

Cartilage Restoration Procedure

Dr. David R. Guelich

Phase 1: Week 1-8

WEEK	EXERCISE	GOAL
1-8	ROM-Passive Femoral condyle defect: 0-45° Trochlear defect: 0-30° Range of motion to increase to reach goals based on area of defect as noted by Dr. Guelich Gastroc/Soleus stretch Hamstring/ITB stretch Heel/Wall slides to reach goal Patella mobs Ankle pumps STRENGTH Quad/Hamstring/Gluteal sets Multi-angle isometric (0-60°) Multi-angle isometric (90-30°) SLR in all 4 planes as tolerated Hip flexion Selective ROM activity-depending on defect site as noted by Dr. Guelich <i>Trochlear repair- only isometric training with quads, NO active motion through range</i> WEIGHT BEARING NWB with crutches <i>Microfracture</i> BRACE Locked at 0° extension for protection MODALITIES E-stim/biofeedback as needed Ice 15-20 minutes	0-90° (wk 4) 0-110° (wk 5) 0-120° (wk 8) wk 4 wk 6-8 NWB to PWB (wk 4-6) <i>(wk 3-5)</i>

GOALS OF PHASE:

- ROM 0-120°
- NWB to PWB with one crutch
- Control pain, inflammation, and effusion
- Adequate quad/VMO contraction

Phase 2: Week 8-36
Cartilage Restoration Procedure

WEEK	EXERCISE	GOAL
8-36	<p>ROM</p> <p>Passive, 0-135° Patella mobs Gastoc/Soleus stretch Hamstring/ITB stretch Heel/Wall slides to reach goal</p> <p>STRENGTH</p> <p>SLR in 4 planes with ankle wt/tubing Mini-squats (0-30°) Wall squats Initiate 3-6" lateral/forward step-up/downs Leg press (0-60°)/Total Gym Knee extension (90-30°) Hamstring curls (0-90°) Multi-hip machine in 4 planes Heel raise/Toe raise</p> <p>BALANCE TRAINING</p> <p>Weight shift (side-to-side, fwd/bkwd) Initiate single leg balance work Progress to wobble board, ½ foam roller Single leg balance with plyotoss Sportscord balance work</p> <p>WEIGHT BEARING</p> <p>NWB to PWB to FWB with quad control</p> <p>BRACE</p> <p>Discharge by week 8 or as noted by Dr. Guelich</p> <p>AEROBIC CONDITIONING</p> <p>Bicycle when 110° flexion is reached EFX for endurance Treadmill with 2-3% incline to reduce joint loads Swimming (as noted by Dr. Guelich)</p> <p>MODALITIES</p> <p>Ice 15-20 minutes</p>	<p>0-135°</p> <p>FWB (wk 8) D/C (wk 6-8)</p>

GOALS OF PHASE:

- PWB to FWB with quad control

- ROM 0-135°
- Increase lower extremity strength and endurance
- Control pain and inflammation
- Enhance proprioception, balance, and coordination

Phase 3: Week 36-52 Cartilage Restoration Procedure

WEEK
36-52

EXERCISE

ROM

Continue all stretching activities from previous phases

STRENGTH

Continue all strengthening activities from previous phases increasing weight and repetition
Reverse/Lateral lunges
Straight leg dead lift
Stool crawl

BALANCE TRAINING

Advance to dynamic balance work with different surfaces

RUNNING/CONDITIONING PROGRAM

Initiate running on minitramp, progress to treadmill as tolerated in a straight plane
Initiate jump rope for endurance and impact
Initiate walking program for endurance
Swimming (kicking)
Bicycle for endurance
Continue to increase time and resistance on the above

FUNCTIONAL TRAINING

Initiate light plyometric work
Initiate lateral movement (shuffle, slide board)
Initiate sport specific/functional drills at month 6
Progress into sport training at month 9

MODALITIES

Ice 15-20 minutes as needed

GOALS OF PHASE:

- Maintain full range of motion
- Maximize lower extremity strength and endurance
- Initiate sport specific activity
- Initiate functional activity