



**Department of Orthopaedic Surgery
Sports Medicine and Shoulder Service
Meniscus Repair Rehab Protocol**

These guidelines, treatments, and milestones have been established to assist in guiding rehabilitation based on the most current available evidence. They are not intended to be substitute for sound clinical judgement with consideration of the individual contextual features of the patient and the demands of various functions/sports.

Recommendations	Precautions:*	The following factors may affect prognosis
<ul style="list-style-type: none"> • When implementing the below guidelines for rehabilitation of meniscal repairs with concomitant procedures, consider the following: <ul style="list-style-type: none"> ○ With ACL reconstruction: <ul style="list-style-type: none"> ✓ Promote protection of the ACL graft by limiting excessive anterior tibial translation ○ With ACL and MCL repair: <ul style="list-style-type: none"> ✓ Limit excessive anterior tibial translation and avoid valgus stress ○ With PCL reconstruction: <ul style="list-style-type: none"> ✓ Avoid aggressive posterior tibial translation • Use of the Soreness Rules⁶ when determining exercise progression 	<ul style="list-style-type: none"> • No loaded knee flexion beyond 45° until week 5¹⁻³ • No loaded knee flexion beyond 90° until week 8 • No forced knee hyperextension if anterior horn repair • No forced knee flexion if posterior horn repair • Avoid OKC exercise from 0-30° and CKC exercise from 90-120° if patient shows signs/symptoms of patellofemoral irritation^{4,5} 	<ul style="list-style-type: none"> • Shorter meniscus healing time if concomitant cruciate repair^{7,8} • Biopsychosocial factors such as pain catastrophizing, fear-avoidance behavior, and exercise self-efficacy

Timeline	Milestones	Treatment Recommendations
Week 1-2 (Day 0-14)	Active full knee extension Achieve full hyperextension AROM flexion to 90°	Amb WBAT knee brace locked 0° Supervised loaded flexion between 0-45°

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Please respond to our anonymous survey regarding these guidelines to assist in improving patient care and advocacy. https://slu.az1.qualtrics.com/jfe/form/SV_bpX7Z9AaVTzGblj



Post-Surgical Meniscal Repair Rehabilitation

	<p>Good quadriceps control (≥ 20 no lag SLR)</p> <p>Minimize pain</p> <p>Minimize swelling</p> <p>Protect meniscus healing</p> <p>Home exercise program and precautions</p>	<p>Core stabilization</p> <p>Hip strengthening</p> <p>Patellar mobilizations</p> <p>NMES as needed⁹</p>
<p><u>Weeks 3-4</u> (Day 15-28)</p>	<p>AROM 0-120°</p> <p>Full scar mobility</p> <p>Patellar mobility WNL</p> <p>Zero to trace effusion (Stroke Test¹⁰)</p> <p>Achieve full hyperextension</p>	<p>Amb WBAT knee brace locked 0°</p> <p>Gait training</p> <p>Alter-G Treadmill</p> <p>Core stabilization</p> <p>Hip strengthening</p> <p>Stair progression</p>
<p><u>Weeks 5-7</u> (Day 29-49)</p>	<p>AROM to WNL</p> <p>Normal gait</p> <p>No Effusion</p> <p>≤ 2 errors on SL Squat^{11,12}</p> <p>5xSTS ≤ 1 SD of norms¹³</p>	<p>WBAT</p> <p>Loaded flexion between 0-90°</p> <p>Gait training</p> <p>SL motor control</p> <p>CKC Core stabilization</p> <p>Hip strengthening</p>
<p><u>Weeks 8-11</u> (Day 50-77)</p>	<p>≤ 1 errors on SL Squat</p> <p>Mod SEBT symmetry ≤ 4cm¹⁴</p>	<p>Loaded flexion $> 90^\circ$</p> <p>Running progression</p> <p>Strength and conditioning</p> <p>CKC Core stabilization</p> <p>Hip strengthening</p>
<p><u>Weeks 12-</u> <u>Return-to-sport</u></p>	<p>Hop tests symmetry $> 90\%$¹⁵</p> <p>Zero errors on SL Squat</p> <p>Acute-to-chronic workload ratio $< 1.5$¹⁶⁻¹⁸</p>	<p>Functional hop tests</p> <p>Sport-specific drills</p> <p>Agility drills</p> <p>CKC Core stabilization</p> <p>Hip strengthening</p>

For additional questions, comments, or concerns regarding the implementation of these physical therapy guidelines, please contact Chris Sebelski, PT, DPT, PhD, OCS, Director of the SLU – SSM Health Physical Therapy Residency (314) 977-8724 OR chris.sebelski@health.slu.edu

Post-Surgical Meniscal Repair Rehabilitation

Tests/Measures:

- Soreness Rules⁶

Criterion	Action
1. Soreness during warm-up that continues	2 days off, drop down 1 step
2. Soreness during warm-up that goes away	Stay at step that led to soreness
3. Soreness during warm-up that goes away and redevelops during session	2 days off, drop down 1 step
4. Soreness the day after lifting (not muscle soreness)	1 day off, do not advance program to the next step
5. No soreness	Advance 1 step per week or as instructed by healthcare professional

- Single Leg Squat^{11,12}

Movement Impairment	
Midfoot collapse	Early heel rise
Femoral adduction, IR	Pelvic drop
Poor control of knee when rising up	Excessive trunk flexion or knee extension on rising up

* Table adapted from Liebenson 2002 in Bailey et al 2010

- 5xSTS Normative Values¹³

Age (n)	Mean ± SD (95%CI)	Min-Max
14–19 (25)	6.5 ± 1.2 (6.0–7.0)	4.7–9.7
20–29 (36)	6.0 ± 1.4 (5.6–6.5)	3.9–11.2
30–39 (22)	6.1 ± 1.4 (5.5–6.8)	4.1–10.4
40–49 (15)	7.6 ± 1.8 (6.6–8.6)	5.6–13.2
50–59 (20)	7.7 ± 2.6 (6.5–8.9)	4.2–12.1
60–69 (25)	7.8 ± 2.4 (6.8–8.7)	4.7–15.1
70–79 (24)	9.3 ± 2.1 (8.4–10.1)	5.5–13.3
80–85 (14)	10.8 ± 2.6 (9.3–12.3)	5.8–17.6

- Return to sport dosing should consider Acute-to-chronic workload¹⁶⁻¹⁸
 - Each session calculated by multiplying RPE (0-10) by duration (minutes) to obtain workload (augmented units). For example, *RPE of 6 x 60 minutes = workload of 360 AUs.*
 - Acute workload = average workload over the course of 1 week
 - Chronic workload = average workload over course of 4 weeks

Post-Surgical Meniscal Repair Rehabilitation

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