

Osteochondral Autograft Transplant

OATS procedure

Phase I (1 – 5 days post-op)

- Wound care: Observe for signs of infection
- Modalities: prn for pain and inflammation (ice, IFC)
- Brace: Locked in full extension for 1 week
- Gait: NWB
- ROM: CPM 6-8 hours/day, beginning at 0 – 40 degrees and increase by 5 – 10 degrees/day
- Exercises: Quad sets, Ankle pumps, Hamstring stretching

Phase II (5 days – 4 weeks post-op)

- Wound care: Continue to monitor for signs of infection and begin scar management techniques when incision is closed
- Modalities:
 - Ice on regular basis to control swelling
 - E-stim to increase quad contraction
 - sEMG for VMO activation
- Brace: Gradually open brace in 20 degree increments as quad control is gained
- Gait: NWB for 4 weeks
- ROM: Continue phase I
 - Until 2 weeks post op: 0-90 degrees
 - Until 4 weeks post op: 0-110 degrees
- Strengthening/Exercises:
 - Quad sets, SLR, Hamstring sets, Hip ab/adduction, Glut sets
 - Bilateral proprioceptive activities within WB status
 - Bike for ROM
 - PROM/AAROM for knee ROM goals
 - Patellar mobilizations

Phase III (4 weeks – 10 weeks post-op)

- Wound care: Continue scar management techniques

- Modalities: Continue E-stim or sEMG as needed; Ice for exercise induced swelling
- Brace:
 - At 6 weeks, wean from brace
 - At 8 weeks, D/C brace
- Gait:
 - At week 4, increase WB status 25% each week
 - At week 8, FWB
- ROM: By week 8- 10, full AROM
- Strengthening/Exercises:
 - Initiate closed chain strengthening (Mini squats, Light leg press, Wall sit, Heel raises, Weight shifting)
 - Step up / lateral step ups beginning at 2 inches and increasing height gradually
 - Open chain hamstring strengthening
 - Unilateral proprioceptive activities
 - Walking on treadmill
 - Stepper

Phase IV (10+ weeks post-op)

- Gait: Normalized gait, FWB
- ROM: Full AROM
- Strengthening:
 - Open chain knee extension 90-40 degrees, increasing resistance only if no pain/crepitus
 - Continue to advance strengthening with increasing resistance and challenging proprioception
- Initiate work conditioning for job related injuries. Follow up with school athletic trainer to continue sport-specific training and skills

At 6+ months post-op with physician release

- Begin jogging and impact activities, plyometric activities, and sport specific training (cutting, running, etc)

Adapted From:

- 1) Cole, BJ: Combine Osteochondral Allograft Meniscal Allograft Transplantation High Tibial Osteotomy Rehabilitation Protocol; Combined Osteochondral Allograft meniscal Allograft Transplantation Distal Femoral Osteotomy Rehabilitation Protocol; Combined Osteochondral Allograft and Meniscal Allograft with ACI Patella/Trochlea Rehabilitation Protocol; Combined Osteochondral Allograft and Meniscal Allograft Transplantation Rehabilitation Protocol; Combined Osteochondral Allograft with High Tibial Osteotomy Rehabilitation Protocol, 2014
- 2) Advanced CEU, Wilk, KE: Osteochondral Autograft Transplant Femoral Condyle Rehabilitation Program; Osteochondral Autograft Transplantation Trochlea Rehabilitation Guidelines, 2019
- 3) UW Sports Medicine. Rehabilitation Guidelines Following Osteochondral Allograft or Autograft Transplantation (OATS). 2017