

MPFL Reconstruction and Cartilage Transplantation Physical Therapy Protocol

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Patient Name: _____

Date of Surgery: _____

Procedure: Right / Left MPFL Reconstruction and Cartilage Transplantation

Associated Procedure (checked if performed):

- Lateral Release
- Particulated Juvenile Cartilage Allograft Transplantation (DeNovo)
- Osteochondral Allograft Transplantation
- Osteochondral Fracture Repair

Frequency: 2x per week for _____ weeks

CPM

- Initiate POD1 with 0-30°.
- Perform 3x per day in 2-hour sessions.
- Limitations:
 - 0-2 weeks: 0-30°
 - 2-6 weeks: 0-90° progressing ~5° per day

Phase I (0-2 weeks): *Period of protection.*

- **Primary Goals:** Protect the reconstruction, minimize effusion, ROM to 30° flexion, post op pain control to 0/10 at rest, regain control of quadriceps.
- **Weightbearing:** Non-weight bearing with the brace locked in extension.
- **Hinged Knee Brace:** Locked in extension for all activities (including sleeping) – removed for PT, CPM and hygiene.
- **Range of Motion:** AROM/AAROM for flexion 0-30°. PROM extension (no active extension).
- **Precautions:**
 - Avoid patellar lateralization
 - No active knee extension until 6 weeks post-op
- **Therapeutic Exercises:**
 - Heel slides 0-30°
 - Quad sets with towel under heel

- Hamstring sets
- Ankle pumps
- Core and hip strengthening
- Non-weightbearing calf/hamstring stretches
- Very gentle patellar mobilization (medial ONLY)
- Cryotherapy and elevation important

Phase II (2-6 weeks): *Healing phase.*

- **Primary Goals:** Increase ROM, supine straight leg raise without extensor lag, demonstrate good quadriceps contraction.
- **Weightbearing:**
 - 2-4 weeks: Partial Weight Bearing (PWB)
 - 4-6 weeks: Weight Bearing as Tolerated (WBAT)
- **Hinged Knee Brace:** Locked in extension for all activities (including sleeping) – removed for PT, CPM and hygiene.
- **Range of Motion:** AROM/AAROM/PROM in flexion: Goal 0-90° by 4-6 weeks. Passive extension only.
 - **CPM:** Discontinued after 6 weeks
- **Precautions:**
 - Avoid patellar lateralization
 - No active knee extension until 6 weeks post-op (Phase III)
- **Therapeutic Exercises:**
 - As above.
 - Passive leg hangs to 90°
 - Initiate straight leg raises with brace locked in full extension. Can progress to straight leg raise out of the brace if capable of full extension; goal is to do a set of 30 SLRs to graduate out of the hinged knee post-op brace.

Phase III (6-12 weeks): *Transitional Phase*

- **Weightbearing:** Gradual return to WBAT.
- **Hinged Knee Brace:** May discontinue once WBAT and able to do a strong set of 30 SLR.
- **Range of Motion:** AROM/AAROM/PROM – Full pain free ROM 0-130°.
- **Therapeutic Exercises:**
 - Once no lag on SLR, can begin closed-chain quad/core and hamstring strengthening as follows: ***for weeks 6-9, only do strengthening with knee bent 60 degrees or more;*** after 9 weeks, can begin to advance closed chain strengthening at progressively greater degrees of extension (advance ~20 degrees per week, such that strengthening is done from full extension to full flexion by 3 months).
 - No lunges.
 - Stationary biking at 6weeks (no resistance)
 - Rowing, Elliptical and Stair Master at 8 weeks
 - Swimming at 10 weeks
 - Continue core and hip strengthening

Phase IV (3-6 months): *Advanced Phase*

- **Weightbearing:** Full
- **Range of Motion:** Full
- **Therapeutic Exercises:**
 - Light plyometrics initiated at 3 months.
 - Criteria to start running program: walk with normal gait for 20 minutes, pain free ADLs, ROM > 0-125°, hamstring and quad strength >70% contralateral side, no pain, no edema, no crepitus, no giving-way
 - From 4.5 – 6 months, begin and advance sport-specific activities (running, agility training).
 - High-impact activities (jumping, contact sports) allowed once full motion and strength achieved (usually between 5-6 months).
- **Return to sport**
 - >90% limb symmetry with strength and functional testing
 - Demands of sport met
 - Muscular endurance
 - Flexibility
 - First season back to play in J-brace