MACI Rehabilitation (PF Surface) Protocol

Orthopaedic and Sports Medicine Center Updated: September, 2018

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 <50%
   - c. 4-6 weeks post-op 75-100%

2. ROM restrictions
   - a. 0-2 weeks post-op 0-20°
   - b. 2-4 weeks post-op 0-60°
   - c. 4-6 weeks post-op 0-125°

3. Protective bracing ROM allowance
   - a. 0-2 weeks post-op Locked 0° Extension
   - b. 2-4 weeks post-op Locked 0° Extension
   - c. 4-6 weeks post-op Locked 0° Extension

4. Exercise / treatment guidelines
   - a. 0-2 weeks p/o
     - CPM minimum 1 hr. / day
     - PROM / AROM
     - Ankle pumps
     - 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 may begin at 5 weeks post-op, no resistance

B. 6-12 weeks post-op: Transition and Proliferation phase. Continued proliferation forms a defect-spanning matrix

1. Gait, WB Status: WBAT → Full WB at 6 weeks post-op

2. ROM Restrictions – As tolerated, restore to full

3. Protective Bracing – Wean from brace

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. 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