

REHABILITATION PROGRAM FOLLOWING UNILATERAL QUADRICEPS 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 degrees extension with compression wrap
 - Sleep in brace
- Weight bearing:
 - Toe touch WB with two crutches
- Range of motion:
 - 0-30 degrees
 - CPM 0-45 degrees 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 WBAT
- Range of motion:
 - 0-45 degrees
 - CPM 0-75 degrees as tolerated
- Exercises:
 - Continue all listed exercises
 - Initiate gravity eliminated SLR flexion (assisted)
- Continue ice and elevation

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 (6 weeks)
 - Sleep in brace (6 weeks)
- Weight bearing:
 - WBAT (usually 50-75% BW)
- Range of motion:
 - PROM knee flexion only 0-60 degrees
 - 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 degrees
- Continue use of two crutches – 75-80% BW

WEEK 4:

- Continue all exercises listed above
- Weight bearing:
 - Progress to one crutch (at 28 days)
- PROM: 0-75 degrees
- Exercises:
 - Initiate mini-squats (0-45 degrees)
 - 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 degrees
 - Week 6: 0-90 degrees
- Exercises:
 - Initiate pool exercise program
 - Active knee extension 90-30degrees
 - Multi-angle isometrics knee extension (subnex)
 - Continue all exercises listed above
 - Initiate anti-gravity SLR flexion
- Continue ice, compression and elevation as needed

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 degrees
 - Week 8: 0-100/105 degrees
 - Week 10: 0-115 degrees
- 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 degrees
- Exercises:
 - Continue all exercises listed above
 - Initiate lateral step-ups
 - Initiate front step-downs
 - Initiate backward lunges
 - Walking program
 - No sports!

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
 - *May initiate light running months 5-6
 - *If appropriate!

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