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Rehabilitation Following Unilateral Patellar Tendon Repair

I. Immediate Postoperative Phase (Days 1-7)

Goals: Restore full passive knee extension
 Diminish pain and joint swelling
 Restore patellar mobility
 Initiate early controlled motion
 *Controlled forces on repair site

Postoperative Days 1-4

- Brace: Drop locked brace locked at 0° extension with compression wrap
 Sleep in brace, ambulate in brace
- Weight bearing: Toe touch-25% BW WB with crutches, brace in full extension
- Range of motion: 0-30°
 CPM 0-45° as tolerated
- Exercises: Ankle pumps
 Quad sets
 Patellar mobilization
 Hip abd/adductions
- Ice and elevation: 20 minutes of each hour at elevate

Postoperative Day 4-7

- Continue use of brace (sleep in brace locked)
- Weight bearing: Locked brace two crutches, continue toe-touch-25% WB
- Range of motion: 0-45°
 CPM 0-75° as tolerated
- Exercises: Continue all listed exercises
 Initiate gravity eliminated SLR flexion (assisted)
- Continue ice and elevation

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II. Maximum Protection Phase (Weeks 2 to 6)

- Goals:
- Control forces on healing tendon
 - Gradually increase knee flexion
 - Restore full passive knee extension
 - Restore patellar mobility
 - Retard muscular atrophy

Week 2:

- Brace: Continue use of locked brace (4-6 weeks)
Sleep in brace (4-6 weeks)
- Weight bearing: WBAT (usually 25-50% BW)
- Range of motion: PROM knee flexion only 0-60°
Full passive knee extension
Patellar mobilization
- Exercises: Electrical muscle stimulation to quads
Quad sets
Ankle pumps
Hip abd/adductions
Gravity eliminated SLR flexion
- Continue ice, elevation and compression

Week 3:

- Continue above mentioned exercises
- ROM: 0-75°
- Continue use of two crutches – 75-80% BW

Week 4:

- Continue all exercises listed above
- Weight bearing: Progress to WBAT
- PROM: 0-75°
- Exercises: Initiate mini-squats (0-45°)
Initiate weight shifts
Initiate proprioception drills

Weeks 5-6:

- Discontinue use of crutch at 5 weeks postop
- Unlock brace for ambulation at 6 weeks
- Range of motion: PROM
Week 5: 0-80°
Week 6: 0-90°
- Exercises: Initiate pool exercise program
Active knee extension 90-30°
Multi-angle isometrics knee extension (subnex)
Continue all exercises listed above
Initiate anti-gravity SLR flexion
- Continue ice, compression and elevation as needed

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III. Moderate Protection Phase (Weeks 7-16)

Goals: Control forces during ambulation and ADL's
Progress knee flexion ROM
Improve lower extremity muscular strength
Restore limb confidence and function

Weeks 7-10:

- Brace: Use postop brace unlocked for ambulation until 7-8 weeks
(or until determined safe)
Discontinue sleeping in brace
- Range of motion: Week 7: 0-95/100°
Week 8: 0-100/105°
Week 10: 0-115°
- Exercises: *Gradually increase muscular strength
Straight leg raises (flexion)
Hip abd/adduction
Knee extension 90-0
½ squats
Leg press
Wall squats
Front lunges
Lateral lunges
Calf raises
Hamstring curls (restricted ROM)
Proprioception drills
Bicycle
Pool program

Weeks 12-16:

- Range of motion: Week 12: 0-125°
- Exercises: *Continue all exercises listed above
Initiate lateral step-ups
Initiate front step-downs
Initiate backward lunges
Walking program
*No sports!

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IV. Light Activity Phase (Months 4-6)

Goals: Enhancement of strength, endurance
 Initiate functional activities
 Improve tensile strength properties of tendon

- Exercises: Continue strengthening exercises
 Continue emphasis on eccentrics and functional exercises
 *May initiate plyometrics (month 5)
 *May initiate agility drills (lateral shuffle) month 5
 *If appropriate!
 *May initiate light running months 5-6

V. Return to Sport Activity Phase (Months 7-9)

Criteria to Return to Activities:

1. Satisfactory clinical exam
2. Satisfactory strength
3. Proprioception test 80% > of opposite leg
4. Appropriate rehab progression

Goals: Gradual return to full-unrestricted sports
 Continue strength program
 Continue functional/agility drills

Exercises: Continue strengthening exercises
 Continue agility program
 Continue sport specific training