

MENISCUS TRANSPLANTATION

Postoperative Rehabilitation Protocol

General Considerations:

- Touchdown weightbearing status for 4 weeks postop. Partial weightbearing from 4-6 weeks postop.
- Knee immobilizer for 0-1 week post op.
- Long hinge brace set at 0-30 degrees 1-2weeks post op. Then increase ROM of brace by 10 degrees each week till 90 degrees. Continue with 0-90 degrees until 6 weeks post op when brace is discontinued, unless otherwise instructed.
- Range of motion will be restricted from 0-70degrees, both passively and actively, for 4 weeks postop unless otherwise indicated.
- No abduction or adduction straight leg raises against gravity for 2 weeks.
- No resisted hamstring exercises for 4 weeks.
- Regular assessment of gait to watch for out-toe or previous learned compensatory patterns.
- Regular manual treatment should be performed to decrease the incidence of fibrosis.
- No resisted leg extension machines (isotonic or isokinetic) at any point in the rehab process.
- No high-impact or cutting/twisting activities for at least 4 months postop.
- Use of CPM for 6 hours a day for 4 weeks. Range of motion should be between 30 and 70 .
- MD followup visits at day 1, day 8-10, 1 month, 2 months, 4 months, 6 months, and 1 year postop.

Week 1:

- MD visit day 1 postop to change dressing and review home program.
- Straight leg raise exercises into flexion and extension ONLY (lying, seated, and standing as able).
- Quadriceps/abduction/gluteal sets.
- Passive and active range of motion exercises from 0-70 ONLY.
- Hip and foot/ankle exercises, well-leg stationary cycling, upper body conditioning.
- Soft tissue treatments for edema/pain control and to posterior musculature, patella, and incisions.

Weeks 2-4:

- MD visit at 10-14 days for suture removal and check-up.
- Manual resisted (i.e., PNF patterns) of the foot, ankle, and hip. Trunk and gluteal stabilization program.
- Continue with pain control, range of motion, soft tissue treatments, and proprioception exercises.
- Nonweightbearing aerobic exercises (i.e., unilateral cycling, UBE, Schwinn Air-Dyne, pool exercises).
- Pool workouts with brace on once incisions are healed.
- Modalities as needed.

Weeks 4-6:

- MD visit at 4 weeks postop
- Progress to partial weightbearing for 4-6 weeks and discontinue use of rehab brace at 6 weeks unless otherwise instructed.
- Stretching and manual treatments to work on range of motion (especially extension).
- Introduce hamstring exercises.
- Incorporate functional exercises (i.e., short-arc squats, shuttle/leg press, calf raises, assisted step-ups).
- Stationary bike with increasing intensity as tolerated.

Weeks 6-8:

- Increase the intensity of functional exercises (i.e., cautiously increase depth of closed chain exercises, shuttle/leg press). Do not overload closed or open chain exercises.
- Patients should be progressing to walking without a limp and range of motion should be at 80%.
- Slow treadmill walking.

Weeks 8-12:

- Add lateral training exercises (side step-ups, lateral stepping) once adequate mechanics are achieved.
- Introduce more progressive single-leg exercises (i.e., unilateral leg press, single-leg squats) as able.
- Careful analysis of gait and mechanics with corrective treatment (i.e., orthotics, glute/core exercises).
- Patients should be pursuing a home program with emphasis on sport/activity-specific training.

Weeks 10-16:

- Low-impact activities until able to demonstrate adequate completion of a functional assessment.
- Increasing intensity of strength, power, and functional training for gradual return to activities.