ACL Reconstruction Postoperative Protocol: BTB and Hamstring

Patient Name: ____________________________

DOS: ________________________________

Please call with questions:

[ACL Reconstruction with Meniscal Repair:

- PWB (50%) with brace (→→→→→→→→→→) locked in extension for 4-6 weeks
  - restrict NWB flexion to < 90°]

PHASE I - 1-4 weeks:

activation, control effusion, early ROM, normalize gait, single leg balance 30 sec.

Γ with crutches, brace locked in extension until good quad control.
- Patellar mobilizations

- ROM:
  - Flexion:
    - Wall slides [0-30 degrees until wk 3]
    - heel slides
    - stationary bike.
  - Extension: Prone hangs, heel sags if not equal to opposite
• Strengthening:
  o Quad/Ham/Glut sets
  o Straight Leg Raises x4
  o Toe-raises
  o Assisted squats
  o Hip & core strengthening
  o Leg-curls [as tolerated with hamstring graft]

• Stretching: Calves, hams (no quad stretch)

• Function:
  o SLB (eyes open/closed) ➔➔➔➔➔
  o weight shifting all planes

• Gait:
  o Gait training with brace
  o progress to without crutches (fwd, bwd, side-step, high knees, step-overs)

• Modalities:
  o ES for quad activation as needed
  o Ice
  o IFC

• Aquatics: Address problem areas [if wound healed, contact doc with wound issues]

**Phase II - 2-6 weeks:**

**Goals:** FWB without assistive device, no gait deviations AROM equal to opposite

**Exercises**

• ROM:
  o Flexion: Heel slides, stationary bike, wall slides [0-60 degrees]
- Extension: heel sags

***Add weight to prone hangs if ROM not equal to opposite side
• Strengthening:
  o SLR’s x4 [add weight if no extensor lag]
  o assisted squats/ wall squats
  o bilateral leg press [0-60 degrees] / shuttle
  o hip and core strengthening
  o SL toe raises

• Hamstring only:
  
  *Add isotonic hamstring curls at week 4*

• Proprioceptive Exercises:
  o Dynamic SLB
  o standing Biomechanical Ankle Platform System [BAPS]
  o SLB reach progressing below waist level
    - avoid rotation

• CV conditioning:
  o Stationary bike [high seat/low resistance initially]
  o treadmill walking forward and backward
  o Stairmaster after week 4

• Aquatics: Address problem areas [if wound healed, contact doctor with wound issues]

• Function:
  o Single leg step and squat
  o ← side-step with tubing
  o forward step-ups
  o medial step-downs

• Gait: On land or in pool as needed, all directions
Phase III Progressive Rehabilitation- 6-12 weeks:

Goals: No PF symptoms, increase eccentric neuromuscular control to allow acceptance of impact activities, full ROM

Exercises

- ROM: PROM or bike with low seat, if not meeting flexion goals, at 6 weeks may add quad stretch with belt
  
  - Strengthening: Advance as appropriate
    
    - Add unilateral leg press
  
  ➔ and/or shuttle if not doing so already
    
    - Hip and core strengthening
      
      - Leg extension 90°-40° if needed, single leg wall squats.
      
      - Stool scoots or MRE hams to increase ham strength.
  
- Proprioceptive Exercises:
Progress as tolerated on gradually less stable surfaces, eyes closed, perturbation training, sport-specific exercises, etc.

****Avoid rotation.****

- CV Conditioning:
  - Stationary bike or in pool, treadmill walking, Stairmaster. Elliptical after 6 weeks

- Functional exercises:
  - Progress step-ups medial step-downs
  - Progress to multi-plane strengthening and functional exercises
    - Forward, side, retro lunges, medial rotation lunges
      at 8-10 weeks
    - Single leg squat
    - Pre-jump exercises (side jumps, calf jumps)
    - Single leg wall squats, slide board, sport cord.

8-10 weeks:
- Begin walk/jog program
- Carioca ➔
- Side shuffle
- High knee skipping
- Jump rope
- Functional knee class if >70% pre-op scores. +/- functional brace

Phase IV - Return to Full Function: 10-16 weeks

***Progress to Phase IV when Phase IV goals met and MD approval***

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Goal: Running/cutting without a limp

Exercises:

- Plyometric Exercises:
  - Start with two leg jumping on level surface
    - [Head up, Land soft, flexed knees, knees pointing straight ahead]
  - AP, ML, box, horseshoe patterns
- Ice skater
- Progress to single leg hopping program with good technique
  - (if can single leg press body weight)
- Running: Gradually progress program, add cutting, turns
- Strengthening:
  - Open chain knee extension full ROM if needed
Continue hip and core strengthening

- Function:
  - Progress difficulty of lunges
  - Sport specific balance
  - Agility and functional strengthening activities

- Proprioceptive Exercises: Progress difficulty; sport specific

- CV Conditioning: Continue as previous

**Physical Performance Testing**

****when requested by physician****

**Pre-operatively**

- KT-1000 Arthrometry: bilateral
- Biodex of uninvolved LE: 6 reps at 60° and 180° per second
- Single leg balance reach of uninvolved LE, best of 3 attempts
- Single leg hop for distance of uninvolved LE, best of 3 attempts
- Range of motion of uninvolved LE

**4 months Post-Operatively**

- KT-1000 Arthrometry: bilateral
- Biodex bilateral LEs: 6 reps at 60° and 180° per second: should be > 85% to return to sport
- Single leg balance reach of surgical leg(s), best of 3 attempts: should be > 85% to return to sport
- Range of motion of the surgical leg
Anterior Cruciate Ligament (ACL) Injury Rehabilitation Exercises

- Wobble board exercise: A
- Wobble board exercise: B
- Wobble board exercise: C
- Wobble board exercise: D
- Wobble board exercise: E
Anterior Cruciate Ligament (ACL) Injury Rehabilitation Exercises

- Heel slide
- Quad Sets
- Passive knee extension
- Wall squat with a ball
- Balance and reach exercise A
- Balance and reach exercise B
- Knee stabilization: A
- Knee stabilization: B
- Knee stabilization: C
- Knee stabilization: D
- Resisted terminal knee extension

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