

**Aaron J. Casp, MD**

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## Patella or Quad Tendon Reconstruction protocol

Phase/ Goals	Immobilization	ROM	Therapeutic Exercises
<b>Phase 1 (0-4 weeks)</b>  Goals: <ul style="list-style-type: none"><li>● Protect repair</li><li>● Decrease swelling</li><li>● Quadriceps firing</li></ul>	Long Leg Cast x 2 weeks  Toe touch weightbearing for first 2 weeks, then Partial weightbearing locked in extension for 2 more weeks	No knee motion until after 4 weeks  Modalities: <ul style="list-style-type: none"><li>● NMES if unable to perform SLR without lag</li><li>● Cryocuff/Game Ready Compression/ Ice</li></ul>	<ul style="list-style-type: none"><li>● Patella mobilizations</li><li>● Long sitting HS stretch</li><li>● Glute sets</li><li>● Hip abduction in full extension</li><li>● Ankle pumps</li></ul>
<b>Phase 2 (5-8 weeks)</b>  Goals: <ul style="list-style-type: none"><li>● Progress weightbearing</li><li>● Start ROM</li></ul>	Full weightbearing in Brace locked in extension  Hinged knee brace at all times	<ul style="list-style-type: none"><li>● Prone active ROM 0-30 after week 4 with PT only. Goal of 0-45 by week 6, 90 degrees by week 10</li></ul> Modalities: <ul style="list-style-type: none"><li>● Scar STM when incision healed</li><li>● Patellar mobs all directions</li><li>● Manual assist extension/passive stretch</li></ul>	<ul style="list-style-type: none"><li>● Continue patella mobilizations</li><li>● Isometric SLRs in extension with brace</li><li>● Isometric HS work</li><li>● Heel raises on leg press with knee extended</li></ul>
<b>Phase 3 (9-14 weeks)</b>			<ul style="list-style-type: none"><li>● Straight leg raises x 4</li><li>● Calf strengthening</li></ul>

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<p>Goals:</p> <ul style="list-style-type: none"><li>● Increase ROM</li><li>● Begin normal gait</li></ul>	<p>May BEGIN to unlock brace with ambulation IF good quad control from 0-30 degrees, then advance 10 degrees per week</p>	<ul style="list-style-type: none"><li>● Prone passive 90 degrees by week 10</li><li>● Full ROM allowed week 12</li></ul> <p>Manual:</p> <ul style="list-style-type: none"><li>● Joint mobs PRN for full flex and ext ROM</li><li>● Patellar mobs/ Scar STM</li></ul> <p>Modalities:</p> <ul style="list-style-type: none"><li>● Ice/stim PRN</li></ul>	<ul style="list-style-type: none"><li>● Zero resistance terminal knee extension</li><li>● Zero resistance, low flexion stationary bike</li><li>● Gait progression once unlocked in brace</li></ul>
<p><b>Phase 4 (15-20 weeks)</b></p> <p>Goals:</p> <ul style="list-style-type: none"><li>● Start brace wean</li><li>● Quad strengthening</li></ul>	<p>Continue increasing knee flexion in brace</p> <p>May wean brace if has good quad control and fully unlocked</p>	<ul style="list-style-type: none"><li>● Full PROM</li><li>● Begin AAROM and AROM</li></ul>	<ul style="list-style-type: none"><li>● Continue everything in phase 3</li><li>● Progressive resistance exercises</li><li>● May begin AAROM extensions</li><li>● Avoid open chain terminal knee extensions</li><li>● May begin high squats</li><li>● Treadmill walking</li><li>● Hip bridges</li></ul>
<p><b>Phase 5 (5-6 months)</b></p> <p>Goals:</p> <ul style="list-style-type: none"><li>● Increase strength</li></ul>	<p>Out of brace</p>	<ul style="list-style-type: none"><li>● Continue Full A/PROM</li><li>● Modalities PRN</li></ul>	<ul style="list-style-type: none"><li>● Continue previous exercises</li><li>● Can start walk/jog progression</li><li>● Dynamic stability</li><li>● Increase muscular endurance: squats, lunges</li><li>● Elliptical, bike</li><li>● Can resume normal sports/cutting/jumping activities at 6 months if strength is symmetric</li></ul>
<p><b>Phase 6 (6+ months)</b></p> <p>Goals:</p>	<p>No brace</p>	<p>Continue full Active and Passive ROM</p>	<ul style="list-style-type: none"><li>● Incorporate plyometrics</li><li>● Sport specific training</li><li>● Dynamic jumping if strength allows</li><li>● Return to running and cutting, if able</li></ul>

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Back to athletic activity			
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