GENESIS ORTHOPEDICS & SPORTS MEDICINE

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Achilles Tendon Rupture – Non-Operative Rehabilitation Protocol

Discharge Instructions-

Comfort

- **Cold therapy** – This will help reduce pain and swelling, particularly during the first several days after injury.
  - You may use an ice pack or ice machine as directed.
  - Apply ice for **20 minutes on, 20 minutes off**, as often as needed.
  - Always keep a cloth barrier between the cold source and your skin.
- **Elevation** – Elevate the affected leg above the level of the heart when resting to help decrease swelling.
- Swelling and discomfort are expected and may increase with activity as rehabilitation progresses.

Medications

1. Aspirin / DVT prevention:

- Follow the medication and DVT prophylaxis instructions provided by your physician.
- Because an Achilles rupture requires a period of immobilization and protected weight bearing, patients should be monitored for symptoms of DVT.
- Call the office for new or increasing calf pain, swelling, warmth, or redness.
- **Go to the emergency department immediately for chest pain, shortness of breath, or coughing up blood.**

Achilles Rehabilitation Protocol

Phase I: Weeks 0-2

1. Immobilization

- Place the foot in a **plantarflexed position** in a splint or boot as directed.
- **Do not remove the splint/boot unless specifically instructed.**
- Keep the ankle pointed downward; **do not allow the foot to dorsiflex past neutral.**
- No barefoot walking.

2. Weight Bearing

- **Non-weight bearing (NWB)** with crutches during the initial period unless otherwise directed.
- Use crutches for all ambulation.

3. Exercises

- Toe flexion/extension.
- Gentle knee and hip range of motion.
- Quad, glute, and core isometric exercises.
- Straight leg raises with the knee fully supported/locked as tolerated.
- **No active ankle dorsiflexion.**
- **No calf stretching.**
- **No resisted plantarflexion.**

Goals:

- Protect the healing Achilles tendon.
- Control pain and swelling.
- Maintain strength of the hip and knee.
- Prevent loss of conditioning.

Phase II: Weeks 2-4

1. Boot

- Transition to a **tall CAM/Achilles boot with approximately three 1-inch heel wedges**.
- The heel wedges maintain the ankle in plantarflexion and protect the healing tendon.

2. Weight Bearing

- Progress toward **weight bearing as tolerated in the boot**, using crutches as needed for support and gait normalization.
- Do not walk without the boot.

3. Range of Motion

- Gentle ankle plantarflexion is permitted.
- Gentle inversion/eversion may be performed while maintaining the protected plantarflexed position.
- **No dorsiflexion past the prescribed limit.**
- **No calf stretching.**

4. Physical Therapy

- Begin formal physical therapy when cleared.
- Edema control.
- Gait training.
- Hip/knee/core strengthening.
- Gentle protected ankle ROM.
- Patient education regarding Achilles precautions.

Phase III: Weeks 4-6

1. Boot / Heel Wedge

- Continue use of the CAM/Achilles boot.
- **Remove one heel wedge at approximately 4 weeks**, if clinically appropriate.
- Maintain the remaining wedges to prevent excessive Achilles lengthening.

2. Weight Bearing

- Continue **weight bearing as tolerated in the boot**.
- Gradually decrease reliance on crutches as gait improves.

3. Exercises

- Continue hip, knee, and core strengthening.
- Progress ankle ROM within the prescribed limits.
- Begin gentle, protected strengthening as directed by PT.
- Stationary bicycle may be initiated when adequate control and comfort are present, with the boot as directed.

Precautions:

- No running or jumping.
- No aggressive calf stretching.
- No sudden push-off.
- Avoid positions that place the Achilles under significant tension.

Phase IV: Weeks 6-8

1. Boot / Heel Wedge

- **Remove the final heel wedge around 6 weeks**, assuming appropriate clinical progression.
- Continue boot protection until approximately 8 weeks or until cleared to transition to a supportive shoe.

2. Weight Bearing

- Progress to full weight bearing in the boot with a normalized gait.
- Gradually discontinue crutches when able to walk without a limp.

3. Physical Therapy

- Continue progressive ankle strengthening.

- Begin controlled bilateral calf strengthening when appropriate.
- Continue balance/proprioception exercises.
- Continue progressive ROM.

Goal:

- Achieve a normal walking pattern without pain or significant swelling.
- Progress toward transition from boot to supportive shoe.

Phase V: Weeks 8-12

1. Transition to Shoe

- Transition into a supportive athletic shoe.
- Consider a **heel lift in the shoe initially** to decrease stress on the healing Achilles.
- Gradually discontinue the heel lift as tolerated.

2. Strengthening

- Progress from:
  - Bilateral heel raises
  - Assisted heel raises
  - Progressive single-leg heel raise exercises
- Progress resistance gradually based on strength and symptoms.
- Continue hip, knee, and core strengthening.

3. Functional Rehabilitation

- Progressive balance and proprioception.
- Stationary bike.
- Elliptical when appropriate.
- Pool activities once adequate healing and functional control are present.
- Continue progressive walking program.

Precautions:

- No sprinting.
- No jumping.
- No explosive push-off.
- No aggressive Achilles stretching.

Phase VI: Weeks 12-16+

1. Strengthening

- Continue progressive calf strengthening.
- Advance toward single-leg heel raises with full body weight.
- Progress eccentric calf strengthening as tolerated.
- Continue balance and proprioception training.

2. Functional Activities

- Gradually introduce higher-level activities once adequate strength and control have been demonstrated.
- Begin low-impact dynamic activities before higher-impact activities.

3. Return to Running/Sports

- Running should **not begin based on time alone**.
- The patient should demonstrate appropriate calf strength, ankle ROM, balance, and functional control before beginning a running progression.
- Return to jumping, cutting, sprinting, and sports should occur only after appropriate functional testing and physician/PT clearance.

Important Achilles Precautions

- **Do not aggressively dorsiflex the ankle during the first several months of healing.**
- **Do not stretch the calf aggressively.**
- Do not walk barefoot during the protected phase.
- Do not remove heel wedges prematurely.
- Avoid sudden pushing off, jumping, running, or explosive movements.
- **Do not progress exercises simply because pain has improved.** The Achilles tendon continues to remodel for many months.

Call the Office If:

- You feel a new **pop** or sudden increase in Achilles/calf pain.
- You develop a sudden loss of push-off strength.
- You notice a new gap or defect in the Achilles.
- There is significant increase in swelling.
- You develop increasing calf pain, redness, or swelling.