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Physical Therapy Protocol: Distal Femoral Osteotomy

Philosophy:

A distal femoral osteotomy is useful in limb re-alignment and involves severing the bone with subsequent repair using pins, plates or rods. The subsequent bone cuts require healing and must be protected during that period. The program for physical rehabilitation following distal femoral osteotomy is designed to be protective during the early stages, then advance flexibility and strengthening once the cut bone ends are healed. Ultimately, the goal is for the patient to go back to doing what they enjoy. Even when the formal rehabilitation program comes to an end, keeping the limb strong and stable takes a lifelong commitment. It may take a year or more of steady exercise to regain the full use of the leg.

Phase I, Post-Op 0-6 Weeks

OSMS appointments:

- MD visit at 2 & 6 weeks with post-op film
- Physical therapy will begin as directed by your physician and as indicated on your physical therapy order

Rehabilitation Goals:

- Toe-touch weight-bearing in locked brace at 0
- Post-op brace is worn for 2 weeks locked in extension while ambulating and sleeping. This will protect the osteotomy during early healing
- Maintain full extension, and then progress to flexion
- Reduce swelling using cryocuff.

Precautions:

- ROM exercises are 0-90 while supine
- OK to progress in flexibility and with modalities as long as non-weight bearing
- After 2 weeks, switch to daytime bracing only (off at night)

Range-of-Motion Exercises:

- ROM is 0-90 while supine
- After 2 weeks, ok to progress past 90

Suggested Therapeutic Exercises:

- Toe touch weight-bear as tolerated with two crutches for 6 weeks
- Calf pumps



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- Patellar mobilization 5-10 minutes a day for 6 months.
- Isometric quad sets with knee at 0° of flexion. Three sets of 10, holding for ten seconds
- Straight leg raises in the locked post-op brace. Three sets of 10, 3 times a day.

Cardiovascular Exercises:

- UE ergometer
- Floor based core and glute exercises

Progression Criteria:

- Patient may progress to phase II after 6 weeks if they have pain well-controlled

Phase II, Post-Op 6-8 Weeks

OSMS appointments:

- MD appointment at 6 weeks
- Physical therapy appointments remain every 5-7 days

Rehabilitation Goals:

- TWB to 25% WB with crutches and advance weekly
- Discontinuation of brace

Precautions:

- Avoid open chain exercises

Range-of-Motion Exercises:

- Full

Suggested Therapeutic Exercises:

- Closed chain quadriceps exercises
- Progressive balance and core/pelvis stability
- Advance SLRs
- Advance floor-based exercises

Cardiovascular Exercises:

- Stationary bike
- Core strengthening

Progression Criteria:

- Patient may progress to phase II after 8 weeks if they have pain well-controlled
- Progressive quadriceps control



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Phase III, Post-Op 8-16 Weeks

OSMS appointments:

- MD appointment at 12 weeks
- Physical therapy appointments every 5-7 days, and progresses to home program

Rehabilitation Goals:

- Dual limb, then single limb control

Precautions:

- None

Suggested Therapeutic Exercises:

- Progression of functional balance
- Core and glute strengthening
- Flexibility

Cardiovascular Exercises:

- Stationary bike, elliptical and ok to begin swimming

Progression Criteria:

- Patient should be pain-free with minimal swelling
- Independent non-antalgic gait

Phase IV, Post-Op 16+ Weeks

Rehabilitation Goals:

- Progress to functional training
- Continue LE strengthening, flexibility, proprioceptive and agility programs
- Floor beam (if applicable)
- After 20 weeks, ok to initiate agility drills & cutting activities (plyometric program allowed)
- Advance agility and sport-specific programming
- Maintenance exercise program