



Quadriceps/Patella Tendon & Patella Fracture Repair Protocol

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If you have any questions about this protocol or about the patient, do not hesitate to email Dr. Metzler at: ametzler@orthonky.com

Brace locked at 0 degrees for ambulation for ~6 weeks with use of bilateral axillary crutches or walker.

Initial Visit Discussion:

Dressing change

Start PT at 2-3 weeks

******May start WBAT with brace locked in extension x 6 weeks(brace must remain on at all times except to shower, but knee must be kept straight)******

At 2-3 weeks consider home E-stim unit for quadriceps muscle re-ed.

At 6 weeks typically can open the brace 0-90 degrees with ambulation with bilateral axillary crutches, unless otherwise specified.

Therapist to d/c crutches once patient has good quad control

PRECAUTIONS: Avoid impact loads/sudden activation (eccentric load)

GOALS:

ROM Goals: week 2: 0-30 degrees, week 3: 0-45 degrees, Week 4: 0-60 degrees, Week 5: 0-75 degrees A/AAROM 90-100 degrees by 6 weeks, 0-110 degrees by week 8, 0-130 degrees by week 10, and 0-135 degrees by week 12.

Week 1-4

No active ROM knee extension.

ROM Goals: week 2: 0-30 degrees, week 3: 0-45 degrees, Week 4: 0-60 degrees

PROM knee ext to 0 degrees- place towel under ankle when seated and avoid pillow under the knee

AROM/AAROM knee flexion – very gently

Gradually unlock brace for sitting as PROM knee flexion improves

Exercises:

1. Ankle pumps
2. Patellar mobilizations
3. Hamstring stretch sitting
4. Gastroc stretch with towel

5. Heelslides
6. Quad sets – may add E-stim for re-education at 2-3 weeks upon MD approval
7. Patellar mobilization – all directions.
8. SLR all directions, active assistive flexion- start at 3rd post-op week – do not allow lag – use e-stim as needed after 2-3 weeks. If unable to achieve full extension perform SLR in knee immobilizer

Week 5:

Gradually increase A/AAROM knee flexion

Exercises:

1. Submaximal multi-angle isometrics (30-50% only)
2. Continue knee flexion ROM – rocking chair at home
3. Active SLR 4 way – no weight for flexion – watch for extensor lag – increase resistance for hip abduction, adduction, and extension.
4. Add aquatic therapy if available. Move slowly so water is assistive and not resistive

Aquatic therapy exercises:

- With knee submerged in water, knee dangling at 80-90 degrees – slowly actively extend knee to 0 degrees.
- Water walking in chest deep water
- SLR 4 way in the water with knee straight
- Knee flexion in water

Week 6-8:

Brace – unlock for sitting to 90 degrees at 6 weeks. If quad control sufficient at 6-8 weeks unlock brace 0-90 degrees for ambulation with bilateral axillary crutches and gradually open brace as ROM improves. Progress to ambulation at 8 weeks with no crutches as quadriceps strength allows. D/C crutches and brace at 8-12 weeks depending on patient's quadriceps control. Emphasize frequent ROM exercises

Goals – Gradually increase P/A/AAROM during weeks 6-8

Exercises:

1. Total gym semi squats level 3-4
2. Gradually increase weight on all SLR, if no lag present
3. Week 6 – bike (begin with rocking and progress to full revolutions)
4. Week 6 – Closed chain terminal knee extension with theraband
5. Week 6 – SAQ (AROM), Week 7 – LAQ (AROM), Week 8 – SAQ (gradually increase resistance), Week 8 – LAQ (gradually increase resistance)
6. Week 8 – weight shifts
7. Week 8 – balance master and/or BAPS – with bilateral LE weight bearing
8. Week 8 – cones

Week 9-10:

Exercises:

1. Total gym level 5-6
2. Bilateral leg press – concentric only – no significant load work until 12 weeks.
3. Toe rises
4. Treadmill – Concentrate on pattern with eccentric knee control

Week 11-16:

Exercises:

1. Leg press – Gradually increase weight and begin unilateral leg press at week 12
2. Wall squats
3. Balance activities: unilateral stance eyes open and closed, balance master
4. Standing minisquats
5. Step-ups – start concentrically, 2” to start and progress as tolerated
6. Week 16 – lunges
7. Week 16 – stairclimber/elliptical machine

CRITERIA TO START RUNNING PROGRAM

1. Patient is able to walk with a normal gait pattern for at least 20 minutes without symptoms and performs ADL's painfree
2. ROM is equal to uninvolved side, or at least 0-125 degrees
3. Hamstring and quadriceps strength is 80% of the uninvolved side isokinetically
4. Patient without pain, edema, crepitus, or giving-way