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ACL Reconstruction with Meniscal Repair Post-Operative Care

This protocol was developed to provide the physical therapist with guidelines for treatment of a patient who has undergone ACL reconstruction with concomitant meniscal repair. These guidelines are not a substitute for appropriate clinical decision making. It is essential that the therapist take into consideration the patient's general health, integrity of associated joints and any post-op complications. The protocol is divided into 4 phases. Patients will typically continue with formal physical therapy in some capacity until they are in late Phase III or early Phase IV. Anticipated number of visits range from 18 to 26 formal PT sessions. Progression from phases should not occur prior to the appropriate post-op timeframes; however, phase progression should be delayed if the patient does not meet the progression criteria. Tolerance to exercise should be closely monitored. Patients should not have a significant increase in pain after treatment or exercise. If this occurs, treatment is too vigorous and should be modified accordingly.

Phase I: Post-Op Phase
Weeks 0-3

Brace:
- Knee brace locked at 0° extension for ambulation for 1 to 2 weeks as needed
  - ≤50% WB with bilateral crutches
- Brace unlocked for ambulation as appropriate once patient demonstrates good SLR
  - Maintain ≤50% WB for 4 weeks, WBAT thereafter
- Brace can be unlocked/removed when sitting and sleeping

Weight Bearing:
- Discontinue brace as tolerated (Goal: POD 14)
- Discontinue crutches as tolerated (Goal: POD 28)

Formal Physical Therapy:
- Patients will be scheduled for 1st PT visit ~POD 3
- Most patients will be seen 2 times a week during Phase I
- If there is significant knee stiffness, the patient can be seen 3 times a week until ROM is on schedule
- Exercises from this phase should be continued until they are no longer challenging

Goals:

- Restore/maintain full knee extension PROM
- Minimize pain and swelling
- Restore/normalize patellar mobility
- Gradually improve knee flexion ROM
- Re-establish quadriceps control
- Restore independent ambulation
- Restore muscle control and proprioception
- Discontinue brace by POD 14

Precautions:

- No squatting past 60° for 8 weeks
- No resisted hamstrings exercises for 8 weeks
- No active knee flexion >90° for 8 weeks
- Avoid torque or twisting forces across the knee joint for 4 months
  - Especially when weight bearing
- Avoid activities that cause knee pain
- No reciprocal stair negotiation for 8 weeks

Physical Therapy Treatment:

<u>Week 1</u>

- E-stim to quads during quad exercises (1-2 hours a day)
- Knee extension PROM: to 0° (slight hyperextension ok)
- Knee flexion AROM/PROM
  - By POD 7: 100°
- Ankle pumps
- SLR (flexion, abduction, adduction)
- Quad sets
- Hamstring and calf stretching (gentle)
- Standing weight shifts and mini-squats (0-30° ROM)
- Multi-angle isometrics at 90° and 60°
- Knee extension AROM: 90-40°

<u>Week 2</u>

- Continue week 1 exercises/treatment as appropriate
- PROM: 0-100°
- Bicycle (if ROM allows)
- Patellar mobilization/scar massage once incision is healed and stable

<u>Week 3</u>

- Continue week 2 exercises/treatment as appropriate
- ROM: 0-115°
- Bicycle for ROM and endurance
- Eccentric quadriceps program: 40-100°
- Progress proprioception/neuromuscular control drills as tolerated

Recommended HEP:

- PT-selected exercises 3 times a day
- Self-ROM 4-5 times a day
- Ice 15 minutes out of every hour as needed
  - Elevate with knee in extension

Criteria for Progression to Phase II:

- Ability to perform good quad set and SLR
- ROM: 0-115°
- Good patellar mobility
- Independent ambulation
- Quadriceps strength: ≥60% of contralateral side
  - Isometric test @ 60° knee flexion
- Minimal/no joint effusion
- No joint-line/patellofemoral pain
- Satisfactory clinical exam

Phase II: Progressive Strengthening/Neuromuscular Control Phase
Weeks 4 to 10

Formal Physical Therapy:

- Most patients will continue with formal PT 2 times a week.

Goals:

- Discontinue crutches by POD 28
- Full knee ROM (0-125° at week 4)
- Improve lower extremity strength and endurance
- Enhance proprioception, balance, and neuromuscular control
- Restore confidence and function

Precautions:

- No squatting past 60° for 8 weeks
- No resisted hamstrings exercises for 8 weeks
- No active knee flexion >90° for 8 weeks
- Avoid torque or twisting forces across the knee joint for 4 months
  - Especially when weight bearing
- Avoid activities that cause knee pain
- No reciprocal stair negotiation for 8 weeks

Physical Therapy Treatment:

Weeks 4 to 6

- Continue with appropriate Phase II exercises
- CKC exercises as tolerated
  - Leg press
  - Step ups
  - Squats
  - Mini lunges
  - Heel/toe raises
- Light proprioception drills

Weeks 7 to 10

- Continue with above exercises
- Step downs (week 8)
- Walking program
- Active knee flexion with no resistance

Recommended HEP:

- Phase I and II exercises as appropriate

Criteria for Progression to Phase III:

- AROM: ≥0-125°
- Quadriceps strength: ≥75% of contralateral side
- Hamstrings strength: ≥ 70% of extension strength
- No pain or effusion
- Hop test: ≥80% of contralateral side
- Satisfactory clinical exam

Phase III: Advanced Activity Phase
Weeks 11 - 16

Formal Physical Therapy:

- Most patients will continue with formal physical therapy 2 times a week.

Goals:

- Normalize lower extremity strength
- Improve neuromuscular control
- Perform selected sport-specific drills

Precautions:

- Avoid activities that cause patellofemoral pain

Physical Therapy Treatment:

- Continue Phase II exercises as appropriate
- Initiate running program and light sport program
- Initiate lateral agility drills and/or backward running (week 14-16)

Recommended HEP:

- Phase I, II, and III exercises as appropriate

Criteria for Progression to Phase IV:

- Full ROM
- Quadriceps strength: ≥80% of contralateral side
- Hamstrings strength: ≥100% of contralateral side
- Hamstrings/quadriceps ratio: ≥70%
- Proprioception test: 100% of contralateral side
- Functional test: ≥85% of contralateral side
- Satisfactory clinical exam

Phase IV: Return to Activity Phase
Week 16 onward

Formal Physical Therapy:

- Most patients will be discharged in late Phase III or early Phase IV
- Patients will be instructed on which exercises to continue and how to progress

Goals:

- Gradual return to full, unrestricted sports
- Achieve maximal strength and endurance
- Normalize neuromuscular control
- Progress skill training

Precautions:

- Avoid activities that cause patellofemoral pain

Recommended HEP:

- Continue and progress strengthening, neuromuscular, and plyometric exercises
- Progress running, agility, and sport-specific drills

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