

Dr. Larry “Chip” Bankston

Quadriceps Tendon Repair Protocol

Recommendations

- PROM and gentle AAROM 0 - 60° x 4 weeks with hip flexed; 0 - 90° x 6 weeks
- No AROM Knee Extension x 6 weeks.
- WBAT in brace locked in full extension.
- Wear brace for 8 weeks.
- No driving for 6 weeks if right leg is involved.
- Ice 3 - 4 times daily for the first week and then as needed thereafter for pain and swelling.
- Return to sport and/or work to be determined by the physician.
- **Communication with the physician and/or PA is imperative to obtain patient-specific recommendations; modify the protocol accordingly.**

0 - 4 weeks

- PROM and gentle AAROM 0 - 60° x 4 weeks with hip flexed.
- WBAT in brace locked in full extension.
- No AROM Knee Extension x 6 weeks.
- Use Bledsoe brace (if applicable) (0 - 60°)
- Submaximal isometrics - adductors, gluteals, abductors, hamstrings.
 1. Initiate quad sets.
 2. A/RROM of ankle.
 3. Initiate patella mobilizations.
 4. Stretching - hamstrings, gastroc-soleus, iliotibial band (NWB).
 5. Begin seated hamstring curls 0-60°.
 6. Begin Multi-hip machine with pad proximal to knee.
 7. Electrical stimulation and/or biofeedback for quadriceps and hamstrings.
 8. Modalities to minimize effusion.
 9. Begin SLR's in brace locked at 0° without weight at 2-4 weeks. Begin ABD, ADD and Extension first, Flexion SLR dependent on quad control.

4 - 6 Weeks
control)

- Begin PWB at 4 weeks with brace (0 - 60° depending on quad (FWB by 6 weeks with brace 0 - 90°).
- 1. ROM 0 - 90° - with hip flexed and extended.
- 2. Begin aggressive patellar mobilizations and scar tissue massage.
- 3. Initiate weight shifting with isometric hold in a mini-squat and anterior lunge position (20-30° knee flexion).
- 4. Consider aquatic therapy at this time.
- 5. Add seated heel raises. Progress to standing position as weight bearing status and quad control improves.
- 6. Modalities for continued control of effusion and edema.

6 - 8 Weeks

- Wean from brace at 8 weeks as quad control improves.
- Begin RROM.
- Begin AROM without weight for short and long arc quads.
- 1. Continue SLR's.
- 2. Begin submaximal knee extension isometrics (60 - 90°).
- 3. Begin static single-leg balance on floor. Progress to dynamic single-leg balance activities (e.g. upper or lower extremity reaching, 4-way theraband, BAPS, etc.) as lower extremity muscle control allows.
- 4. Begin with bike for ROM. May begin exercise program as effusion and ROM allows.
- 5. Begin retroambulation.
- 6. Add leg press.
- 7. Initiate isometric squats and progress to dynamic squats emphasizing lower ranges (e.g. 60 - 90°) and proper technique.*
- 8. Begin closed kinetic chain terminal knee extensions (CKC TKE) with theraband resistance.
- 9. Begin hip hiking.

8 - 12 Weeks
training.

- Emphasize concepts of frequency, duration and intensity of
- **P/AROM equal, bilaterally, by 12 weeks.**
- Consider orthotics, taping, bracing, etc. as appropriate to facilitate training and proper biomechanics.
- 1. Begin lateral step-ups/downs beginning at 2" and progressing height only if proper technique is maintained (e.g. no hip substitution).
- 2. Add Sportcord activities (e.g. marching, lateral stepping in squat position, etc.)
- 3. Initiate knee extension isotonic (30 - 90°) as tolerated.*
- 4. Progress endurance training on bike with emphasis on high RPM's to minimize patellofemoral compression.

5. Progress static and dynamic single-leg balance activities to unsteady surfaces (e.g. pillow, half foam roll, BAPS board, etc.) as lower extremity muscle control allows.
6. Begin mini-tramp marching.

12 Weeks +

- **Equal strength, bilaterally, by 16 weeks.***
 - Progress to independent home exercise program.
 - Emphasize importance of proper lower extremity biomechanics. **DO NOT LET RESISTANCE DICTATE TECHNIQUE !!!**
 - Return to sport and/or work to be determined by the physician.
1. Progress knee extension isotonics. May progress to 0 - 90° arc as tolerated.*
 2. Progress to lunges (e.g. anterior, lateral, etc.) as tolerated.
 3. Begin sport- and/or work-specific activities per physician.
 4. Initiate mini-tramp jogging.
 5. Begin return to running program (e.g. treadmill, road, etc.) as appropriate.
 6. Begin fitter and/or slide board.
 7. Initiate plyometrics as appropriate.

***May vary depending on the presence, degree and location of DJD.**