

Femoral Condyle Osteochondral Defect Repair Protocol

Preoperative

Goals:

- 1. Maximize ROM and progress functional strength**
- 2. Independent post operative HEP**
- 3. Independent in crutch use Non-weight bearing (NWB) including all of patient's known ambulation barriers (stairs, varied surfaces)**

Treatment:

- ROM, joint mobilization
- Aquatics exercise program, Therapeutic exercise program
- Education on HEP to be initiated post operatively
- Crutch training NWB. Include training for any ambulatory barriers
- Any modalities needed for symptomatic control

Phase 1

Postoperative Week 0-6

Goal:

- 1. Full passive knee extension to 0°**
- 2. Full passive knee flexion to 120°**
- 3. Minimal pain and swelling**
- 4. Voluntary quadriceps control**
- 5. Ambulating partial weight bearing (PWB) by week 4-5.**
- 6. Normalized gait pattern in the pool**

Treatment:

- In brace locked at 0° during weight bearing
 - i. Sleep in locked brace for 2-4 weeks
- Weight bearing
 - i. Non Weight bearing for 1-2 weeks
 - ii. Touch Toe Weight Bearing (20-30lbs) week 2-3 or sooner with MD approval
 - iii. Partial Weight Bearing (25% of body weight) at week 4-5
- CPM to start 6-8 hours post op
 - i. Day 1 8-12 hours in CPM 0-40°
 - ii. Increase 5-10° daily as tolerated.
 - iii. After 3 weeks, decrease CPM use to 6-8 hours daily
- Patellar mobilization daily
- Full passive knee extension immediately
- Passive knee flexion 2-3 times daily
 - i. 0-90 by end of post op week 2
 - ii. 0-105 at post op week 3-4

- iii. 0-120 by post-op week 6
- Calf and hamstring stretching
- Ankle pumps with thera-tubing
- Quad setting, Glut setting, Hamstring setting
- Multiangle isometrics (quads and hamstrings)
- Active Knee extension 90° to 40° (no resistance)
- SLR 4 directions (no resistance)
- Stationary bike when ROM permits (no resistance)
- At week 4
 - i. Multi angle leg press isometric
 - ii. Pool program
- modalities for pain and swelling control
- Biofeedback and muscle stim as needed
- gradual return to activities
- NO PROLONGED STANDING

Phase 2

Postoperative Week 6-12

Goal:

- 1. Full ROM**
- 2. Able to walk 1-2 miles or bike 30 minutes**
- 3. Increased strength**
 - a. Hamstrings within 20% of uninjured side**
 - b. Quadriceps within 30% of uninjured side**
- 4. Balance testing within 30% of uninjured side**

Treatment:

- Brace discontinued by week 6
 - i. Consider unloading brace
- Weight Bearing
 - i. Progress to Weight Bearing As Tolerated
 - ii. Full Weight Bearing by week 8-9
 - iii. Discontinue crutches Week 8-9
- Gradual increase in ROM
- Maintain full Passive knee extension
- Progress knee flexion to 120-135° by week 8
- Continue patellar mobilizations
- Continue LE stretching program
- Initiate weight shifts at week 6
- Initiate mini squats 0-45° by week 8
- Closed kinetic chain exercises (leg press)
- Toe-calf raises by week 8
- Open kinetic chain knee extensions (progress 1# per week)
- Progress resistance and time on Exercise bike
- Treadmill walking week 10-12
- Balance a proprioception drills. Progress static to dynamic
- Initiate front and lateral step ups and wall squats by week 8-10
- Modalities for pain and swelling control
- Biofeedback and muscle stim as needed
- Continue pool

- Continue slow steady progressions into functional activities
- Increase standing and walking tolerances

Phase 3

Postoperative Weeks 12-26

Goals:

- 1. Full ROM without pain**
- 2. Strength within 80-90% of uninjured side**
- 3. Balance/stability within 75-80% of uninjured side**
- 4. Functional activities without increase in any symptoms.**

Treatment:

- Full ROM
- Leg Press 0-90°
- Bilateral squats 0-60°
- Unilateral step-ups progressing from 2" to 8"
- Forward lunges
- Walking program
- Open kinetic chain knee extension 0-90°
- Bicycle, stairmaster, elliptical, treadmill
- Swimming
- Return to all functional activities
- Initiate Home Maintenance Program (week 16-20)
 - i. Bicycle
 - ii. Progressive walking program
 - iii. Pool program
 - iv. SLR 4 directions
 - v. Wall squats
 - vi. Front lunges
 - vii. Step ups
 - viii. LE stretching program

Phase 4

Postoperative Week 26-52

Goals:

- 1. Return to full unrestricted functional activity**

Treatment:

- maintenance program 3-4 times a week
- Progress resistance to all strengthening exercises
- Progress to agility and dynamic balance drill
- Plyometric activity based on patient need
- Sports specific training
- Return to sports:
 - i. Low impact sports routinely around month 6 post op
 - ii. Medium impact sports months 8-9 for small lesions and 9-12 for larger lesions.
 - iii. High impact sports months 12-18