proprioception on unstable surfaces with dual tasking, add sport specific balance tasks as able

Modalities

- Cryotherapy after activity