



DR. JONATHON HENRY
PATELLOFEMORAL ARTHROPLASTY POST-OP THERAPY PROTOCOL

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

Goals for Phase 1	Precautions for Phase 1
<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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° (physician decision)
- Progression of opening brace is dependent on controlled pain, appropriate quad strength, and controlled effusion

Manual Therapy

- Scar massage
- Patellar mobilization
- 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 mobilization
 - Quad, hamstring, gluteal sets
 - Heel slides
 - AAROM knee flexion
 - Hip adduction/abduction
- Quadriceps strengthening
 - **0-2 Weeks:** Quadriceps setting with focus on VMO activation
 - **2-6 Weeks:** Terminal knee extension in prone and in standing
- Core strengthening

Modalities

- Vasopneumatic compression for edema management 2-3x/week
- Cryotherapy 3x 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 physician and therapist discretion
 - NMES to be used at home 3x per day for 20 minutes each time



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Phase 2 – Motion Phase (2-6 weeks)

Goals for Phase 2	Precautions for Phase 2
<ul style="list-style-type: none">• Improve ROM• Enhance muscular strength and joint stability• Continue to control postoperative pain and swelling	<ul style="list-style-type: none">• 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 physician & physical therapist

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 2x 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



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

Goals for Phase 3

- 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 <ul style="list-style-type: none">• Return to normal lifestyle• Return to recreational activity per physician orders	Precautions (Lifelong) <ul style="list-style-type: none">• Avoidance of heavy lifting that involves deep knee bending such as squatting, lunging, or kneeling• Avoidance of competitive sports that require deep knee bending
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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