

FEMORAL CONDYLE OSTEOCHONDRAL ALLOGRAFT

Post-Operative Physical Therapy Protocol



SCAN FOR THE
ONLINE VERSION



Stanford
MEDICINE

Dear Colleague,

I appreciate your partnership in the rehabilitation of this very special patient of ours. I have instructed the patient that you will be using this protocol. My belief is that the biggest predictor of success is what the patient does at home and consistently. **They should view you not just as a therapist but as a highly educated and skilled teacher** and the patient *must* be an active participant in the rehab process.

To facilitate this, I have included a copy of the rehab protocols I would like the patient to focus on at each time point in the rehab process. Please assist me by encouraging and teaching our mutual patient their home exercises as well.

With your help and the active participation of our patient, I know we can have another fantastic knee.

Please do not hesitate to reach out directly to me and my team with any questions at any time.

Respectfully,



Sai Tummala, MD

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	WEEKS 0-2	WEEKS 2-4	WEEKS 4-8	WEEKS 8-12	WEEK 12-MO 6	MONTHS 6+
Weight bearing	Foot-flat <i>Crutches</i>	Foot-flat <i>Crutches</i>	+25% per week <i>Full by ~8 wks</i>	Full <i>Gait training</i>	Full	Full
Range of motion	PROM 0-90° <i>Goal 90° by 2 wks</i>	PROM, AAROM <i>Goal 125° by 6 wks</i>	Full ROM	Full	Full	Full
Brace	Locked straight <i>Off for CPM, exercises</i>	D/C when <i>comfortable</i>	None	None	None	None
Strengthening	Quad sets, SLR <i>In brace; patellar mobs</i>	Quad, HS, glute sets <i>SLR, side-lying hip/core</i>	Advance	Closed chain <i>Unilateral stance, balance</i>	Core, glutes <i>Quads, hamstrings</i>	Plyometrics <i>From 8 months</i>
Impact and sport	Optional CPM <i>Or upright bike, no resistance</i>	Optional CPM <i>Or upright bike</i>	None	None	Elliptical, bike, pool <i>No impact before 6 mo</i>	Running 6-8 mo <i>Sport ~9 months</i>

As tolerated means pain during exercise no more than 2/10 above baseline. Avoid pushing into pain.

WEEKS 0-2

- **Foot-flat weight bearing only (with crutches).**
- **Brace locked in extension at all times** except when using the CPM and exercises.
- **Passive motion from 0 to 90°;** goal ROM 0 to 90° by 2 weeks.
- Quad sets, patellar mobilizations, ankle pumps, straight leg raises in the brace.
- Optional CPM 4 hours per day, increasing 7 to 8° per day as tolerated, or an upright stationary bike with no resistance, pedaled by the non-operative leg (20 minutes of biking = 1 hour of CPM).

WEEKS 2-4

- May discontinue the brace when comfortable; maintain foot-flat weight bearing precautions.
- **PROM and AAROM as tolerated;** goal ROM 0 to 125° by 6 weeks.
- Patellar mobilizations, tibiofibular joint mobilizations, quad sets, hamstring sets, gluteal sets, SLR without the brace, side-lying hip and core.

WEEKS 4–8

- Advance weight bearing **25% per week until full weight bearing**.
- Achieve full ROM (if not attained already).
- Further advancement of the weeks 2 to 4 exercises.

WEEKS 8–12

- Gait training.
- Begin closed chain activities: wall sits, shuttle, mini-squats, toe raises.
- Begin unilateral stance activities and balance training.

WEEK 12 TO 6 MONTHS

- Advance the above exercises as tolerated, focusing on maximizing core, gluteal, quadriceps, and hamstring strength without restriction.
- **Elliptical, bike, and pool as tolerated**; impact and running not before 6 months.

MONTHS 6+

- Transition to sport-specific activity with slow integration of impact and running (AlterG if available) from 6 to 8 months.
- **Plyometrics and dynamic loading beginning at 8 months.**
- **Return to sport around 9 months**, once strength and hop testing are at 90% or better and Dr. Tummala clears the patient.

CRITERIA TO RETURN TO SPORT

- Full ROM compared with the uninvolved side.
- No effusion.
- Normal gait and pain-free activities of daily living.
- Quadriceps strength at least 90% of the uninvolved side.
- Single-leg hop tests at least 90% of the uninvolved side.
- Around 9 months after surgery.

WEEK-BY-WEEK PROGRESSION

EXERCISE	1	2	3	4 (1 mo)	5	6	7	8 (2 mo)	9	10	12 (3 mo)	16	20	24 (6 mo)
Initial Exercises														
Foot-flat WB with crutches														
Brace locked straight (off for CPM, exercises)														
PROM 0-90°, goal 90° by 2 weeks														
PROM and AAROM, goal 125° by 6 weeks														
Quad sets, patellar mobs, ankle pumps, SLR														
HS and glute sets, tib-fib mobs, hip and core														
Optional CPM or no-resistance upright bike (early)														
Advanced Exercises														
WB +25% per week to full; full ROM														
Gait training														
Closed chain: wall sits, shuttle, mini-squats														
Unilateral stance, balance														
Core, glute, quad, hamstring strengthening														
Elliptical, bike, pool														
High-Level Activities														
Running 6-8 mo; plyometrics 8 mo; sport ~9 mo														

This protocol is a general guideline and does not replace the clinical judgment of the treating therapist and surgeon. Please contact our office with any questions.