

## Combined Cartilage Restoration Rehabilitation Protocol

### (Patellar Facet and Femoral Condyle)

Phase	Goals	Precautions/Restrictions	Treatment
Weeks 0-6	<ul style="list-style-type: none"> <li>• Protect surgical site</li> <li>• Manage swelling and pain</li> <li>• Achieve and maintain good quadriceps activation</li> <li>• Reduce muscle atrophy</li> </ul>	<ul style="list-style-type: none"> <li>• TWB with knee brace locked in extension with crutches</li> <li>• ROM as tolerated (Do not force)</li> </ul>	<ul style="list-style-type: none"> <li>• PRICE</li> <li>• Quadriceps activation and strength should be emphasized</li> <li>• Knee flexion and terminal extension ROM</li> <li>• Gentle stretching of hamstrings, calf to tolerance</li> <li>• Ankle strengthening</li> <li>• OKC straight leg raises all planes (locked in extension)</li> <li>• Initiate stationary biking without resistance (within ROM limitations)</li> <li>• Modalities as indicated</li> <li>• Initial Visit: FOTO, LEFS</li> </ul>
Weeks 6-8	<ul style="list-style-type: none"> <li>• Progressive ROM</li> <li>• Reduce effusion to knee</li> <li>• Minimize muscle atrophy</li> <li>• Ambulate community distances by 12 weeks</li> </ul>	<ul style="list-style-type: none"> <li>• WBAT progressing to WBAT in brace</li> <li>• Progressive range of motion (Do not force)</li> <li>• No impact (running, cutting, pivoting)</li> <li>• Avoid excessive patellar loading (avoid deep knee flexion, knees over toes)</li> </ul>	<ul style="list-style-type: none"> <li>• Begin CKC strengthening (avoid anterior knee pain)</li> <li>• Limit loaded knee flexion angle to 30 degrees or less</li> <li>• Normalize calf, hamstring, quadriceps mobility</li> <li>• Modalities as indicated</li> <li>• Week 6: FOTO, LEFS</li> </ul>
Weeks 8-12	<ul style="list-style-type: none"> <li>• Achieve full ROM by 12 weeks</li> <li>• Achieve full weight bearing by 12 weeks</li> <li>• Wean fully from crutches</li> <li>• No effusion to knee</li> <li>• Restoring strength of quadriceps, hamstrings, hips</li> </ul>	<ul style="list-style-type: none"> <li>• Discontinue knee brace when quad control achieved</li> <li>• No impact (running, cutting, pivoting)</li> </ul>	<ul style="list-style-type: none"> <li>• Progress CKC into greater ROM (&lt;90), single leg, multi-planar, and with resistance as tolerated</li> <li>• Initiate proprioceptive training</li> <li>• Initiate bike/elliptical for cardio fitness</li> <li>• Week 12: FOTO, LEFS</li> </ul>

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<b>Weeks 12-24</b>	<ul style="list-style-type: none"><li>• Preparation for more advanced exercise/activity</li><li>• Initiation of sport specific drills (per MD)</li><li>• Ready to begin impact by 6-9 months (per MD)</li><li>• Normalize asymmetries</li></ul>	<ul style="list-style-type: none"><li>• Loaded range of motion &lt;90 degrees)</li><li>• Proper exercise form and control during exercise performance</li></ul>	<ul style="list-style-type: none"><li>• Progress strength, endurance, and proprioception</li><li>• Advance cardiovascular conditioning</li><li>• Week 24: SGYM with testing<ul style="list-style-type: none"><li>○ Y- balance</li><li>○ Body weight single leg press</li><li>○ Humac testing (90/180 deg/sec)</li><li>○ FOTO, LEFS</li></ul></li></ul>
<b>Weeks 24+</b>	<ul style="list-style-type: none"><li>• Begin impact training once cleared by MD (jumping, running etc.)</li><li>• Unrestricted return to activity (Months 9-12)</li></ul>	<ul style="list-style-type: none"><li>• Avoid running/jumping on a painful or swollen knee</li><li>• Proper form and control during exercise performance</li></ul>	<ul style="list-style-type: none"><li>• Advance progressive exercises in all planes</li><li>• Initiate plyometric activity</li><li>• Jumping progression (double to single leg)</li><li>• Return to run program (walk/jog)</li><li>• Anticipated final visit: SGYM with testing<ul style="list-style-type: none"><li>○ Y- balance</li><li>○ Humac testing (90/180 deg/sec)</li><li>○ Single leg vertical jump</li><li>○ Single leg jump for distance</li><li>○ Single leg triple jump</li><li>○ FOTO, LEFS</li></ul></li></ul>

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