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**ACL/PCL/MCL Reconstruction Rehabilitation Protocol**

Phase / Goals	Immobilization	ROM	Therapeutic Exercises
<b>Phase 1 (0-2 weeks)</b> Goals: <ul style="list-style-type: none"> <li>• ROM 0-90°</li> <li>• Protect posterior tib sag</li> <li>• No quad lag</li> </ul>	<ul style="list-style-type: none"> <li>• Knee immobilizer until POD 3-5 when swelling allows for PCL brace</li> <li>• PCL brace at all times including sleep</li> <li>• Toe-touch weight bearing x 6 wks</li> </ul>	<ul style="list-style-type: none"> <li>• PROM 0-90° – all ROM exercises performed prone x 6 weeks</li> <li>• Patellar &amp; patellar tendon mobilization</li> <li>• Modalities PRN</li> </ul>	<ul style="list-style-type: none"> <li>• Home stretching 2-3x daily</li> <li>• Flexion/extension seated/calf assisted</li> <li>• Quad sets, SLR</li> <li>• Ankle pumps</li> <li>• No hamstring isometrics x6 weeks</li> </ul>
<b>Phase 2 (3-4 weeks)</b> Goals: <ul style="list-style-type: none"> <li>• Control effusion</li> <li>• Full PROM</li> </ul>	<ul style="list-style-type: none"> <li>• PCL brace at all times including sleep</li> <li>• TTWB x 6 wks</li> </ul>	<ul style="list-style-type: none"> <li>• Full PROM, begin AAROM               <ul style="list-style-type: none"> <li>◦ PRONE x 6 wks</li> </ul> </li> <li>• Patellar mobilization</li> <li>• Modalities PRN</li> </ul>	<ul style="list-style-type: none"> <li>• Closed chain strengthening 0-45°</li> <li>• Quad sets/SLR in Brace at 0° (assist patient with this exercise until solid quad contraction developed, prevent posterior sag) 3x10 3x's/daily, may use ankle weights as they will increase anterior translation</li> <li>• BFR – initiate post op day 15</li> </ul>
<b>Phase 3 (5-6 weeks)</b> Goals: <ul style="list-style-type: none"> <li>• FWB</li> <li>• Full A/PROM</li> <li>• 4/5 quad strength</li> </ul>	<ul style="list-style-type: none"> <li>• PCL brace at all times including sleep</li> <li>• TTWB x 6 wks</li> </ul>	<ul style="list-style-type: none"> <li>• Progress to full A/PROM</li> <li>• Patellar mobilization</li> <li>• Modalities PRN</li> </ul>	<ul style="list-style-type: none"> <li>• Begin stationary bike w/ no resistance once ROM 0-120°</li> <li>• ¼ squats, leg press 0-60° light weight</li> <li>• Gentle sit and reach for hamstrings (no hypertext)</li> <li>• Start proprioception training in hinged brace</li> <li>• Can begin pool therapy, but NO kicking</li> </ul>

<p><b>Phase 4 (7-8 weeks)</b> Goals: FWB</p>	<ul style="list-style-type: none"> <li>• Wean from crutches, advance to full weight bearing</li> <li>• PCL brace full-time</li> </ul>	<ul style="list-style-type: none"> <li>• Full A/PROM</li> <li>• Patellar mobilization</li> </ul>	<ul style="list-style-type: none"> <li>• Stationary bike with no resistance</li> <li>• Small forward step-ups</li> <li>• Toe/heel raises</li> <li>• Progress from bilat leg press to unilateral w/ light weight</li> <li>• Continue with strengthening from phase 3</li> </ul>
<p><b>Phase 5 (9-12 weeks)</b> Goals:  <ul style="list-style-type: none"> <li>• 5/5 strength</li> <li>• Normal gait</li> <li>• Good single leg stance</li> </ul> </p>	<ul style="list-style-type: none"> <li>• FWB</li> <li>• PCL Brace full-time</li> </ul>	<ul style="list-style-type: none"> <li>• Full A/PROM</li> </ul>	<ul style="list-style-type: none"> <li>• Double knee bends. Double leg bridges</li> <li>• Reverse lunge static holds</li> <li>• Stationary bike, water walking</li> <li>• Leg press 0-90° light weight</li> <li>• Mini squats 0-45°, progress to single leg wall squats</li> <li>• Stationary bike (resistance at 10 wks), water walking</li> </ul>
<p><b>Phase 6 (13-16 weeks)</b> Goals:  <ul style="list-style-type: none"> <li>• 45 min aerobic endurance</li> </ul> </p>	<ul style="list-style-type: none"> <li>• FWB</li> <li>• PCL brace full-time</li> </ul>	<ul style="list-style-type: none"> <li>• Full A/PROM</li> </ul>	<ul style="list-style-type: none"> <li>• Treadmill walking, aqua jogging, alter-G</li> <li>• Elliptical, rowing</li> <li>• Balance squats</li> <li>• Single leg deadlift</li> <li>• Leg press (max. knee flexion 70)</li> <li>• Continue to progress strengthening from phase 5</li> </ul>
<p><b>Phase 7 (17-28 weeks)</b> Goals:  <ul style="list-style-type: none"> <li>• Begin running progression</li> <li>• Initiate agility exercises</li> </ul> </p>	<ul style="list-style-type: none"> <li>• FWB</li> <li>• PCL brace full-time</li> </ul>	<ul style="list-style-type: none"> <li>• Full A/PROM</li> </ul>	<ul style="list-style-type: none"> <li>• Start walk-run program at 20 weeks</li> <li>• Stairmaster</li> <li>• Backward walking</li> <li>• Start light agility program and may progress as tolerated</li> </ul>
<p><b>Phase 8 (&gt;29 weeks)</b> Goals:  <ul style="list-style-type: none"> <li>• Return to play progression</li> </ul> </p>	<ul style="list-style-type: none"> <li>• FWB</li> <li>• DC full-time brace <ul style="list-style-type: none"> <li>○ PCL brace for sports activities until 12 months post op</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Full A/PROM</li> </ul>	<ul style="list-style-type: none"> <li>• Start plyometric/jump training. Agility exercises</li> <li>• Isokinetic test for Quad strength difference <math>\leq</math> 10% and unilateral Hamstring/Quad strength ratio of 65% or better</li> <li>• Continue strength testing monthly until patient passes then perform functional testing</li> <li>• No cutting/pivoting x 9 months</li> <li>• Dr. Ridley to discuss prior to return to sport</li> </ul>

**RETURN-TO-SPORT CRITERIA:**

*Full return to all sports and games*

- At least 10 months from surgery
- No functional complaints, full range of motion & no effusion
- Confidence when running, cutting, jumping at full speed
- >90% isometric quadriceps strength
- >90% contralateral values on hop tests
- >90% Quad Index LSI with Biodex or HHD
- >90% Quad peak torque/body weight on Biodex (if applicable)
- Excellent ACL-RSI
- Wear PCL brace for sports/recreational activities for first year after surgery