

MPFL RECONSTRUCTION/MPFL PLICATION PROTOCOL **DR. DAVID GUELICH**

This rehabilitation protocol is designed for patients who have undergone knee medial patellafemoral ligament (MPFL) reconstruction or plication. The intensity allowed and the time frame required for the rehabilitation process is dependent upon the surgical procedure and the clinical assessment of Dr. Guelich. The protocol is divided into phases. Each phase is adaptable based on the individual patient and special circumstances.

The **overall goals** of the surgical procedure and rehabilitation are to:

- Control pain, swelling, and hemarthrosis
- Regain normal knee range of motion
- Regain a normal gait pattern and neuromuscular stability for ambulation
- Regain normal lower extremity strength
- Regain normal proprioception, balance, and coordination for daily activities
- Achieve the level of function based on the orthopedic and patient goals

The physical therapy should be initiated within 3 to 5 days post-op. It is extremely important for the supervised rehabilitation to be supplemented by a home fitness program where the patient performs the given exercises at home or at a gym facility.

Important post-op signs to monitor:

- Swelling of the knee or surrounding soft tissue
- Abnormal pain response, hypersensitive
- Abnormal gait pattern, with or without assistive device
- Limited range of motion
- Weakness in the lower extremity musculature (quadriceps, hamstring)
- Insufficient lower extremity flexibility

Return to activity requires both time and clinical evaluation. To safely and most efficiently return to normal or high level functional activity, the patient requires adequate strength, flexibility, and endurance. Isokinetic testing and functional evaluation are both methods of evaluating a patient's readiness to return to activity. Return to intense activities following a knee surgery may increase the risk of an overuse injury or the possibility of compounding prior articular cartilage damages and symptoms such as pain, swelling, or instability should be closely monitored by the patient.

PHASE 1 - ACUTE (0-6 Weeks)

PHASE GOALS: PROTECT REPAIR, RESTORE AMBULATION & ADL STATUS

RANGE OF MOTION

0-1 WEEK - ALLOW FLEXION TO 30 DEGREES

2 WEEKS - GRADUALLY PROGRESS FLEXION TO 60 DEGREES

2-4 WEEKS - GRADUALLY PROGRESS FLEXION TO 90 DEGREES

4-6 WEEKS - GRADUALLY PROGRESS FLEXION TO 120 DEGREES

WEIGHT BEARING

0-1 WEEK - PARTIAL WEIGHT BEARING

2+ WEEKS - WBAT

BRACE & CRUTCH USE

0-1 WEEK - BRACE LOCKED IN FULL EXTENSION

2-4 WEEKS - OPEN BRACE TO 60 DEG *WITH GOOD QUAD CONTROL

4-6+ WEEKS - OPEN TO FULL & DISCHARGE WHEN GAIT IS NORMAL

STRENGTHENING & CONDITIONING

QUAD SETS, STRAIGHT LEG RAISES, & SINGLE-LEG BALANCE, UPPER BODY ERGOMETER, HIP ABDUCTION STRENGTHENING

CRITERIA FOR AMBULATION WITHOUT ASSISTIVE DEVICE

- PAIN LESS THAN 3/10 (WORST)
- WITHIN 2 DEG NORMAL KNEE EXTENSION & 90 DEG KNEE FLEXION
- SINGLE LEG BALANCE > 20 SEC (BESS)
- MD OR PT APPROVAL

PHASE 2 - STRENGTH (7-12 Weeks)

PHASE GOALS: IMPROVE STRENGTH & INITIATE JOGGING PROGRAM

RANGE OF MOTION

6+ WEEKS - GRADUALLY PROGRESS FLEXION TO FULL OVER NEXT 4 WEEKS

STRENGTHENING

SHORT-ARC LEG PRESS, STEP-UPS, & ROMANIAN DEADLIFTS (RDLs)

SQUAT PROGRESSION (BODYWEIGHT SQUATS -> SINGLE LEG SQUATS)

RESISTED HIP ABDUCTION LATERAL BAND WALKS

CORE EXERCISES (VUPS, SINGLE-LEG BRIDGING)

CONDITIONING

STATIONARY BIKING - INITIATE AT 115 DEGREES OF FLEXION ROM

ELLIPTICAL & ROWING MACHINE AFTER 10 WEEKS

CRITERIA FOR JOGGING

- AT LEAST 12 WEEKS POST-SURGERY
- PAIN LESS THAN 3/10 (WORST)
- WITHIN 2 DEG NORMAL KNEE EXTENSION & 120 DEG KNEE FLEXION
- AT LEAST 1 MINUTE OF SINGLE LEG SQUATS
- MD APPROVAL

PHASE 3 - AGILITY (12-16 Weeks)

PHASE GOALS: INTRODUCE DYNAMIC & POWER MOVEMENTS

STRENGTHENING

GYM SPECIFIC STRENGTHENING (BARBELL SQUATS & DEADLIFTS)

BIODEX QUAD & HAMSTRING FATIGUEING PROTCOLS

CORE EXERCISES (MOUNTAIN CLIMBERS, PLANKS, V-UPS)

CONDITIONING

ROAD OR STATIONARY BIKING

JOGGING PROGRAM

SWIMMING (PROGRESS KICKING GRADUALLY & PAIN-FREE)

PLYOMETRICS & LIGHT AGILITY

LADDER DRILLS, BOX JUMPS (UP TO 12"), SIDE SHUFFLE

CRITERIA FOR HEAVY AGILITY & SPORT SPECIFIC MOVEMENTS

- 16 WEEKS POST-SURGERY
- PAIN LESS THAN 2/10 (WORST)
- QUAD & HAM STRENGTH > 80% NORMAL; > 50% H/Q RATIO FOR FEMALES
- AT LEAST MINUTES OF SINGLE LEG SQUATS (RESISTED)
- < 5 ON LANDING ERROR SCORING SYSTEM (LESS)
- MD OR PT APPROVAL

Stage 4 – RETURN TO PLAY (16-20+ Weeks)

PHASE GOALS: INITIATE SPORTS SPECIFIC MOVEMENTS & RETURN TO PLAY

STRENGTHENING

PROGRESS GYM ROUTINE (SQUATS, DEADLIFTS, OLYMPIC LIFTING)

BIODEX QUAD & HAMSTRING FATIGUE PROTOCOLS & CORE EXERCISES

CONDITIONING

JOGGING, BIKING, & SWIMMING

INTERVAL SPRINT WORKOUTS

PLYMETRICS & AGILITY (2-3 DAYS/WEEK)

MAX EFFORT BOX JUMPS (PROGRESS WITH ROTATION)

LATERAL & ROTATIONAL AGILITY

SINGLE-LEG HOPS

UNPREDICTABLE CUTTING & CONTACT DRILLS

RECOMMENDED CRITERIA FOR RETURN TO PLAY

- PAIN LESS THAN 2/10 (WORST)
- QUAD & HAM STRENGTH > 90% NORMAL; > 60% H/Q RATIO FOR FEMALES
- AT LEAST 3 MINUTES OF SINGLE LEG SQUATS (RESISTED)
- 90% NORMAL ON ALL SINGLE-LEG HOP TESTS
- 95% NORMAL - FIGURE OF 8, 5-10-5 PRO-AGILITY, & S-L VERTICAL JUMP
- MD OR APPROVAL