



Meniscus Transplant Rehabilitation Protocol

Phase 1 (0-6 weeks post-op).

Rehabilitation Goals

- Protect surgical repair
- ROM: full knee extension, 90° knee flexion
- Regain adequate quadriceps control

PRECAUTIONS

- Wear brace at all times (even while sleeping)
- **NO** bending knee with load applied (i.e., squat, leg press, etc.)
- Note: bending knee & partial weight bearing are allowed, BUT not at the same time

Crutches

Begin with FF weight-bearing: progress gradually only when wearing brace locked at 0°

- Weeks 1-2: Partial weight-bearing @ 0-25% body weight
- Weeks 3-4: Partial weight-bearing @ 25-50% body weight
- Weeks 5-6: Partial weight-bearing @ 50-75% body weight

Brace

Locked at 0° extension for 6 weeks when weight bearing; may remove for PT

Wound

- Post-op dressing remains intact until post-op day #3 (~72 hours after surgery)
- May begin showering after post-op day #3 (no need to cover incision site)
- **Do NOT** submerge knee in tub or pool for 4 weeks
- Bilateral compression stockings for 3-7 days: unilateral use thereafter as needed
- Suture/staple removal @ 10-14 days per Ortho/PT.

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Meniscus Transplant Rehabilitation Protocol

Phase 1 (0-6 weeks post-op)

Rehabilitation

- Frequent use of cryocuff and/or ice with lower extremity elevated
- Begin patellar mobilizations (10 reps each direction TID) after suture/staple removal
- Begin scar massage after incision site sloughs/scar is formed

Weeks 1-2

- Calf pumping with tubing
- Heel slides - assisted as needed: within the limits of 0-90°
- Static quad sets (with estim until patient able to do 10 SLRs without extension lag)
- SLRs: All directions - may add light weight when pain free
- Supine passive extension with towel under heel
- Gentle hamstring stretching

Weeks 3-4

- Short arc quads - may add light weights as tolerated
- Seated ankle disk training
- Seated bilateral calf raises - progress to standing bilateral calf raises
- UBE and/or well leg cycle

Weeks 5-6

- Hamstring Curls - light weight in a painless ROM
- Beginning level pool exercises: only gait training & deep water jogging (No "whip" kicking)

Follow-Up

- Physical Therapy: Weekly; Ortho: ~6 weeks post-op;
- Supervised rehabilitation: 2-3 x per week

Documentation

- Precautions, pain level - medications and modalities
- Observation: (incision sites) - Signs/symptoms of infection? Site healing well? Effusion?
- Neurovascular status: Distal pulses, motor and sensation intact? Presence of calf pain?
- Knee ROM & quadriceps function

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Meniscus Transplant Rehabilitation Protocol

Phase 2 (7-12 weeks post-op)

Rehabilitation Goals

- Normal gait and stair ambulation
- Full Knee ROM

PRECAUTIONS

- Continue to wear brace at all times (except while sleeping)
- **NO** jogging/running until 3 months post-op

Crutches

Progress gradually to full weight-bearing during weeks 7-8 post-op

Brace

Open to full ROM and D/C once able to do SLR without extension lag

Rehabilitation

- Continue phase I exercises as needed
- Progress to the following exercises and increase intensity gradually when patient is ready (i.e., no increase in knee pain or effusion since the previous exercise session)
- Note: all strengthening should be done with the brace on, starting with low weights, high repetitions, and in a painless ROM*



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Meniscus Transplant Rehabilitation Protocol

Phase 2 (7-12 weeks post-op)

Weeks 7-8

- Stationary bike for conditioning - begin with 5-10 minutes and progress gradually
- Gait training (cone walking, marching, retrowalking, exercise band, etc.)
- Progressive strengthening (calf press, leg press, squats (0-45°), HS curls) (first set: 30 repetitions, then 1 additional sets at the same weight to muscle failure)
- Step-ups
- General LE stretching (calf, HS, quads, HF, hip adductors)

Weeks 9-10

- Progressive standing balance exercises (body blade, plyoball, platform training, etc.) (progress in duration, intensity, double leg to single leg, etc.)
- Progressive strengthening (calf press, leg press, squats (0-45°), HS curls, hip abd/add) (first set: 20 repetitions, then 2 additional sets at the same weight to muscle failure)

Weeks 11-12

- Along with stationary bike, gradually add elliptical and/or stairmaster for conditioning
- Progressive pool program as tolerated

Follow-Up

- PT: Bimonthly
- Ortho: ~12 weeks post-op
- Supervised rehabilitation: 2-3 x per week as needed

Documentation

- Precautions, pain level, medications, modalities
- Effusion
- Knee ROM & quadriceps function
- Gait



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Meniscus Transplant Rehabilitation Protocol

Phase 3 (4-6 months post-op)

Rehabilitation Goals

- Jog at own pace and distance without pain
- > 90% quadriceps and hamstring strength compared to the uninvolved side
- > 90% hop for distance compared to the uninvolved side

PRECAUTIONS

- **NO** participation in contact/collision sports

Brace

None required

Rehabilitation

- Continue phase II exercises as needed
- Progress in duration and intensity of exercise only if there is no increase in knee pain or effusion since the previous exercise session

Weeks 13-16

- Warm-up: 5-10 minutes (bike, elliptical, stairmaster)
- General LE stretching: 5-10 minutes (calf, HS, quads, HF, hip adductors)
- Progressive functional training (2 legged plyometrics, jump roping, etc.)
- Progressive strengthening (calf press, leg press, squats (0-60°), HS curls, hip abd/add) (first set: 10 repetitions, then 2 additional sets at the same weight to muscle failure)
- Progressive balance training as needed
- Jogging on treadmill: start with 5 minutes per session. Do not exceed 20 minutes per session or 60 minutes per week until 4 months post-op

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Phase 3 (4-6 months post-op)

Weeks 17-26

- Progressive jogging program (increase time and/or distance no more than 10-20% per wk)
- Progressive functional training: Begin at 25-50% intensity and progress gradually (jumping, hopping, directional jogging, cariocas, shuffles, etc.)

Follow-Up

- PT: Monthly
- Ortho: ~6 months post-op
- Supervised rehab: 1-2 x per week as needed

Documentation

- Pain level & medications
- Effusion
- Knee ROM & quadriceps function
- Hop for distance

Miscellaneous

- After 6 months post-op: Exercises in phase III are continued, gradually increasing intensity & duration as tolerated.
- The recommendation is to wait until 9-12 months post-op to return to contact/collision sports. This time period may be adjusted slightly by the surgeon and therapist according to patient progress.



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