

## ACHILLES TENDONITIS PREVENTION PROGRAM

Achilles tendinitis is a painful condition in which the Achilles tendon is strained and inflamed (i.e. swollen). The Achilles tendon, named after the seemingly indestructible mythological Greek warrior, is the thickest and strongest tendon in the human body, which attaches the calf muscle to the heel bone, and is typically able to withstand forces greater than 1000 pounds without tearing. However, forces up to 12 times body weight can sometimes be placed on this tendon during running or other high impact activities, while overtraining can lead to a weakening of the tendon, either of which can result in small tears (micro-tears) in the tendon. If ongoing stress is placed on the tendon without adequate rest, the body is unable to repair the injured tissue, and significant inflammation and pain can result. The Achilles tendon does not have good blood supply, so this injury can be slow to heal.

### PRECAUTIONS

- » If you have an existing injury of the foot or ankle, you must consult with a qualified healthcare practitioner before beginning this program;
- » If any sudden pain or discomfort is experienced during the program, stop immediately and consult a qualified healthcare practitioner;
- » Ensure at least 48 hours recovery between exercise sessions and gradually increase the number of sets and repetitions.

### GUIDELINES

1. Please refer to the AFX Poster for more information regarding device set-up, increasing resistance, and directions for use.
2. Perform the strengthening exercises in the order shown.
3. Weeks 1 to 7: when 12 repetitions can be performed through a full range of motion, increase the resistance so that you are able to perform at least 8 repetitions. Work your way back up to 12 reps and repeat this cycle.
4. Weeks 3 to 7: when you can perform 2 or 3 sets of 12 repetitions for all strengthening exercises, increase to the next resistance level.

### TRAINING PROGRAM - 3 sessions per week

#### Week 1: Intro

- » 1 set of 8 to 12 reps of each strengthening exercise (refer to Guideline 3 above).

#### Week 2: Adaptation

- » 2 sets of 8 to 12 reps of each strengthening exercise (refer to Guideline 3 above).

#### Weeks 3 to 7: Strength Phase

- » 2 to 3 sets of 8 to 12 reps of each strengthening exercise (refer to Guideline 4 above). Only progress to 3 sets of each exercise if your feet and lower legs do not feel overly fatigued during activity the day following exercise.
- » Optional: Include eccentric loading for all strengthening exercises shown below (refer to the AFX Eccentric Loading Program).

#### Weeks 8 to 12: Muscular Endurance Phase

- » Begin with 1 or 2 sets of 15 to 20 repetitions for each exercise, progressing to 3 sets of 15 to 20 repetitions.
- » When you can perform 3 complete sets of 20 repetitions, increase the resistance and return to 3 sets of 15 repetitions.
- » Progress again to 3 sets of 20 repetitions and increase resistance using the process outlined above.
- » If a plateau is reached, reduce the resistance level and perform 1 set of each exercise to exhaustion. When 50 repetitions can be performed, increase the resistance level and repeat this cycle.

**MAINTENANCE PROGRAM:** After completing the training program above, it is recommended that you follow the program below for 2 to 3 sessions per week.

#### Each session includes:

- » 1 set of 8 to 12 reps for each exercise including stretching and eccentric loading (optional)
- » 1 set of 15 to 20 reps for each exercise

## EXERCISES

### 1. Stretch Plantar/Toe Flexors



- » Stretch before and after each set of plantar flexion and toe flexion using the following procedure:
  - 1) Stretch the calf muscle and toe flexors for 30 seconds;
  - 2) Contract the calf muscle for 5 to 6 seconds;
  - 3) Relax the calf muscle for 30 seconds while pulling back on the handles to increase the amount of stretch.

### 2. Plantar / Toe Flexion



- » Focus on arching the foot and flexing the toes

### 3. Stretch Invertors



- » Ensure that toes are flexed
- » Hold for 15 to 30 seconds

### 4. Inversion



- » Ensure that toes are flexed

### 5. Stretch Dorsiflexors



- » Hold for 15 to 30 seconds

### 6. Dorsiflexion/Toe Extension



- » Focus on engaging the toes