

# Rehabilitation Guidelines following Quadriceps/Patellar Tendon Repair

Phase	Intervention	Goals and Criteria for Progression
<b>First post-operative visit until Week 6</b>	<p><b>**Precautions <i>UNLESS OTHERWISE INDICATED BY PHYSICIAN:</i></b></p> <ul style="list-style-type: none"> <li>• <b>Weight Bearing:</b> WBAT, brace locked in extension</li> <li>• <b>Wear brace when ambulating</b></li> <li>• <b>ROM:</b> <ul style="list-style-type: none"> <li>• 0° for 1st week</li> <li>• 0-30 until week 2</li> <li>• 0-60 until week 4</li> <li>• 0-90 until week 6</li> </ul> </li> </ul> <p><b>Physical Therapy:</b></p> <ul style="list-style-type: none"> <li>• Ankle pumps</li> <li>• Calf stretching</li> <li>• Proximal hip strengthening in brace</li> <li>• Quad sets</li> <li>• Straight leg raises (once no quad lag)</li> <li>• NMES to quads w/ active quad set</li> <li>• Heel slides within ROM guidelines</li> </ul>	<p>Control pain and inflammation</p> <p>Protect incision and repair</p> <p>Monitor for infection</p> <p>Be able to initiate and sustain quad contraction</p> <p>Perform a straight leg raise w/o a quad lag</p> <p>ROM 0-90° by end of week 6</p>
<p><b>Weeks 6-8</b></p> <p><b>Expected visits: 1-2x/week</b></p>	<p><b>ROM: Progress ROM as tolerated after week 6</b></p> <p><b>Maintain terminal knee extension</b></p> <p><b>Continue NMES to quads</b></p> <p><b>Physical therapy Treatment:</b></p> <ul style="list-style-type: none"> <li>• Hypertrophy and strength emphasis with strengthening, 12-20 RM</li> <li>• Continue high loads on well leg</li> <li>• Open &amp; Closed Chain hamstring strengthening exercises</li> <li>• Shuttle/Total Gym</li> <li>• Leg Press - emphasize eccentric lowering</li> <li>• Step ups/downs/Lunges</li> <li>• BFR training if appropriate</li> <li>• Total Leg Strengthening: hip extensors, abductors, calves</li> <li>• Core strengthening</li> <li>• Balance activities</li> </ul>	<p>Normal gait</p> <p>No effusion</p> <p>Reciprocating gait on stairs at the end of week 8</p>

<p><b>Weeks 8-16</b></p> <p>Expected visits: 1-2x/week</p>	<p>Continue strengthening from previous phases, increasing loads to build strength, 8-12 sets, 6-10 RM of involved</p> <p>Full arc OKC knee extension by week 12</p> <p>Continue BFR training as adjunct</p> <p>Consider Google cardboard/VR for neuroplasticity training</p>	<p>Consider lateral step down test by week 12</p> <p>Return to jogging from weeks 12-16:</p> <ul style="list-style-type: none"> <li>● No effusion</li> <li>● No pain</li> <li>● Symmetrical AROM</li> <li>● Quad and Hamstring strength via HHD at least 75%</li> <li>● Lateral step down test symmetrical</li> </ul>
<p><b>Weeks 16-24</b></p> <p>Expected visits: 1-2x/week</p>	<p>Once cleared for jogging, provide walk/jog program to be completed every other day (when appropriate)</p> <p>Initiate low impact progressions</p> <ul style="list-style-type: none"> <li>● Begin on shuttle or Total Gym</li> <li>● Jumps TO box</li> <li>● Land-based jumps in place</li> <li>● Jumps to box, 2 leg to 1</li> <li>● Land-based broad jumps</li> <li>● Land-based bounds</li> <li>● Single leg hops TO box</li> <li>● Single leg hops on land</li> <li>● Sagittal plane, Frontal Plane, Transverse plane, Multi-plane</li> </ul> <p>Volume: Begin w/ 40-50 foot contacts per session and increase from there</p> <p>Once lateral plyos initiated, begin CoD progressions</p> <ul style="list-style-type: none"> <li>● 45° cuts</li> <li>● 90° cuts, outside leg</li> <li>● 90° cuts, inside leg</li> </ul> <p>Strengthening: Based on testing results. Provided strength deficits remain, maintain eccentric-emphasized training</p> <p>Continue BFR training as adjunct</p>	<p>Once walk/jog program completed, begin return to sprinting progression if appropriate</p> <p>Functional testing</p> <ul style="list-style-type: none"> <li>● Hop testing battery</li> <li>● Y Balance test</li> <li>● HHD testing</li> </ul> <p>PRO's - IKDC and ACL-RSI</p> <p>Consider return to participation in sport when strength and hop testing values at least 85% of the uninvolved side</p> <ul style="list-style-type: none"> <li>● Individual drills</li> <li>● Drills w/ chaos ( 1 on 1 basketball, 3 v 3 soccer)</li> <li>● Team drills, non-contact</li> <li>● Team drills, contact or reduced constraints</li> </ul> <p>Achieve symmetrical passive flexion by 5-6 months</p>

<p><b>Weeks 24+</b></p> <p>Expected visits: 1x/week to once every other week</p> <p><b><i>**Full release to sport on approval from MD, PT, and after completion of full participation in practices and team activities. Return to sport DOES NOT necessarily mean release to full participation in full games. There will be a progression to this as well.</i></b></p>	<p><b>Progress plyometric activities</b></p> <ul style="list-style-type: none"> <li>● Continue earlier exercises, moving to more explosive movements with full recovery</li> <li>● Jumps FROM Box</li> <li>● Reactive jumps</li> <li>● Tuck jumps</li> </ul> <p><b>Strengthening/Power Training</b></p> <ul style="list-style-type: none"> <li>● Based on deficits</li> <li>● Emphasize strength if values not 90% or &gt;</li> <li>● Transition to power-based activities when strength symmetrical</li> </ul>	<p><b>CRITERIA FOR DISCHARGE TO RETURN TO SPORTS:</b></p> <ul style="list-style-type: none"> <li>● IKDC at least 90, ACL-RSI at least 100</li> <li>● Symmetrical AROM and PROM</li> <li>● Quad mass within 1 cm of the uninvolved</li> <li>● HHD testing 95% or greater</li> <li>● <i>Single leg press to 90° 2x BW 10x if no HHD</i></li> <li>● All hop tests 95% or greater</li> <li>● SLVJ 95% or greater</li> <li>● Reactive strength within 5-10%</li> <li>● Return to sport progression completed</li> </ul>
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