

MICROFRACTURE PT PROTOCOL

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Postoperative Phase I: Early Protection Phase (Weeks 0 to 6)

Goals

- Protect healing tissue from load and shear forces
- ROM 0 to 120 degrees
- Prevent quad inhibition
- Control postoperative pain/swelling
- Normal proximal muscle strength
- Independence with home exercise program

Precautions

- Maintain weight bearing restrictions: slowly open brace to 90-degrees at 6 weeks
- TTWB in brace with crutches for first 4 weeks (may be advanced at surgeon's discretion based upon lesion size and location)
- Advance to partial weight bearing at 4 weeks with progressive advancement to WBAT at 6 weeks.
- No active extension exercises for patellofemoral lesions

Treatment Plan

- CPM
- AAROM exercises (pain-free range of motion)
- Towel extensions
- Patellar mobilization
- Quadriceps reeducation (quad sets +/- E-stim)
- Straight leg raises (all planes)
- Stationary bike when ROM allows (week 3 to 4) - low resistance. May "Rock for Range" using well leg immediately.
- Upper extremity cardiovascular exercises, as tolerated
- Hip progressive resistance exercises

Criteria for Progression to Phase II

- MD direction for progressive weight-bearing (week 6)
- Proximal muscle strength 5/5
- ROM 0 to 120°
- Supine SLR without an extension lag

Postoperative Phase II (Weeks 6 to 12)

Goals

- ROM 0 to within normal limits
- Normal patellar mobility
- Restore normal gait
- Ascend 8-inch stairs with good control and without pain

Precautions

- Avoid descending stairs reciprocally until adequate quadriceps control
- Minimal pain with therapeutic exercise and functional activities

Treatment Plan

- Progressive weight-bearing / gait training with crutches
- Discontinue crutches when gait is non-antalgic
- Discontinue brace once able to SLR 20 repetitions without a lag
- Continue pool exercises and gait training
- AAROM exercises • Leg press 0 to 60°
- Mini squats • Retrograde treadmill ambulation
- Proprioception training (i.e. balance board)
- Initiate forward step-up program
- Stairmaster
- SLRs (progressive resistance)
- Lower extremity
- Open chain knee extension to 40° (tibiofemoral lesions) - close chain preferred
- Home exercise program

Criteria for Progression to Phase III

- ROM 0 to WNL
- Normal gait pattern
- Demonstrated ability to ascend 8 inch step
- Normal patellar mobility

Postoperative Phase III (Weeks 12 to 18)

Goals

- Return to normal ADL
- 85% limb symmetry on isokinetic testing (tibiofemoral lesions)
- Improve lower extremity flexibility

- Demonstrate ability to descend 8-inch stairs with good control and without pain

Precautions

- Minimal pain with therapeutic exercise and functional activities
- Avoid running until adequate strength development and surgeons clearance

Treatment Plan

- Progress squat program
- Initiate step down program
- Leg Press (emphasizing eccentrics)
- Advance proprioception training (perturbations)
- Retrograde treadmill ambulation/running
- Jogging program on Alter-G with gradual increase in body weight
- Hamstring curls/proximal strengthening
- Isokinetic test at 4 months
- Lower extremity stretching
- Agility exercises (sports cord)
- Home exercise program

Criteria for Progression to Phase IV

- 85% limb symmetry on isokinetic testing (tibiofemoral lesions)
- Demonstrated ability to descend 8-inch step with good leg control and w/o pain

Postoperative Phase IV: Return to Sport (Weeks 18 and beyond)

Goals

- Lack of apprehension with sport-specific movements
- Maximize strength and flexibility to meet demands of individual's sport activity
- Hop test \geq 85% limb symmetry

Precautions

- Minimal pain with therapeutic exercise and functional activities
- Avoid sport activity until adequate strength development and surgeons clearance

Treatment Plan

- Continue to advance lower extremity strengthening, flexibility, and agility programs
- Forward running
- Plyometric program
- Brace for sport activity (MD preference)

- Monitor patient's activity level throughout course of rehabilitation and adjust accordingly
- Encourage compliance to home exercise program

Criteria for Discharge

- Lack of apprehension with sport-specific movements
- Hop test \geq 85% limb symmetry
- Flexibility to accepted levels of sports performance
- Independence with gym program for maintenance and progression of therapeutic exercises