



**Post-operative Rehabilitation Protocol**

**Osteochondral Allograft Transplant**

**Phase 1 (0-6 weeks post op):**

<b>Goals</b>	<ul style="list-style-type: none"> <li>• Minimize pain</li> <li>• Reduce edema</li> <li>• Restore ROM</li> </ul>
<b>Brace/Precautions/ Crutch Use</b>	<ul style="list-style-type: none"> <li>• Weight bearing: <ul style="list-style-type: none"> <li>○ 0-2 weeks: toe-touch to 25% weight-bearing</li> <li>○ 2-8 weeks: 50% weight bearing</li> </ul> </li> <li>• Brace: 0-2 weeks: 0-90 degrees; 2-6 weeks: open to available range <ul style="list-style-type: none"> <li>○ <b>IF graft involving patella or trochlea: leave brace locked in extension for ambulation; unlocked at all other times</b></li> <li>○ Brace may be removed for hygiene and therapy</li> </ul> </li> </ul>
<b>Range of Motion</b>	<ul style="list-style-type: none"> <li>• Weeks 0-2: 0-90 degrees</li> <li>• Weeks 2+: progress to full ROM</li> </ul>
<b>Strengthening</b>	<ul style="list-style-type: none"> <li>• Restore quadriceps recruitment through strengthening exercises</li> <li>• Quadriceps, hamstring, and gluteal strengthening exercises</li> <li>• Exercises to reduce swelling/ effusion (modalities as needed)</li> <li>• Quadriceps NMES</li> </ul>
<b>Home Instructions</b>	<ul style="list-style-type: none"> <li>• Keep surgical dressings clean and dry</li> <li>• Change surgical bandages on the 2<sup>nd</sup> day after surgery (keep covered until first clinic visit)</li> <li>• Avoid getting sutures wet until at least 5 days after surgery (do not scrub, soak, or submerge the incisions)</li> <li>• Note DVT (blood clot) prophylaxis medications provided by your surgeon to take following surgery – follow those instructions carefully.</li> </ul>
<b>Suggested Exercises</b>	<ul style="list-style-type: none"> <li>• Ankle pumps</li> <li>• Quad isometrics</li> <li>• Heel Slides</li> <li>• Patella mobilizations</li> <li>• SAQ and LAQ (through protected ROM- 90-45 degrees)</li> <li>• SLR 4-ways</li> <li>• Flexion and extension ROM exercises</li> <li>• Clamshells</li> <li>• Stationary bike as ROM allows (week 3-4) – low resistance.</li> </ul>

**Phase 2 (6-12 weeks post op):**

<b>Goals</b>	<ul style="list-style-type: none"> <li>• Full, pain-free ROM</li> <li>• No effusion</li> <li>• Good control and no pain with functional movements</li> </ul>
<b>Brace/Precautions/ Crutch Use</b>	<ul style="list-style-type: none"> <li>• Weight-bearing: <ul style="list-style-type: none"> <li>○ Weeks 6-8: 50% WB</li> <li>○ Weeks 8+: Progress to WBAT</li> </ul> </li> <li>• Brace: Discontinue brace after 6 weeks</li> </ul>

	<ul style="list-style-type: none"> <li>○ Focus on obtaining full extension as WBAT progresses</li> </ul>
<b>Range of Motion</b>	<ul style="list-style-type: none"> <li>● Restore full, pain-free active ROM</li> </ul>
<b>Strengthening</b>	<ul style="list-style-type: none"> <li>● Continue strengthening exercises from Phase I</li> <li>● Advance gluteal strengthening exercises to closed chain</li> <li>● Closed chain quadriceps and hamstring exercises</li> <li>● Begin pool program – gait drills and protected weight bearing strengthening exercises</li> <li>● Begin stationary bike - progressing resistance as tolerated</li> </ul>
<b>Home Instructions</b>	<ul style="list-style-type: none"> <li>● Restore normal activities of daily living (within weight-bearing restrictions)</li> </ul>
<b>Suggested Exercises</b>	<ul style="list-style-type: none"> <li>● Stationary bike</li> <li>● Weight shifting</li> <li>● Double leg balance and proprioceptive training</li> <li>● Leg Press 0-60 degrees</li> <li>● Mini-squats</li> <li>● Wall sits</li> <li>● TKEs</li> </ul>

### **Phase 3 (12-24 weeks post-op):**

<b>Goals</b>	<ul style="list-style-type: none"> <li>● Normalize gait</li> <li>● Progress balance and NM control</li> <li>● Maintain full ROM</li> </ul>
<b>Brace/Precautions/ Crutch Use</b>	<ul style="list-style-type: none"> <li>● Progress to full weight-bearing without crutches</li> </ul>
<b>Range of Motion</b>	<ul style="list-style-type: none"> <li>● Maintain full ROM</li> </ul>
<b>Strengthening</b>	<ul style="list-style-type: none"> <li>● Continue strengthening exercises from Phase 2</li> <li>● Progress lower extremity and gluteal strengthening</li> <li>● Advance lower extremity strengthening exercises (open and closed chain)</li> <li>● Advance gluteal strengthening exercises</li> <li>● Begin functional activity/sport specific work</li> </ul>
<b>Home Instructions</b>	<ul style="list-style-type: none"> <li>● Maintain normal activities of daily living</li> </ul>
<b>Suggested Exercises</b>	<ul style="list-style-type: none"> <li>● Progress balance and proprioception exercises (integrate balance with strengthening exercises – BOSU squats and lunges)</li> <li>● Wall squats</li> <li>● Lunges</li> <li>● Include cardiovascular conditioning with elliptical, swimming, and cycle</li> </ul>

### **Phase 4 (6 months+ post-op):**

<b>Goals</b>	<ul style="list-style-type: none"> <li>● Progress to sport specific and/or unrestricted functional activities</li> <li>● Maximize strength and flexibility to meet demands of individual's sport/work activity</li> </ul>
<b>Precautions/ Crutch Use</b>	<ul style="list-style-type: none"> <li>● None</li> </ul>
<b>Range of Motion</b>	<ul style="list-style-type: none"> <li>● Maintain full ROM</li> </ul>
<b>Strengthening</b>	<ul style="list-style-type: none"> <li>● Continue previous advance lower extremity strengthening, flexibility, and agility programs</li> </ul>
<b>Home Instructions</b>	<ul style="list-style-type: none"> <li>● Maintain normal activities of daily living</li> <li>● Any return to sport and high impact decision needs clearance from the physician to confirm healing of the graft on x-ray before that progression may begin</li> </ul>
<b>Suggested Exercises</b>	<ul style="list-style-type: none"> <li>● Progress resistance on above exercises as tolerated</li> <li>● Impact control exercises</li> <li>● Jogging and running progression</li> <li>● Sport/work specific balance, agility, and proprioceptive drills</li> </ul>

For any questions about operative details or rehabilitation guidelines, please contact the respective surgeon's Athletic Trainer at the contact information found at this link: <https://med.virginia.edu/orthopaedic-surgery/orthopaedic-divisions/sports-medicine/protocols/>