

# heekin<sup>®</sup> Orthopedic S P E C I A L I S T S

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### ACL RECONSTRUCTION PHYSICAL THERAPY PROTOCOL

**NOTE: If it is an ACL Reconstruction with Meniscal Repair:**  
**(For the first 4 weeks)**

- Touch WB using crutches with brace locked at 0 degrees
- No CKC exercises or proprioception/balance activities
- ROM brace locked at full extension
- No HS exercises
- AAROM 0-90 degrees
- After 4 weeks, resume protocol

#### **Preoperative Guidelines**

- Restore full AROM
- Teach normal heel-toe gait
- Strengthen involved extremity
- Decrease effusion
- Educate Patient on post-op protocol, use of crutches (level and stairs), importance of extension

#### **Phase I (Post-op Days 1 – 7)**

**Note: Exercise prescription is dependent upon the tissue healing process and individual functional readiness in *all* stages. If any concerns or complications arise regarding the progress of any patient, physical therapy will contact the orthopedist.**

- Long Leg Brace – set at 0-90 degrees
- Crutches – WBAT with brace on (D/C crutches when normal heel-toe gait, 30 SLR without lag)
- Every waking hour at home- 100 Quad Sets, 30 Heel Slides, 10 SLRs (if no extension lag), 10 Patellar mobilizations, calf pumping and 20 min of ICE with towel under heel to gain full knee extension.
- Stationary bike for ROM – complete cycle as able
- HS and calf stretches
- PEAFF (passive extension-active flexion), heel slides, 0-110 degrees...Emphasize extension
- Passive extension with heel on bolster or prone hangs

- Electrical stimulation in full extension with quad sets and SLR (see parameters below)\*\*
- Multi angle co-contraction quads/hams
- SLR if no extension lag
- Parallel bar gait training – forward/backward/lateral...emphasize heel-toe gait when going fwd
- Mini squats, weight shifts – in parallel bars
  
- Total Gym to start closed chain activity
  - Mini squats (level 3-5) – No flexion > 45 degrees
  - Leg press with light resistance
- Closed chain terminal knee extensions with Theraband
- Double leg heel raises
- Ice Pack with knee in full extension

**NOTE: May need e-stim to help quad re-education: triangle wave form, 75 bursts/sec, 10 on/50 off, 2 sec ramp, 15 mins, 50% max volitional contraction or greater, 3-5x/week.**

**Goals:** Full passive extension, Flexion to 110 degrees, Good quad control, Heel-toe gait

#### **Phase II (Weeks 2 – 4)**

- Brace – open to available range. May progress to functional/sports brace at 3 weeks
- WBAT (D/C crutches when normal heel-toe gait, 30 SLR without lag)
- Continue appropriate previous exercises
- Stationary bike for progressive resistance and time
- Treadmill – backward (uphill) and forward (emphasize heel-toe gait)
- Elliptical trainer and Stairmaster as tolerated
- Scar massage when incision healed
- PROM, AAROM, AROM as tolerated. Continue LE stretching
- Electrical stimulation (if still needed) in full extension with quad sets and SLR
- Partial wall squats – No knee flexion past 45 degrees
- Total Gym – progress levels of mini-squats as tolerated
- Progress leg press with resistance no more than ½ body weight
- Lateral step-downs
- Single leg heel raises
- Hamstring curls – closed chain (rolling stool)
- Proprioception – single leg balance in parallel bars, double leg BAPS/weight shift, cone walking
- Stretches – HS, AT, Hip Flexors, ITB
- Pool therapy when incision healed: walking forward, sideways, backwards, flutter kicks (knees extended), ½ squats, weightless jogging, bicycling

**Goals:** ROM 0-110°, No effusion, SLR x 30 reps- no extensor lag, Normal heel-toe gait, 30 sec balance

#### **Phase III (Weeks 5 – 8)**

- Con't sports/functional knee brace
- Continue appropriate previous exercises...progress as tolerated

- Treadmill – forward walking, approaching 15 min/mile pace and increasing distance
- Stationary bike – 15-20 minutes at a time, at least 70 rpm, emphasis on endurance and affected leg
- Mini squats, Wall squats – progress to single leg
- Proprioceptive training – progress to single leg BAPS, ball toss/plyoback, and body blade
- Standing SLR x 4 with Theraband bilaterally
- HS curls – may begin open chain with light resistance
- Gym Program
- Pool – Progress to treading, kickboard swimming, running, shuffling, carioca, swimming

**Goal:** Full ROM, No effusion, Walk 2 miles at 15 min/mile pace

#### **Phase IV (Weeks 9 – 12)**

- Continue appropriate previous exercises with progressive resistance
- Functional activities – Fitter, slide board, figure 8s, gentle loops, large zigzags
- Initiate walk-jog progression on level surfaces no more than 50% pace if no pain, swelling, giving away, or abnormal jogging gait
- Continue gym
- Sports-specific drills, balancing, mini-tramp hopping/bilateral plyometrics

**Goal:** Walk 3 miles at 15 min/mile pace or jog 50 % pace x 20 min. without pain, swelling, or giving away

#### **Phase V (Months 3 – 6)**

- Continue appropriate previous exercises...Home/gym program
- Agility drills/cutting/carioca/lateral shuffle/plyometrics/double hopping...progress to single
- May begin incorporating open chain strengthening as tolerated
- Quad stretch
- Continue running progression

**4 months Goal:** Run 2 miles at normal pace without pain, swelling or giving away

#### **6 months Goals:**

- No effusion or giving out,
- Symmetrical pivot shift,
- Lachman's within 1 grade of contralateral knee.
- Pass APFT at 6 months
- Functional tests at least 90% of opposite leg to clear for sports and discharge (single leg hop and 12 meter hop for time)

***No contact sports until 6 months post-op***