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Procedure: _____

PT PROTOCOL

Osteochondral Autograft Transplant (OATS)

Rehabilitation Protocol

Weight-Bearing Status

ONLY IF DIFFERENT FROM PROTOCOL BELOW

Weight-bearing status depends on the specific procedure performed, intraoperative findings, and radiographic healing. Follow the weight-bearing status in the phases below unless a different status is indicated here.

☐ Non-weight-bearing ☐ Toe-touch / partial weight-bearing ☐ Weight-bearing as tolerated

Brace / precautions: _____

1	2	3	4	5	6
Weeks 0–6	**6–12 Weeks**	**3–5 Months**	**5–6 Months**	**6+ Months**	**8–12 Months**
Protect graft; NWB→PWB per lesion; brace locked, CPM	Brace unlocked; progress to full WB	Full WB, no brace; strengthening & interval running	Sub-max sport training; PWB→FWB plyometrics	Early return to sport (criterion-based)	Unrestricted return to sport

Milestones above are goals, not guarantees; progression is criterion-based.

Phase 1 Weeks 0–6

Weight-Bearing: Non-weight-bearing for the first 2 weeks (all lesions). Posterior condylar or patellofemoral lesions: PWB at 2 weeks. Antero-central lesions: PWB at 2 weeks (small defect), 3 weeks (medium), or 4 weeks (large). FWB by 6–10 weeks depending on the lesion.

Brace: Hinged knee brace locked in extension; crutches for all ambulation.

Range of Motion: CPM immediately post-op, 6–8 hrs/day; start at 0–60° (condylar and patellofemoral lesions <6cm²) or 0–40° (patellofemoral lesions >6cm²), progressing 5–10°/day. Protected PROM/AAROM — condylar: wk2 0–90°, wk3 0–105°, wk4 0–115°, wk5–6 0–125°; patellofemoral: wk2–3 0–90°, wk4 0–105°, wk5–6 0–120°. Advance to Phase 2 once pain and swelling are minimal, weight-bearing goals are met, quad control is restored (superior patellar glide with full active extension), and straight-leg-raise is performed without an extension lag.

Therapeutic Exercises

- Quad sets (NMES as needed).
- 4-way straight leg raise.
- Active knee extension 90°–40° (condylar lesions only).
- Resisted plantarflexion; upper body ergometer.

Phase 2 Weeks 6–12

Weight-Bearing: Progress to full weight-bearing by weeks 6–10, depending on the lesion.

Brace: Unlocked for ambulation. Discontinue CPM at 8 weeks.

Range of Motion: Continue PROM/AAROM to 0–120°. AROM in protected range — condylar: active knee extension 0–90° beginning week 8; patellofemoral: active knee extension 0–30° beginning week 12. Advance to Phase 3 once AROM/PROM is full and pain-free, with a typical gait pattern.

Therapeutic Exercises

- Condylar: mini squats 0–60° at week 8, leg press 0–90° at week 10.
- Patellofemoral: mini squats 0–45° at week 8, leg press 0–60° at week 10.
- Glute bridges, standing resisted knee flexion, clamshells, standing calf raises.
- Gait training; stationary cycling; water-based activities.

Phase 3 Months 3–5

Weight-Bearing: Full weight-bearing, without hinged brace. Advance to Phase 4 once there is no effusion or pain, gait is normal, ROM equals the uninvolved side, and joint position sense is symmetrical (within 5°).

Therapeutic Exercises

- Squat to chair; lumbopelvic strengthening (bridges, clamshell, physioball work).
- Lateral lunges; Romanian deadlift.
- Single-leg progression: partial-WB leg press, slide board lunges, step-ups/downs, single-leg squats/wall slides.
- Balance/proprioception: single-leg standing progression, lateral step-overs, perturbation training.
- Conditioning: stationary cycling, elliptical, treadmill (incline/decline/intervals), stair climber, interval running program.

Phase 4 Months 5–6 (Transitional)

Goal: Begin sub-maximal, sagittal-plane sport-specific training. Progress bilateral partial-weight-bearing plyometrics to full-weight-bearing plyometrics. Advance to Phase 5 once there are no instability episodes, quad strength is maintained, the patient can perform 10 reps of a single-leg squat to ≥60° flexion with good form and a controlled drop vertical jump, KOOS-Sports is >70%, and quad/hamstring/glute strength index is ≥80%.

Therapeutic Exercises

- Bilateral partial-weight-bearing plyometrics, progressing to full-weight-bearing plyometrics.
- Sub-maximal, sagittal-plane sport-specific drills.

Phase 5 6+ Months (Early Return to Sport)

Goal: Progress to plyometric and agility program. Functional brace if prescribed. Advance to Phase 6 once cleared by the surgeon, with the jog/run program completed pain-free, quad/hamstring/glute strength index ≥90%, hamstring/quad ratio ≥66%, hop testing ≥90% vs. the contralateral side, KOOS-Sports >90%, IKDC >93, and psychological readiness to return to sport (PRRS).

Therapeutic Exercises

- Plyometric and agility program.
- Functional brace, if prescribed by the surgeon.

Phase 6 8–12 Months (Unrestricted RTS)

Goal: Multi-plane, sport-specific plyometric and agility program. Hard cutting/pivoting per sport demands. Progress non-contact practice → full practice → full play.

Therapeutic Exercises

- Multi-plane, sport-specific plyometric and agility training.
- Hard cutting and pivoting drills, per sport demands.
- Progress non-contact practice → full practice → full play.