

MENISCAL REPAIR WITH WEIGHT RESTRICTIONS

CLINICAL PRACTICE GUIDELINES

Rehabilitation Precautions and Guidelines

Disclaimer

- Progression is time and criterion-based, depending on soft tissue healing, patient demographics, and clinician evaluation.
- For questions, contact Dr. Sujan Gogu's clinic.

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Weight Bearing:

- Weight bearing as tolerated (Dr. Kaeding).
- Non-weight bearing without bracing for 4 weeks post-op (Dr. Jones, Dr. Flanigan).
- No weight bearing flexion beyond 90° for eight weeks.
- No resistive hamstring exercises for 8 weeks.

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Isotonic Strengthening:

- 40-90° open-chain exercises to avoid patellofemoral irritation.
- Less than 90° closed-chain exercises to avoid patellofemoral irritation.

Weeks 1-4 Rehabilitation

Category	Details
ROM	<ul style="list-style-type: none"> • Start ROM progression from active-assisted to active (no forced flexion beyond 90°) • Perform patellar mobilization • Control edema • Exercise bike with half revolutions
Strengthening	<ul style="list-style-type: none"> • Neuromuscular re-education with stim/biofeedback (if needed) • NWB strengthening if weight restrictions: modify ROM, quad set, SLR • WB and NWB strengthening if tolerated: modify ROM, quad set, TKE, SLR, balance exercises • Partial WB shuttle/leg press
Goals to Progress to Next Phase	<ol style="list-style-type: none"> 1. Achieve good quad set 2. Attain ROM of 0-90° 3. Ensure little to no extension lag with SLR 4. Maintain minimal to no edema

Week 4-6

Category	Description
Weight Bearing Progression	<ul style="list-style-type: none"> • Progress partial to full weight bearing by week 6 • Discontinue crutches when gait is normalized
Exercise Advancement	<ul style="list-style-type: none"> • Continue ROM exercises (no forced flexion beyond 90°) • Full revolutions on an exercise bike for ROM and endurance
Strengthening	<ul style="list-style-type: none"> • Progress partial to full weight bearing by week 6 • Start seated BAPS and heel/toe raises • Use partial to full weight-bearing shuttle/Total Gym/aquatics strengthening • Progress from bilateral lower extremity to single lower extremity strengthening • Include trunk and lumbosacral strengthening
Goals to Progress to Next Phase	<ol style="list-style-type: none"> 1. Normal gait without assistive devices 2. Strong quad set 3. Ability to stand on one leg 4. No exacerbation with partial weight-bearing strengthening

Weeks 6-8 Rehabilitation

Category	Details
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Category	Details
ROM	<ul style="list-style-type: none"> • Focus on terminal extension and pain-free flexion • Use an exercise bike for endurance
Strengthening	<ul style="list-style-type: none"> • Start full weight-bearing strengthening (< 90°) and progress as tolerated • Progress NWB and WB strengthening, stability, balance, and proprioception exercises • Lunges, steamboats, side-stepping, leg press, modified leg extensions • Continue shuttle/Total Gym/aquatics strengthening • Maintain progress in lumbosacral strengthening
Goals to Progress to Next Phase	<ol style="list-style-type: none"> 1. Increased strength, stability, and proprioception with therapeutic exercise without symptom exacerbation 2. No reactive instability or effusion with weight-bearing activities

Weeks 8-10 Rehabilitation	
Category	Details
ROM	Continue using an exercise bike and stretching exercises
Strengthening	<ul style="list-style-type: none"> • Begin partial weight-bearing shuttle plyometrics, including shuttle jogging • Progress from bilateral to single lower extremity • Progress from straight plane to rotational movements • Start isolated hamstring strengthening as tolerated • Progress lower extremity and trunk strength and stability exercises • Include hop downs with an emphasis on proper mechanics

Category	Details
Goals to Progress to Next Phase	<ol style="list-style-type: none"> 1. Increased strength, stability, and proprioception with therapeutic exercise without symptom exacerbation 2. No reactive instability or effusion with weight-bearing activities

Weeks 10-12 Rehabilitation

Category	Details
ROM and Strengthening	<ul style="list-style-type: none"> • Continue and progress WB and NWB strengthening. • Full weight-bearing plyometrics: <ul style="list-style-type: none"> • Bilateral • Shuttle • Rotational and single-leg jumping
Walk-Jog Progression	<ul style="list-style-type: none"> • Initiate walk-jog progression: • Criteria to start jogging: <ul style="list-style-type: none"> ➤ $\geq 7/10$ on #10 IKDC Questionnaire ➤ Complete single-leg hop-downs without medial/lateral knee displacement ➤ Normalized ROM ➤ Audible rhythmic strike patterns with no gross visual antalgia
Goals to Progress to Next Phase	<ol style="list-style-type: none"> 1. $\geq 7/10$ on #10 IKDC Questionnaire (Appendix A) 2. Complete plyometric and jogging activities without pain or dynamic instability. 3. No reactive effusion. 4. ROM: 0-135°.

Weeks 12-16 Rehabilitation

Category	Details
ROM	Continue ROM exercises as tolerated with a pre-exercise warm-up.
Strengthening	<ul style="list-style-type: none"> • Full weight-bearing plyometrics, progressing from

Category	Details
	<p>straight-plane to diagonal/rotation exercises.</p> <ul style="list-style-type: none"> • Continue jogging progression • Strength progression from stable to unstable surfaces, emphasizing quad, hamstring, and trunk dynamic stability. • Use shuttle/aquatics/Total Gym for strengthening, progressing rotational and single-leg jumping.
<p>Agility Exercises (50-75%)</p>	<ul style="list-style-type: none"> • Use visual feedback to improve mechanics: <ul style="list-style-type: none"> ➤ Side shuffling ➤ Hopping ➤ Carioca ➤ Zig-Zag ➤ Resisted jogging (Sports Cord) in straight planes
<p>Goals to Progress to Next Phase</p>	<p>Functional Test:</p> <ul style="list-style-type: none"> • 3 cross-over hop test for distance (within 15% of uninvolved limb) <p>Isokinetic Testing:</p> <ul style="list-style-type: none"> • Schedule testing at 4 months post-op if your clinic lacks isokinetic equipment or for any questions • Side-to-side symmetry in isokinetic peak torque with knee extension and knee flexion (within 15% at 60°/sec, 180°/sec, and 300°/sec) • Quad to hamstring isokinetic strength ratio $\geq 60\%$. <p>Overall Goal:</p> <ul style="list-style-type: none"> • Complete sport-specific drills without exacerbating symptoms or causing reactive instability.

Month 4-6: Sports Specific Training

Category	Details
<p>Strengthening</p>	<ul style="list-style-type: none"> • Emphasize quad, hamstring, and trunk dynamic stability <p>Continue sport-specific agility exercises, using visual feedback to improve mechanics:</p>

Category	Details
	<ul style="list-style-type: none">• Gradually progress to 100% per tolerance• Focus on power and change of direction• Use both indoor and outdoor surfaces.
Goals to Return to Sport	<ol style="list-style-type: none">1. Physician clearance at the 6-month check-up2. Symmetry with functional testing (e.g., 3 single-leg cross-over).3. No reactive effusion or instability with sport-specific activity.

Appendix A: IKDC Questionnaire

"On a scale of 0 to 10, with 10 representing normal, excellent function and 0 representing an inability to perform any of your usual daily activities, including sports, how would you rate the function of your knee?"

FUNCTION PRIOR TO YOUR KNEE INJURY

0	1	2	3	4	5	6	7	8	9	10
Unable to perform daily activities	No limitation in daily activities									

CURRENT FUNCTION OF YOUR KNEE

0	1	2	3	4	5	6	7	8	9	10
Unable to perform daily activities	No limitation in daily activities									

Functional Tests

Single Hop for Distance:

- Have the participant align their heel with the zero mark on the tape measure, while wearing athletic shoes.
- The participant then hops as far as possible, landing on the same leg they pushed off from, and maintains balance for at least *3 seconds*.
- Arm movement is unrestricted during the test.
- Allow *4 practice hops* on each leg before performing 4 trials, measuring the distance from the start point to the back of the heel.
- Calculate the average distance for each limb.

Cross-over Hop for Distance:

- Set up a 15 cm wide strip extending 6 meters.

- The participant aligns their heel at the zero mark on the tape measure and hops 3 times on one foot, crossing over the center line with each hop.
- Record the total distance hopped.
- Allow 4 practice rounds before recording the results.
- Calculate the average distance for each limb.

Scoring

- Begin with the uninvolved leg.
- If using tape to mark distance, remove it before the next trial to reduce visual cues.
- A difference of more than 15% in average distance between the right and left limbs is concerning and may indicate quad or hamstring weakness that should be addressed before returning to sports.
- If the patient fails the test, reassess and implement suitable strength, stability, or balance exercises.
- Once resolved, retest the patient.