



OSTEOCHONDRAL ALLOGRAFT TRANSPLANTATION

PT Protocol: Dr. Salvatore Frangiamore

****YOU NEED TO HAVE YOUR PHYSICAL THERAPY SCHEDULED TO START WITHIN ONE WEEK OF SURGERY. THIS IS EXTREMELY IMPORTANT.****

**** Please keep in mind, these are guidelines only. Other than specifics regarding slingwear and specific limitations, I trust your expertise to provide the best treatment strategy for my patients** if there are any questions don't hesitate to contact myself or my team**

Phase 1 (0 to 1 Month)

- 1 visit/week, everyday home program
- Prone lying and gentle stretching to achieve full extension
- Quad sets, may use e-stim, increase # visit/week if quad inhibited
- Patellar mobilizations, especially superiorly
- SLRs, full arc quads without weights
- Prone knee flexion, heel slides, calf and hamstring stretching
- Icing program, 3-5x/day, 30 minutes each after exercises
- **Strict toe-touch weight-bearing with crutches, no exceptions!**

Phase 2 (1 to 2 Months)

- 2 visits/week, 5x/week home program
- Continue all exercises in previous phase (as described above)
- Progress from toe-touch weight-bearing to PWB to FWB by 6-8 weeks, no exceptions!
- Gait training to walk without a limp with crutch assistance should be a primary goal of this stage
- Crutches should be weaned off by 6 to 8 weeks (NOT BEFORE!)

Phase 3 (2 to 4 Months)

- 2-3 visits/week, 5x/week home program
- Continue exercises in previous phases (as described above)
- Begin quad exercises including mini-squats, wall slide mini-squats, leg presses, leg extensions, hamstring curls, all with light weights and high repetitions
- Toe raises with weights, step-ups (begin with 2" and progress to a full step)
- Endurance closed-chain quadriceps exercises should begin such as Stairmaster, stationary bike, elliptical trainer, Nordic trac, etc. Focus on increasing endurance and should be performed 3-4x/week
- Continue gait training, including progression to slow walking on a treadmill or even ground
- If a pool is available, swimming may start but the frog-kick and breaststroke should be avoided
- Gait and ROM should be normal by the end of this phase.

Phase 4 (4 to 6 Months)

- 4-5x/week home program, may also have 2 visits per month to review home program
- Continue exercises in previous phases (as described above)
- Begin fast walking and progress to slow jogging on even ground or treadmill, no cutting, jumping or pivoting
- Advance strengthening with weights including leg presses, step-ups, mini-squats, leg extensions, and leg curls. Repetitions should be smooth and slow and NOT explosive. May advance swimming (no frog-kick or breaststroke)

Phase 5 (6 to 9 Months)

- 3-5x/week home program, may need PT supervision for functional training
- Begin advanced strengthening with weights including leg presses, squats, leg curls, leg extensions and lunges
- Initiate plyometric program as appropriate for patient's functional goals
- May begin functional training exercises including fast straight running, backward running, cutting, crossovers, carioca, etc
- High impact activities should be discouraged permanently
- Begin gradual return to previous sports/activities/work duties under controlled conditions
- Full return to sports/activities/full work duties based upon the following criteria:

Criteria for Return to Sports/Full Activities:

- Quadriceps and hamstring strength at least 90% of opposite leg
- One-leg hop test and vertical jump at least 90% of opposite leg
- Jog, full speed run, shuttle run, and figure 8 without a limp
- Squat and rise from a full squat
- No effusion or quadriceps atrophy