



Femoral/Tibial Subchondroplasty

Post-Operative Rehabilitation Protocol

0-6 weeks

- NWB for 6 weeks with crutches
- Brace locked in extension for ambulation and sleeping x 6 weeks.
- **ROM:**
 - Wall slides/supine heel slide with strap
 - Seated knee flexion with contralateral LE assist
- **Neuromuscular control:**
 - Quad Set, Prone TKE, SLR in brace
 - Use of NMES if insufficient volitional quad activation.
 - Quad isometrics at 90, 60, 30 and 0 deg knee flexion S/L hip ABD in brace
 - Prone hip extension in brace
 - Ankle mobility and resisted motions in all planes in supine, long sit or seated position.
 - Supine and seated core stabilization.
 - Seated/supine anti rotation/paloff
 - Supine core isometrics with UE and LE dissociative movements
- **Criterion to progress**
 - Pain free ROM 0-90
 - Pain/swelling controlled.
 - SLR without extensor lag

6-12 weeks

- No kneeling for 12 weeks post op
- Progress to PWB and then FWB/wean off assistive device
- Discharge crutches then brace when adequate quad activation/strength
- **ROM:**
 - Stationary bike

Weight Bearing Status

NWB x 6 weeks

Brace Settings

Locked straight x 6 weeks when ambulating or sleeping. Otherwise open brace once good quad control

ROM Restrictions

PROM :
0-90°
beginning
POD 1



6-12 weeks

- **Proprioception and balance:**
 - Initiate balance training
- **Strengthening**
 - Closed chain functional exercise
 - Mini squat, Step up, lunging in sagittal plane (no flexion >70 deg)
 - Bridge
 - Side steps
 - Core strength and endurance
- **Criterion to progress:**
 - Pain free, non-antalgic gait without assistive device for limited distances
 - PROM normalized to contralateral side 100%
 - Dynamometry 80% compared contralaterally with muscle testing

12-20 weeks

- Initiate transverse plane and multiplanar motions.
- Initiate plyometrics.
- Restore power.
- Alter G initiated at 16 weeks for running.
- **Criterion to progress:**
 - Y-balance test >90%
 - 60 sec continuous SL squat to 60 deg without femoral and lumbo-pelvic compensations
 - Plank and side plank 60 sec without compensations
 - Dynamometry 90% compared contralaterally with muscle testing.
 - Return to prior level of function with minimal symptoms

>20 weeks

- Full body running at 20-22 weeks.
- Sport specific dynamic exercises
- Return to sports between 6 months



Exercise	Week															
	1	2	3	4	5	6	7	8	9	10	12	16	20	24		
Initial Exercises:																
Flexion/extension, wall slides																
Flexion/extension, seated/calf assisted or prone																
Patella/Tendon mobilization																
Quad Series																
Hamstring Sets																
Sit and Reach for Hamstrings (<i>no hyperextension</i>)																
Ankle Pumps																
Crutch weaning																
Toe and Heel Raises																
Balance Series																
Weight-bearing Strength Exercises:																
Double Knee Bends																
Double Leg Bridges																
Reverse Lunge, static holds																
Beginning cord exercises																
Balance Squats																
Single Leg Dead Lift																
Leg Press to Max 70-degree knee flexion																
Sports Test Exercises																
Cardiovascular Exercises:																
Bike with both legs-no resistance																
Bike with both legs-resistance																
Aquajogging																
Treadmill-walking 7% incline																
Swimming with fins-light flutter kick																
Elliptical Trainer																
Rowing																
Stair stepper																
Agility Exercises:																
Running Progression																
Initial-Single Plane																
Advance-Multi Directional																
Functional Sports Test																
High Level Activities:																
Golf Progression																
Outdoor biking, hiking, running																
Return to Full Sport at 6 months post-op																