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Postoperative Rehabilitation Guidelines
Osteochondral Autograft (Mosaiplasty)

The following protocol is intended as a general guideline for physical therapist, athletic trainer, and patient after autologous osteochondral mosaicplasty. These guidelines are designed to facilitate the expedited and safe return to athletic or professional activity and are based on a review of the current scientific principles of knee rehabilitation. For the treating health care provider this protocol should not serve as a substitute for individualized clinical decision making during the patient's post-operative course following autologous osteochondral transfer. It should rather take into consideration the individual's physical findings, progression, and possible post-operative limitations. If the therapist or patient requires assistance or encounters any postoperative complication they should consult with **your surgeon.**

Phase I : Weeks 0-2 (Protection Phase)

- GAIT
  - NWB with crutches for femoral/tibial lesions for 2-3 weeks (per MD Script)
  - WBAT with brace locked in full extension for patellar/trochlear defects (see MD Script)
- ROM
  - CPM: start at 0-30 and advance as tolerated (d/c when FROM)
    - 2-3hrs/day 3x/day
  - NO Restrictions PROM
- Electrical stimulation, biofeedback
- Patellar mobilization
- Isometrics, ankle pumps, SLR
- ICE PRN

Phase II : Weeks 3-8 (Initial Activity Phase)

- Continue with Phase 1 exercises
- PWB until 6-8 weeks then WBAT (depending on lesion size/number of cylinders Per MD script)
- No Restrictions PROM/AROM
- Isometrics, ankle pumps, SLR
- Stationary Bike when ROM
- Strengthening
  - Hamstring curls, hip abductor/gastrocnemius strengthening
  - Well leg exercises (unilateral leg press, lunges, theraband exercises)
  - Start pool exercises for gait training after 3 weeks (if available)

- Initiate proprioceptive exercises at 6 weeks
- ICE PRN

Phase III: Weeks 8-16 (Advancing Activity Phase)

- Continue all exercises from Phase II
- Cardiovascular Exercises
  - Treadmill walking as tolerated
  - elliptical, Nordic-Track
- Strengthening
  - Open kinetic chain: Progressive squatting/leg press/lunge program
    - Limit squatting <110 degrees with maximal body weight for 3 months after meniscal repair
    - Avoid squatting/leg press if with patellofemoral pain → resume isometric exercises
- Initiate step program
- Balance drills
- Advance proprioceptive drills
- Monitor carefully for pain and effusion and reduce activities if symptomatic
- ICE PRN

Phase IV Weeks 16-26 (Return to Activity Phase)

- Initiate low impact exercises (jogging) at 4 months if no pain/effusion, sufficient quad control
  - Progress running and start agility program
    - Advance sport-specific agility exercises at 5 months
  - Initiate increased impact, cutting, jumping drills at 5-6 months
- Start plyometric drills at 4 months
- Normalize strength, flexibility, endurance, and neuromuscular control
- Start sport-specific skill training at 5 months
- Continue sport-specific skill program and functional progression
- Gradual return to sport (MD directed)
- Return to High-impact sports at 6-9 months

Before Return to Sport:

- MRI evaluation
- Isokinetic testing (concentric) of hamstrings (goal 100%) and quadriceps (goal >90%)
- Single leg hop test (goal >90%)
- Complete functional knee scores (subjective scoring, ICRS, IKDC, Tegner, Lysholm, KOOS)