Scott Adrian M.D
2778 N Webb Rd.
Wichita, KS 67226

Phone: 316-631-1600 ext. 1209
Fax: 316-631-1671

Non-Operative PCL Tear Rehabilitation

0-6 Weeks

Precautions

- PRICE (Protect, Rest, Ice, Compress, Elevate) protocol, Avoid hyperextension (12 weeks)
- Prevent posterior tibial translation (12 weeks)
- Isolated hamstring exercises should be avoided until week 12 weight bearing
- Partial weight bearing with crutches (2 weeks), range of motion
- Prone passive ROM 0° to 90° for the first 2 weeks, and then progress to full ROM in brace
- PCL jack brace or Rebound brace be worn at all times, including rehabilitation and sleep (min of 12 weeks)

Goals

- PCL Ligament protection
- Edema reduction to improve passive ROM and quadriceps activation
- Address gait mechanisms
- Patient education

Therapeutic Exercise

- Patellar mobilizations
- Prone passive ROM Quadriceps activation
- Quadriceps sets
- Straight leg raises (SLR) one the quadriceps are able to lock joint in terminal extensor and no lag is present
- Gastrocnemius stretching
- Hip abduction/adduction
- Stationary bike with zero resistance when ROM 115° weight shifts to prepare for crutch weaning
- Pool walking to assist with crutch weaning
- Calf raises and single leg balance when weaned from crutches upper body and core strength as appropriate

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6-12 Weeks

Precautions

- Continued avoidance of hyperextension
- Prevent posterior tibial translation
- Limit double leg strengthening exercises to no more than 70° of knee flexion weight bearing
- Weight bearing as tolerated (WBAT) range of motion
- Full ROM, supine and prone ROM after 6 weeks in brace
- PCL jack brace or rebound brae to be worn at all times

Goals

- PCL Ligament protection
- Full ROM
- Address gait mechanisms during crutch weaning
- Double leg strength ROM (no greater than 70° knee flexion) and single leg static strength exercises
- Reps and set structure to emphasize muscular endurance development (3 sets of 20 reps)

Therapeutic Exercises

- Continue PRICE protocol
- Continue exercises as weeks 1-4
- Gastrocnemius and light hamstring stretching
- Leg press limited to 0-70° of knee flexion
- Squat progression (ex. squat/squat with calf raise/squat with weight shift) static lunge
- Hamstring bridges on ball with knees extended
- Progressive resistance stationary bike
- Light kicking in pool
- Incline treadmill walking (7-12% incline)
- Single leg dead lift with knee extended
- Proprioceptive and balance exercises

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12-18 Weeks

Precautions

- Discontinue PCL jack brace

Goals

- Reps and set structure to emphasize muscular strength development
- Progress ROM strength to beyond 70° knee flexion
- Isolated hamstring exercises may begin after week 12
- Prepare athlete for sport-specific activity

Therapeutic Exercise

- Double leg press with progression to single leg
- Single leg knee bends
- Balance squats
- Single leg dead lift
- Single leg bridges starting during week 16
- Continue bike and treadmill walking and running
- Running is allowed once the patient has demonstrated sufficient strength and stability with functional exercises and quadriceps girth is greater than or equal to 90% compared to the contralateral normal side
    - Outline:
        - Week 1: 4 min walk; 1 min jog for 15-20 min
        - Week 2: 3 min walk; 2 min jog for 20 min
        - Week 3: 2 min walk; 3 min jog for 20 min
        - Week 4; 1 min walk; 4 min jog for 20 min
    - Once running progression is completes, continue single plane agility with progression to multi-planar agility
- Clinical examination and/or PCL stress radiographs to objectively verify healing of PCL after week 15