

## **Achilles Repair Rehabilitation Protocol**

By James L Chen, MD

### **POST-OP DAYS 1 – 10**

- L & U Splint – Watch for skin breakdown
- Crutches – non weight bearing (NWB)
- Active motion (AROM) hip and knee
- Wiggle toes
- Straight leg raise (SLR) x 4
- Lower extremity (LE) stretches – Hamstring, quads, ITB, hip flexors
- Ice and Elevation

### **GOALS**

- Pain management
- Protection

### **Days 10 – 21**

- D/C Splint and remove sutures (Ortho)
- Short leg cast for 2 weeks
- Crutches – non weight bearing (NWB)

### **WEEKS 3 – 4**

- Cam walker with heel wedges
- Crutches – weight bearing as tolerated (WBAT)

- Continue appropriate previous exercises
- Scar massage/mobilization with oil/cream
- Weight shifts

### **GOAL**

- No adhesions

### **Weeks 4 – 6**

- Cam walker with decreasing heel wedges
- Crutches – Full weight bearing (FWB), D/C when gait is WNL
- Continue appropriate previous exercises
- Isometrics x 4
- Towel crunches and side-to-side
- Steamboats (Theraband x 4 while standing on involved LE) in cam walker
- Mini-squats, Wall squats, Total gym in cam walker
- Stationary bike in cam walker with the heel on the pedal

### **GOAL**

- Neutral DF (0 degrees)

### **Weeks 6 – 8**

- Taper out of cam walker at home, but wear outside of home
- Continue appropriate previous exercises
- Ankle AROM including plantar flexion – Calf pumping, alphabet, rotations
- Light Theraband x 3 – **No plantar flexion**
- Stationary bike in cam walker with toes on the pedal
- Pool therapy – Aqua-jogger in deep water

### **GOALS**

- 10 degrees DF

### **Weeks 8 – 12**

- Transition from cam walker to ankle brace
- Continue appropriate previous exercises
- Theraband ex x 4 – Gradually increase resistance
- Double leg heel raises

- Leg press, knee ext, Hamstring curl, hip weight machines
- Forward, retro and lateral step downs
- Proprioception ex
  - Double leg BAPS
  - Progress to single leg BAPS, ball toss, body blade
- Pushup progression
- Pool therapy – Chest (waist) deep
- Treadmill – Walking progression program
- Elliptical trainer

### **GOALS**

- Symmetrical DF
- Walk 2 miles at 15 min/mile pace

### **Months 3 – 4**

- D/C brace
- Continue appropriate previous exercises
- Single leg heel raises
- Functional activities – Fitter, slide board, figure 8's, gentle loops, large zigzags
- Treadmill – Running progression program
- Stairmaster

### **GOALS**

- No calf atrophy
- Run 2 miles at easy pace

### **MONTHS 4 – 6**

- Continue appropriate previous exercises
- Running progression program – Progress to track and hard surfaces
- Agility drills / Plyometrics
- Transition to home / gym program

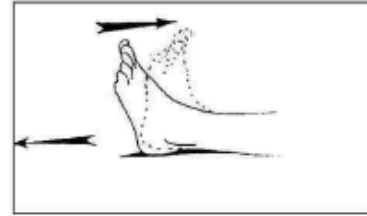
### **GOAL**

- Return to all activities

***\*NO CONTACT SPORTS UNTIL 6 MONTHS POST-OP\****

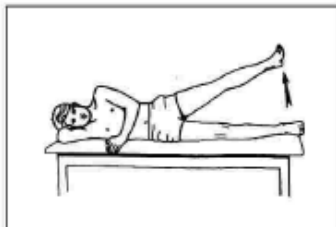
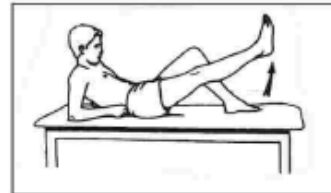
## **Exercise Program**

**Ankle flexion-extension** - Remove the brace.  
Gently move the foot in an up and down motion. Do not try to force motion through pain, but move the foot up and down through the range of motion that is pain free. Repeat 20 times, three times a day.



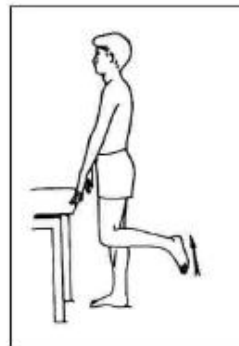
**Ankle circles** - Remove the brace.  
Move the foot so that you are making a circular motion. Make 10 circles to the left and 10 circles to the right, three times a day.

**Straight leg lift** - With the brace on, tighten the quadriceps muscles so that the knee is flat, straight and fully extended.  
Try to raise the entire leg up off the floor or bed. If you are able to do so keeping the knee straight, raise the leg to about 45 degrees, pause one second and then lower slowly. Repeat 20 times, twice a day.



**Hip Abduction** - With the brace on,  
lie on your unoperated side. Keeping the knee fully extended, raise the operated limb upward to a 45 degree angle as illustrated. Hold one second, then lower slowly. Repeat 20 times, twice a day

**Standing Hamstring curl** - With the brace on, stand facing a table which you will use for balance and support. While standing on the unoperated leg bend the knee of the operated side and raise the heel toward the buttock. Hold this flexed position for one second. Slowly lower the foot back to the floor. Keep the thighs aligned as illustrated. Repeat 20 times.

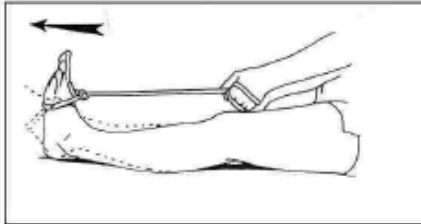
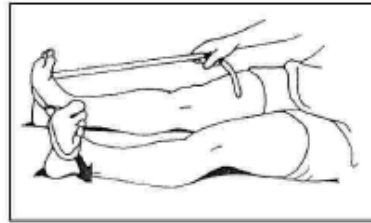


**Stationary Cycle** - With the brace on, you may ride a stationary bicycle for 10 to 20 minutes a day if you wish.

**Theraband Exercise Program** (start using yellow theraband and progress to red in 2 weeks)

**Ankle Eversion**

With tubing anchored around uninvolved foot, slowly turn injured foot outward. Repeat 30 times.

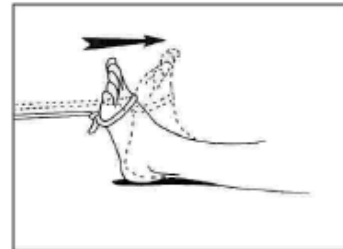
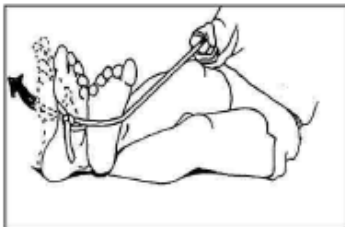


**Ankle Plantar Flexion**

With tubing around foot, press foot down. Repeat 30 times. This is the most important of the exercises.

**Ankle Dorsiflexion**

With tubing anchored on solid object, pull foot toward you knee. Repeat 30 times.

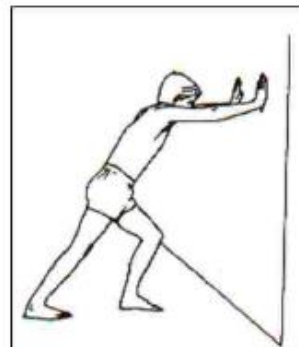


**Ankle Inversion**

Cross legs with the operated foot underneath. With tubing anchored around uninvolved foot, slowly turn injured foot inward. Repeat 30 times.

**Calf Stretch**

Keeping the rear (injured) leg straight, with the heel and foot flat on the floor, lean into wall until a stretch is felt in the calf. **Do not** stretch excessively. Hold 15 to 20 seconds. Repeat 3 to 5 times.





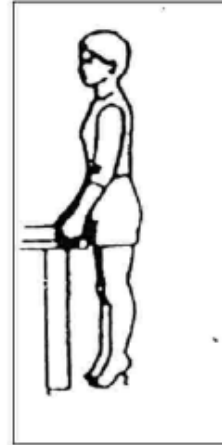
#### **Dorsiflexion Stretch**

Standing with both knees bent and the injured foot forward, gently lean forward, bending the injured knee over the ankle while keeping the heel and foot flat on the floor. This stretch will be felt in the ankle close to the heel or in the front of the ankle. Do not over-stretch! Hold 15 to 20 seconds, Repeat 3 to 5 times.

#### **Toe Raises**

Stand facing a table, holding the table for support and balance. Keep the knees extended straight. While holding the knees fully straight, raise up on 'tip-toes' while maintaining the knees in full extension. Hold for one second, then lower slowly to the starting position. Repeat 20 to 30 times. After one month, you can raise up on *both* legs, and lower down on only the *operated* side.

At five or six months after surgery, build strength so that you can raise up *and* down on just the injured leg. See the Achilles Toe Raising Progression on the next page.



#### **Single -Leg Balancing**

Attempt to balance on the operated leg while holding the unoperated foot in the air. When you can balance easily, you can attempt to balance with eyes closed, or while someone throws you a ball. Practice this exercise for 5 minutes.