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PHYSICAL THERAPY PROTOCOL

Osteochondral Allograft Transplantation (Knee)

OCA transplantation of a femoral condyle or patellofemoral cartilage defect

A cartilage-and-bone graft has been transplanted to resurface a cartilage defect. The graft must be protected from impact and shear while it incorporates, so weight bearing is restricted and impact activity is delayed. Weight-bearing and motion rules differ for femoral condyle versus patellofemoral lesions — follow the surgeon-specific instructions for the treated location.

General Precautions

- Femoral condyle lesion: touch-down / non-weight-bearing on crutches for ~6–8 weeks.
- Patellofemoral lesion: weight bearing as tolerated in a brace locked in extension; limit loaded flexion.
- Continuous passive motion or early passive motion is often used to nourish the graft.
- No impact activity (running/jumping) until cleared — typically 6–12 months.

Phase I — Protection & Motion Weeks 0–6

Goals

- Protect the graft
- Restore passive motion
- Restore quad control
- Control swelling

Precautions / Restrictions

- Weight bearing per lesion location (see precautions)
- No loaded flexion of the treated surface
- No impact

Exercises & Interventions

- Continuous passive motion / early passive range of motion
- Quad sets, straight-leg raises
- Patellar mobilizations
- Heel slides within limits
- Ankle pumps
- Full passive extension

Criteria to Advance

- Full passive extension
- Good quad set
- Swelling controlled

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Phase II — Progressive Weight Bearing Weeks 6–12

Goals

- Progress to full weight bearing by ~8–12 weeks
- Full range of motion
- Normalize gait

Precautions / Restrictions

- Advance weight bearing gradually per surgeon
- Low-impact only

Exercises & Interventions

- Progressive weight bearing; wean crutches
- Full ROM
- Stationary bike, pool therapy
- Closed-chain strengthening in protected ranges
- Balance/proprioception

Criteria to Advance

- Full weight bearing without pain/swelling
- Full ROM
- Normal gait

Phase III — Strengthening (Low Impact) Months 3–6

Goals

- Restore strength and endurance without impact

Precautions / Restrictions

- No running, jumping, or cutting

Exercises & Interventions

- Progressive resistive strengthening
- Single-leg strengthening and balance
- Elliptical, bike, swimming, and other low-impact conditioning
- Hip and core strengthening

Criteria to Advance

- Strength ≥80% opposite side
- No swelling with activity

Phase IV — Return to Impact & Sport Months 6–12

Goals

- Gradual return to impact activity and sport

Exercises & Interventions

- Criteria-based running and plyometric progression
- Agility and sport-specific drills
- Continued strengthening

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Criteria to Advance

- Symmetric strength and functional testing
- No pain/swelling with progressive impact
- Return to sport typically ~9–12 months, surgeon-cleared

This protocol is a general guideline. Progression is criteria-based and may be advanced or slowed by Dr. O'Donnell based on intraoperative findings, tissue quality, fixation, and individual healing. Time frames are approximate. Direct questions to the office at (305) 393-8810.