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Physical Therapy Protocol: Early WB Achilles Repair

Philosophy:

The Achilles tendon plays a critical role in walking, stair climbing, and return to previous sports. The tendon unit is susceptible to injury because it is a long tendon that crosses two joints in the human body. Spontaneous ruptures usually occur during athletic activities in middle-aged patients and are diagnosed via physical exam with your OSMS surgeon and advanced imaging. The repair can be difficult to accomplish surgically, and a commitment to early-weight bearing is desirable for the best outcome. It can take up to a year to make full recovery and it is not unusual to have intermittent pains and aches during that time.

Phase I, surgery to 2 weeks

OSMS appointments:

- Medical appointments at 2 weeks
- Films are sometimes taken to assess implanted hardware (technique variable)
- Physical therapy will begin as directed by your physician and as indicated on your physical therapy order

Rehabilitation Goals:

- Protection of the repaired tendon
- Recovery from surgery
- Reduce pain and swelling
- Gradually return to activities of daily living

Precautions:

- Non-weight bearing in short leg cast or plantarflexed boot (OK to put foot down when standing)
- Rest and elevation between ADLs

Range-of-Motion Exercises:

- Hip and knee AROM

Suggested Therapeutic Exercises:

- Gait training with bilateral axillary crutches or Roll-About

Progression Criteria:

- Patient may progress to phase II after 2 weeks if they have healed incision



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Phase II, (after Phase I criteria met, usually at 2-6 weeks)

OSMS appointments:

- Physical therapy appointments continue at once or twice weekly

Rehabilitation Goals:

- Maintain hip and knee ROM
- Improve core, hip, and knee strength

Precautions:

- Required use of the walker boot while sleeping
- It is ok to remove the boot for personal care, but patients are required to adhere to the weight-bearing restrictions
- Protected WB, walker boot in PF position with crutches (2-cm heel lift)
- At 4 weeks, advance to full WB in walker boot

Range-of-Motion Exercises:

- Toe flexion/extension

Suggested Therapeutic Exercises:

- Light massage of foot to decrease edema (start from toes and work towards ankle)
- Core strengthening (abdominal recruitment, bridging on ball, ball reach, arm pulleys, resisted diagonal TheraBand's)
- Hip & knee strength (clamshells, hip abduction, prone hip extension, SLR, TheraBand press)
- Glute stretching (medius, minimus, piriformis, hamstring, rectus femoris)

Cardiovascular Exercises:

- Upper body circuit training or upper body ergometer

Progression Criteria:

- Patient may progress to phase III after 6 weeks

Phase III, (after 6-8 weeks)

OSMS appointments:

- Medical appointment at 6 weeks
- Physical therapy appointments fade to every 10-14 days until cleared
- Multiplane limb control

Precautions:

- WBAT in walker boot is allowed



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- Required use of the walker boot while sleeping
- It is ok to remove the boot for personal care, but patients are required to adhere to the weight-bearing restrictions

Suggested Therapeutic Exercises:

- Progress with closed chain exercise
- Lunges from 0-90, leg presses 0-90
- Proprioceptive exercises
- Begin stationary bike
- Hip and core strengthening
- Physical therapist may begin scar mobilization using friction, ultrasound or stretching if appropriate (Heat may be applied before beginning)

Progression Criteria:

- After 8 weeks, begin to wean from boot

Phase IV, (after Phase III criteria met, usually after 8+ weeks)

Rehabilitation Goals:

- Good eccentric and concentric neuromuscular control
- Multiplane limb control

Precautions:

- Wean from walker boot
- Consider return to crutches and/or cane as necessary and gradually wean off

Suggested Therapeutic Exercises:

- Progress with closed chain exercise
- Proprioceptive exercises
- Stationary bike and StairMaster
- Hip and core strengthening
- Physical therapist may begin scar mobilization using friction, ultrasound or stretching if appropriate (Heat may be applied before beginning)

Progression Criteria:

- After 12 weeks, ok to begin jogging and progress to running
- After 12 weeks, ok to begin sport specific retraining
- Return to sport is MD directed, generally >16 weeks



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References:

- Baer GS, Keene JS. Tendon Injuries of the Foot and Ankle: Achilles Tendon Ruptures. *Orthopedic Sports Medicine: Principles and Practice*. (Third Edition).
- Willits, et al. Operative versus Nonoperative Treatment of Acute Achilles Tendon Ruptures, *The Journal of Bone & Joint Surgery*: December 1, 2010 - Volume 92 - Issue 17 - p 2767-2775