Orthopaedic Specialists
REHAB & SPORTS THERAPY
Phone: 610-973-6300

The following protocol is intended as a guide for post-operative patellar tendon and quadriceps tendon repair rehabilitation. This does not represent a fully inclusive list of all interventions that can be used in the rehab process, and the therapist should use their clinical experience/judgment to help guide their patient through their recovery, consulting with the referring physician should questions arise.

Patellar/Quad tendon repair post-op protocol:

General Goals:

1. Protect healing repair and enhance remodeling
2. Attain full ROM (extension focus)
3. Restore patellar mobility
4. Reestablish full neuromuscular control/strength
5. Facilitate return to sport

Day 1 post-op : First therapy visit

Medical Care:

- Dressing Change

Exercises:

- Quad sets
- Adductor isometrics
- Ankle pumps
- Heel slides (strap assist); ROM 0-30 degrees, being careful not to force flexion
- Calf stretching
- Gentle hamstring stretching

Modalities:

- Modalities for pain/inflammation control (cryotherapy/vasopneumatic compression, TENS)

Ambulation/Brace:

- NWB with brace locked in full extension
- Sleep with brace locked in full extension

Rehabilitation: Day 2 – Week 2

Goals:

1. Decrease effusion and pain
2. Restore patellar mobility
3. Increase knee ROM (0-30 degrees); emphasize full knee extension immediately
4. Protect repair and enhance remodeling
5. Facilitate increased muscle tone/control

Medical Care:

- Monitor wound healing

Manual P.T. :

- Knee extension and flexion PROM PRN
- Patellar mobilizations

Exercises:

- Self knee extension stretching:
    - Foam roll under heel +/- weight
    - Prone hangs
    - Patient education
- Heel slides with strap within the limits of 0-30°
- SLR (flexion, extension, abduction, adduction) with brace locked in full extension if a quad lag exists. Discharge use of brace for leg raises and add weight as quad control improves.
- Continue with quad and hip adductor isometrics
- Calf stretching
- Hamstring stretching

Modalities:

- Modalities for pain/inflammation control (cryotherapy/vasopneumatic compression)

Ambulation:

- Week 0-2: NWB with brace locked in 0 degree extension

Rehabilitation: Week 2 – Week 4

Goals:

1. Decrease effusion and pain
2. Restore patellar mobility
3. Increase knee ROM (0-60 degrees); continue to emphasize full knee extension
4. Protect repair and enhance remodeling
5. Facilitate increased muscle tone/control

Medical Care:

- Monitor wound healing

Manual P.T.:

- Knee extension and flexion PROM PRN
- Patellar mobilizations

Exercises:

- Continue with self knee extension stretching
- Heel slides with strap within the limits of 0-60°
- Continue with SLR X 4. Discharge use of brace for leg raises and add weight as quad control improves.
- Continue with quad and hip adductor isometrics
- Calf stretching
- Hamstring stretching

Modalities:

- Modalities for pain/inflammation control (cryotherapy/vasopneumatic compression)

Ambulation:

- Week 2-4: 25-50% WB with brace locked in 0 degree extension

Rehabilitation: Week 4 – Week 6

Goals:

1. Decrease effusion and pain
2. Restore patellar mobility
3. Increase knee ROM (0-90 degrees); continue to emphasize full knee extension
4. Protect repair and enhance remodeling
5. Facilitate increased muscle tone/control

Medical Care:

- Monitor wound healing

Manual P.T.:

- Knee extension and flexion PROM PRN
- Patellar mobilizations

Exercises:

- Continue self knee extension stretching
- Heel slides with strap within the limits of 0-90°
- Continue with SLR X 4.Discharge use of brace for leg raises and add weight as quad control improves.
- Continue with quad and hip adductor isometrics
- Calf stretching
- Hamstring stretching
- Initiate prone knee flexion AROM

Modalities:

- Modalities for pain/inflammation control (cryotherapy/vasopneumatic compression)

Ambulation:

- Week 4-6: 75% WB with brace locked in 0 degree extension
- Week 6: FWB; gradually open brace as quad control allows
- Emphasize normal gait pattern

Rehabilitation: Weeks 6 – 12

Goals:

1. Resolution of pain with ADLs
2. Resolution of edema
3. Normalization of knee ROM
4. Normal gait pattern
5. Develop strength and power in lower extremities (5/5 MMT)
6. Advance proprioceptive and neuromuscular skills
7. Increase overall conditioning/endurance
8. Closed chain focus for rehabilitation

Manual P.T.:

- Continue with patellar mobilization and PROM PRN

Exercises:

- Continue with self knee extension ROM exercises
- Progress knee flexion ROM to full
- Continue to progress the strengthening exercises from weeks 0-6 as tolerated
- Stationary bike to full ROM with gradually increasing time and intensity
- Gait training
- Progressive closed chain strengthening-leg press, wall slides, single leg deadlifts
- Progressive isolated hamstring strengthening as knee flexion ROM allows-start with prone, progress to standing, progressing to machine strengthening
- Initiate bilateral proprioceptive exercises-progressing to SL proprioceptive exercises

Ambulation:

- D/C brace with ambulation once gait pattern is normalized
- Reciprocal pattern up and down stairs

Rehabilitation: Weeks 12-24

Goals:

1. Maximize strength and LE power
2. Normal neuromuscular control
3. Progress to sport specific/plyometric training
4. Return to sport

Jogging:

- Initiate at 6 months post-op if ROM and flexibility are WNL's, strength is adequate and pain allows

Exercises:

- Continued strengthening program
- Continued proprioceptive program
- Initiate agilities/plyometrics at 8 months post-op
    - Start with 2 legged activities progressing to single leg activities
    - Forward/back to lateral motions (shuffle, carioca, hopping)
    - Start with 25-50% intensity and progress gradually
- Deceleration activities at 8 months post-op
    - Plant with backpedal
- Cutting progression at 8 months post-op
    - Gradually increase speed and angle

Return to sport in 9-12 months + per physician's orders

- Functional testing
- Full ROM
- (-) Pain
- (-) Effusion