

MACI Rehabilitation (WB Surface) Protocol

Orthopaedic and Sports Medicine Center

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- A. 0-6 weeks post-op: Implantation and protection phase. Cells adhere to bone and begin proliferate throughout the defect
1. Gait, WB status
 - a. 0-2 weeks post-op <20%
 - b. 2-4 weeks post-op <30%
 - c. 4-6 weeks post-op <60%
 2. ROM restrictions
 - a. 0-2 weeks post-op 0-30°
 - b. 2-4 weeks post-op 0-90°
 - c. 4-6 weeks post-op 0-125°
 3. Protective bracing ROM allowance
 - a. 0-2 weeks post-op Progress from 0-30° flexion
 - b. 2-4 weeks post-op Progress to 45° flexion
 - c. 4-6 weeks post-op Progress to full° flexion
 4. Exercise / treatment guidelines
 - a. 0-2 weeks p/o
 - CPM minimum 1 hr. / day
 - PROM / AROM
 - Ankle pumps
 - NWB GS and HSS
 - Isometrics: Quad, HS, Glut
 - Frequent cryotherapy and modalities as indicated
 - b. 2-4 weeks p/o
 - AROM and PROM
 - Patellar mobilization/scar-soft tissue mobilization
 - PRE: SLR, SL Hip Abd, SL Hip Add, Prone Hip Ext
 - c. 4-6 weeks p/o
 - PRE: Ankle (respect WB status), T-Bands
 - PRE: Core / Hip (clams, reverse clams, SB bridge-proximal, curl ups)
 - Stationary Bike (respect WB status)
- B. 6-12 weeks post-op: Transition and Proliferation phase. Continued proliferation forms a defect-spanning matrix
1. Gait, WB Status
 - a. 6-8 weeks post-op <80%
 - b. 8-10 weeks post-op Progress from 80% to Full
 - c. 10-12 weeks post-op Full WB and wean from AD
 2. ROM Restrictions – As tolerated, restore to full
 3. Protective Bracing – Continue use, allowing full ROM
 4. Exercise / treatment guidelines
 - Progressive core and dynamic hip stabilization
 - Progressive balance/proprioception (respect WB status)
 - Progressive non-impact cardio (respect WB status)

- C. 3-6 months post-op: Return to Daily Activity Phase. Remodeling Phase. Expansion of the cell matrix into putty-like consistency.
1. WB status – Full, no impact activities.
 2. ROM Restrictions – As tolerated, restore to full
 3. Protective Bracing – DC Brace
 4. Exercise / treatment guidelines
 - Light, progressive OKC exercise (i.e. KE, HS)
 - Light, progressive CKC exercise (i.e. LP, mini-squat, mini-lunge)
 - Continue non-impact cardio progression
- D. 6-9 months post-op: Return to Recreational Activity Phase. Continuation of Remodeling Phase. Expansion of the cell matrix into putty-like consistency.
1. WB status – Full, return to pre-operative low-impact recreational activity
 2. Exercise / treatment guidelines
 - Progression of OKC exercise challenge
 - Progression of CKC exercise challenge (i.e. squats, step-downs)
 - Light impact activities (i.e. running on mini-tramp)
- E. 9-12 months post-op: Return to Full Activity Phase. Maturation Phase. Progressive hardening until a durable repair tissue is formed.
1. WB status – Full. Ability to commence a running program where indicated. Return to dynamic recreational activities (i.e. activities that generate high compression, shear and rotation loads are to be avoided until 12-18 months and further, returned to only as directed by physician).
 2. Exercise / treatment guidelines
 - Progressive agilities
 - Progressive jump to hop and plyometric work
 - Cutting and planting activities
 - Sport specific activities, streamlining