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TIBIAL TUBERCLE TRANSFER PATELLAR REALIGNMENT PROTOCOL (Dr. Nawab)

GENERAL GUIDELINES:

- TTWB with crutches in the brace for 6 weeks.
- ROM restricted to 0-60° for the first 14 days and then limited to 0-90° until 4 weeks post op.
- Limited ROM brace should be locked at 0° for the first 2 weeks and then unlocked to 30° as tolerated for ambulation and ADL's once adequate Quad control is established.
- Sleep with the brace locked at 0° for immobilization unless otherwise instructed by M.D.
- Keep the entire leg elevated. Do not place pillows under the knee for long periods of time.
- Utilize cryotherapy for 20 to 30 minutes every hour for pain and swelling reduction.
- Keep incisions dry for 5 days but may shower anytime postoperatively.
- Avoid pulling on Tibial Tubercle for 6 weeks.

WEEKS 0-4

- Restore superior and medial patellar mobility.
- Restore FULL knee extension within 2 weeks (low load-long duration stretching).
- Hamstring, gastrocnemius, and ITB stretching.
- Ankle ROM/strengthening for swelling and DVT prevention.
- ROM 0°-60° for the first two weeks; 0-90 degrees from weeks 2-4.
- Modalities as needed for pain and swelling.
- NMES for Quadriceps activation and re-education.
- 3-way (ABD/EXT/ADD) open chain straight leg exercises once pain is under control and adequate QUAD control established.
- *Focus on the knee remaining locked in concentric and eccentric phase of leg lifts. Increase reps and hold time initially, before adding resistance. No ankle weight until extensor lag is eliminated.*

WEEKS 4-6

- Increase ROM as tolerated
- Continue to increase hip resistance during ABD/ADD/EXT open chain exercises as tolerated.
- May start light aquatic exercises once good Quadriceps control is established.

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- Soft tissue mobilizations as needed for scar and myofascial restrictions.
- Isometric hamstring strengthening on a ball progressing to AROM as tolerated.
- Initiate stationary bike for range of motion without resistance.

WEEKS 6-12

- ROM to WNL's as tolerated.
- SLR into flexion at 6 weeks once the patient can perform without an extension lag. (Isometrics until the patient is able to do this).
- Calf raises once full weight bearing
- PF brace if needed until adequate VMO return to eliminate PF pain and maltracking.
- Increase resistance with all exercises as tolerated.
- Hamstring curls to 90° with resistance as tolerated.
- Increase leg strength, allow for normal gait and walking longer distances.
- Start closed chain exercises as tolerated in a protected range. (Mini-squats, proprioceptive retraining, BAPS board)
- Leg press (0°-60°) with light resistance and high repetitions. (10-12 weeks post op)
- Increase resistance with stationary bike for strength and endurance training.
- Edema control.

MONTHS 3-6

- Low impact weight program increasing intensity of strength and functional training for a gradual return to normal activities.
- Elliptical trainer.
- Core strengthening.
- Regain Quad/hamstring girth and tone.

MONTHS 6-9

- Sport specific training (if applicable).