

Calf/Achilles Tendon Strengthening

Presented By:



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These exercises are specifically designed to strengthen the calf/achilles complex and prepare it for the stresses it must withstand during running. None of the exercises should irritate the achilles. If irritation does occur then STOP that exercise immediately.

There are three levels of strengthening outlined in this guide. If the achilles is still somewhat irritated with normal walking only use the beginning exercises. As the achilles can handle more stress and is not irritated with normal walking progress to the intermediate exercises. Incorporate the advanced exercises when you are actually able to run without pain. It is important to do the exercises barefoot as well as with your actual running shoes on. I recommend completing a set of exercises barefoot followed by a set with your running shoes. If you wear orthotics make sure that your orthotics are in your shoes.

Beginning Exercises

1. Knee Pointers

Stand with your toes 2-3 inches away from a wall. Keep your weight on your heels. With your heels on the ground, slowly bend your knees until they touch the wall (*Figure 1A*). (Count for 5 seconds on the way down.) Without resting your knees against the wall, hold your knees in the bent position for two seconds and then return to the starting position. Repeat, but this time move your knees at a thirty degree angle to the right (*Figure 1B*). The movement should come from the ankles and not by rotating your feet or twisting your hips. Repeat again moving your knees at a thirty degree angle to the left (*Figure 1C*).

Reps:

Sets:



Figure 1A



Figure 1B



Figure 1C



Figure 2

2. Toe Walking

Keep your upper body erect and hold your hands behind your low back as shown. As your left foot lands, let your left heel come as close to the ground as possible without touching and then come up onto your toes as high as possible before pushing off the ground. Take very short steps and walk for 15 meters with your toes pointed straight ahead and repeat for 15 meters with your toes pointed in at a 30 degree angle and again with your toes pointed out 30 degrees.

Reps:

Sets:

Intermediate Exercises

3. Heel Drops

Stand on your toes with both heels over the edge of a stair or ledge (*Figure 3A*). Your knees should be slightly bent for the entire exercise. Lift your left foot off the stair and slowly drop the heel of your right foot down as far as you can (*Figure 3B*). (This should take 5 seconds.) Hold the position for 2 seconds and then put both feet back on the stair and push up onto your toes again. Repeat with your right foot pointed 30 degrees to the right (*Figure 3C*) and 10 reps with your left foot pointed 30 degrees to the left. Try to keep most of your weight on your feet and use your fingertips against a wall to keep your balance.



Figure 3A



Figure 3B



Figure 3C

Reps:

Sets:

4. Single Leg Knee Pointers

Stand with your toes 2-3" away from a wall. Balance on your right foot and slowly bend your right knee until your knee touches the wall (*Figure 4A*). It should take 5 seconds to bend down to the wall. Keep your body weight on your heel and not your toes. Hold this position for 2 seconds without resting your knee against the wall. Repeat by moving your knee 30 degrees to the left (*Figure 4B*) and again 30 degrees to the right (*Figure 4C*). Make sure the movement occurs at the ankle and not by rolling your foot or twisting your hips. For added difficulty do the same exercises with a dynadisc (*Figure 4D*).

Reps:

Sets:



Figure 4A



Figure 4B



Figure 4C

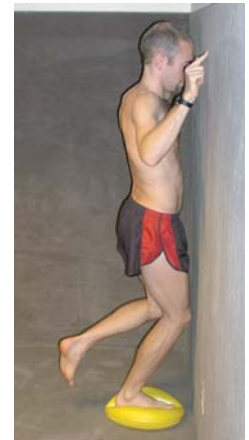


Figure 4D

5. Toe Pointers

Stand approximately 2 feet away from a wall. Balance on your left foot with your right leg extended in front of you. Bend your left knee and bring your right foot straight ahead until your toe touches the wall (*Figure 5A*). Hold this position for two seconds before returning to the starting position. Repeat by angling your right foot and left knee 30 degrees to the right (*Figure 5B*) and again 30 degrees to the left (*Figure 5C*). Make sure that the movement comes from the ankle and not by rolling your foot or twisting your hips. For added difficulty do the same exercises using a Dynadisc.

Reps:

Sets:



Figure 5A



Figure 5B



Figure 5C



Figure 5D

Advanced Exercises

6. Toe Hopping

Hop in place on one leg. Your leg should act like a spring. Do not pause when your foot hits the ground. Your heel should never touch the ground for the entire exercise. Start out with short hops and progress to higher hops.

Reps:

Sets:



Figure 6

7. Low Box Hops

This exercise is very similar to toe hopping except this time you are hopping up and down from a 6" box or stair. Let your heel drop down below the edge of the box.

Reps:

Sets:



Figure 7

Other Exercises

These exercises are not specific exercises to strengthen the calf/achilles complex. They do address certain biomechanical aspects of running that could play into calf/achilles problems and are very good exercises for runners to do on a continuous basis.

8. The Runner

This exercise must be completed using a theraband. Close the knotted end of the band in a door. To strengthen the left side stand with your left side facing the door. Balance on your left leg with the knee slightly bent. With the right leg in front of the left wrap the theraband around your right thigh as shown (Figure 8A). Keeping the left knee slightly bent move your right leg and arms in a running motion. Repeat with the right leg behind the left (Figure 8B). For a more advanced version, when the right leg is in front and you drive the right leg forward straighten your left leg and come up onto your toes at the same time.

Reps:

Sets:



Figure 8A

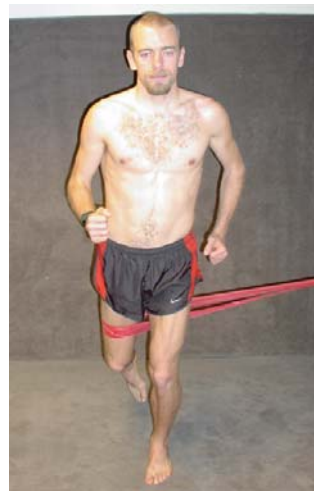


Figure 8B

9. Barefoot Running

Barefoot running is one of the most effective ways to strengthen the muscles in the foot, ankle and lower leg. You should do this on a soft grass surface (the infield on the inside of a track often works well). Make sure that you have no pain when you are actually running barefoot. I recommend running a mile or so barefoot at the end of a run 2-3 times a week. You can also use it as a cool down after a hard workout.



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SMI is a non-profit public benefit corporation dedicated to the prevention and treatment of overuse injuries, optimization of human function and enhancement of athletic performance. Through education, research and the operation of a charitable therapy clinic and human performance lab we help active individuals and athletes of all abilities maximize their potential and function at the highest level possible.

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SMI is a Public Benefit Nonprofit Corporation 501(c)(3) organized exclusively for education and charitable purposes. We are an institute, clinic and community center whose mission is to promote research, clinical development and delivery to the public of functional health services and advanced manual therapy treatments, particularly in the fields of injury prevention, injury rehabilitation and athletic performance. It is a further purpose of this corporation to support under-funded competitive amateur athletes from the youth level through the collegiate and post-collegiate levels, by offering affordable services and financial assistance. Our donation programs are designed to help subsidize the reduced rates that we offer our beneficiaries. If you have any questions regarding donations please contact our Development Manager Rachael Holloway at 650-322-2809 x329. Please keep in mind that donations made to SMI are tax deductible. Our federal tax ID # is 94-3256879.

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