



Arthroscopic Marrow Stimulation Femoral Condyles Rehab Protocol

Description of Procedure: Accessing the bone marrow through the subchondral plate either by abrading, drilling or microfracture.

Safety Warning: Avoid stairs and inclines for six months.

	Weight Bearing	Brace	ROM	Therapeutic Exercise
Phase I: 0 to 6 Weeks	<p>0 to 2 Weeks: Foot flat weight bearing 20 lbs.; 2 crutches</p> <p>2 to 6 Weeks: Minimal weight bearing with crutches; no limping</p>	<p>0 to 2 Weeks: Locked at 0 to 30° (remove for exercise); brace is worn until independent straight leg raise can be performed without extension lag</p>	<p>0 to 4 Weeks: Patient should gain at least 90° by week 4 and 120° to 130° by week 6.</p>	<p>Quad sets, SLR, hamstring isometrics - complete exercises in brace if quad control is inadequate; core proximal program; normalize gait; FES biofeedback as needed</p>
Phase II: 6 to 12 Weeks	<p>Progress to full weight bearing if normal gait</p>	<p>None</p>	<p>Full active range of motion and pain free</p>	<p>Progress bilateral closed chain strengthening using resistance less than patient's body weight, progress to unilateral closed chain exercises; continue opened chain knee strengthening</p>
Phase III: 12 Weeks to 9 Months	<p>12 Weeks to 6 Months: Full, with a normalized gait pattern</p> <p>6 to 9 Months: Full, with a normalized gait pattern</p>	<p>None</p>	<p>Full active range of motion and pain-free</p>	<p>12 Weeks to 6 Months: Advance bilateral and unilateral closed chain exercises with emphasis on concentric/eccentric control, continue with biking, elliptical and treadmill; progress balance activities; form exercises for desired sport if no pain or effusion</p> <p>6 to 9 Months: Advance strength training, initiate light jogging: start with 2 minute walk/2 minute jog, emphasize sport-specific training</p>

	Weight Bearing	Brace	ROM	Therapeutic Exercise
Phase IV: 9 to 24 Months	Full, with a normalized gait pattern	None	Full and pain-free	Continue strength training: emphasize single leg loading, plyometrics, begin a progressive running and agility program - high impact activities (basketball, tennis, etc.) may begin at 12 to 24 months if pain-free

Closed chain activities: If anterior, avoid loading in full extension; if posterior, avoid loading in flexion greater than 45 degrees. If pain or swelling occurs with any activities, they must be modified to decrease symptoms.