ORTHOARIZONA

Shelden L. Martin, M.D.

Achilles Tendon Repair Protocol

The typical Achilles tendon rupture occurs in the mid-substance of the Achilles tendon. This is generally in the weekend warrior, recreational athlete, in his late 20's to early 40's. However, it does occur less commonly in the high-level competitive athlete. The optimum treatment for complete Achilles tendon ruptures remains controversial. The following guidelines are for a surgical repair, not non-operative treatment of acute Achilles tendon ruptures. The acute repair consists of using suture material to re-approximate the ends of the tendon and restore appropriate length-tension relationships of the gastroc soleus complex. Due to variation in surgical techniques several time frames may be adjusted, follow the individual surgeons' guidelines.

First Postoperative Visit:

Nursing: (14-17 days)

1. The patient's wound is evaluated and the sutures should not be removed unless the wound is completely dry and healed.
2. Once the sutures are removed the patient can then follow-up with the protocol dictated be the physician in his operative report. Either a cast or a walking boot will be placed on the patient in the equinus position until the 4-week follow-up.

Second Postoperative Visit:

Nursing: (4 weeks)

1. Cast/Boot removed and wound re-evaluated.
2. Instruct in gentle A/AROM not to exceed neutral Dorsiflexion.
3. Placed in a walking boot and may begin PWB when neutral Dorsiflexion is achieved.
4. Referral to Physical Therapy (2-4 weeks s/p)
5. Follow-up physician visit is at 12 weeks s/p reconstruction if referred to **OrtoArizona Physical Therapy**. If referred to an outside physical therapy center follow up visit is at 8 weeks and 12 weeks. The Physical Therapist is to monitor the patient for any complications and refer back to physician earlier if required.

Physical Therapy: (4 weeks)

1. Discuss tissue quality and strength of the repair with the physician. Discuss combination procedures and modifications to the protocol.

2. "General" tissue healing times:
    - Immobilization to protect the repair, 4 weeks s/p
    - A/AROM: 4 weeks s/p, based on pain, swelling, and tissue quality of repair.
    - AROM: 4-6 weeks s/p, based on pain, swelling, and tissue quality of repair.

- Resistive ROM: 8-10 weeks s/p, based on pain, swelling, and tissue quality of repair.
- Progress as tolerated: 10-12 weeks s/p, based on pain, swelling, and tissue quality of repair.

Four - Eight Weeks Post-Op:

Goals:

- Complete protection of repair.
- Look to have neutral dorsiflexion between 4 - 6 weeks post-op.
- Progressive edema reduction, pain control, desensitization and scar mobility.

1. Progress from PWB to FWB with crutches/cane by 6-8 weeks based on pain, swelling and tissue quality of repair.
2. Short leg brace/orthosis worn during FWB ambulation.
3. Limit active dorsiflexion ROM to neutral with knee flexed to 90 for first four weeks.
4. No passive stretching into dorsiflexion until 8 weeks s/p.
5. Bicycle; light resistance, with brace on until 8 weeks s/p, then progress as appropriate.
6. Proximal musculature PRE's as tolerated, no closed chain Dorsiflexion past neutral until 8 weeks s/p.
7. Modalities for edema reduction, pain control, desensitization and scar mobility.

Six - Twelve Weeks Post-op:

Goals:

- Restoration of normal gait.
- Elimination of edema, pain, normalize sensitivity and normalize scar mobility.

1. Static balance progression and proprioceptive training (6 weeks).
2. Bicycle, increase resistance as tolerated (8 weeks).
3. Inversion and eversion isometrics.
4. Low resistance isotonics, through a pain-free ROM.
5. Gentle passive dorsiflexion beginning at 8 weeks.
6. Modalities PRN.
7. 6 to 8 weeks D/C brace and initiate heel lift, as per Dr.'s recommendations.
8. Dynamic balance progression and proprioceptive training (8-10weeks) based on pain, swelling and tissue quality of repair.
9. Retro walking (10-12 weeks) once painfree ambulation and minimum 5-10° active Dorsiflexion.

Twelve - Twenty Weeks Post-op:

Goals:

- Normalization of strength.
- Restore normal A/PROM.
- Progression/Return to sport.

1. Progressive plantar and dorsiflexion PRE's as tolerated, emphasize plantar flexion eccentrics.
2. Inversion/eversion PRE's as tolerated.
3. Plantar and Dorsiflexion Isokinetics as appropriate.
4. Sedentary patients may be discharged to Independent Home/Gym program. Athletic patients should continue with late stage rehabilitation drills including sport specific drills.
5. Closed Kinetic Chain drills including progression to ballistic/plyometric activities as appropriate.
6. Continue proximal musculature PRE's.
7. Reassess entire LE Biomechanics identifying areas that would increase long-term stress to the reconstruction.
8. Progression to walk/jog program (12 weeks) if appropriate strength and function. (Minimum 15-20 single leg toe raises)

Progressive return to athletic activities (16 weeks): if all above goals are achieved.

1. Continue functional closed chain rehabilitation.
2. Advanced proprioceptive retraining, Fitter, BAPS, Plyoback, Agility drills, etc.
3. Continue full LE PRE's.
4. Progressive running program. Isokinetic testing.
5. Sports Performance and Speed and Agility Drills/Testing.