

Advanced Ankle and Foot

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Warm-up, Stretches, and Cool-down for running, aerobics and bicycling

Those involved in professional athletics have long known that what you do before and after you exercise is just as important as what you do while you exercise. A proper exercise routine includes a warm-up and stretches before you begin and a cool-down when you are finished. Your warm-up stretching, and cool-down should each take about five minutes, a total of fifteen minutes that may make the difference between efficient and inefficient – or even harmful – exercise.

This sheet discusses why these fifteen minutes are so important and provides specific warm-ups, stretches, and cool-downs for running, aerobics, and bicycling.

Warming Up

Your muscles use oxygen as fuel. An inactive – cold – muscle needs relatively little oxygen. The harder your muscles work, the more oxygen they need to function.

Oxygen is carried to your muscles in the blood pumped by your heart. As you warm up, the vessels that supply your muscles with blood widen, increasing the amount of blood – and therefore oxygen – that reaches them. As more oxygen reaches your muscles they become more pliable and less vulnerable to injury from straining. They also can contract with more force.

Your heart also benefits from a warm-up, since it needs an increased blood supply to function efficiently during exercise. If you workout without first warming up, your heart may not get enough oxygen to meet the increased demands of exercise, and it may begin to beat irregularly.

You warm up by doing whatever you will do in your actual workout, but at a slower, more relaxed pace. As your level of activity increases, your muscles burn more oxygen, and their temperature rises. Your circulating blood carries excess heat from your muscles to your skin surface, where it is released as perspiration. When you begin to perspire, you know your muscles are warmed, and you are ready for your workout.

Stretching

In every activity, certain muscles are put under more stress than others. Stretching these muscles lengthens and loosens them, so that when you begin your workout they are less likely to be injured. You should stretch only after you warmed up; a cold muscle is more likely to tear when stretched. Perform stretches slowly and deliberately, holding each position for at least five seconds. Do not bounce in the stretched position. Do not stretch farther than feels comfortable. You should feel stretch, not strain, in the appropriate muscle.

Cooling Down

It is unwise to stop exercising abruptly as it is to start exercising abruptly. During your workout your heart has been pumping large amounts of blood to supply your muscles with oxygen. The muscles in your legs have been acting as a second pump, contracting and expanding to push blood up to your heart. If you stop exercising suddenly, your leg muscles stop pumping, and blood pools in your legs instead of returning upwards. The blood supply to your brain is suddenly reduced, making you dizzy. Your heart must increase its pace to compensate for the work the leg muscles had been doing and may begin to beat irregularly due to sudden demand. You cool down by slowly decreasing your level of activity. Blood continues to circulate properly, your heart is not over-taxed, and you finish your workout sensibly and safely, with a well-deserved feeling of accomplishment.

Running

Warm-up - 5 minutes

Begin your warm-up by walking. You can loosen your upper body and arms at the same time by gently twisting from side to side from your waist and swinging your arms in large circles forwards and backwards. Begin to run at a relaxed pace, and gradually increase your speed.

Stretching - 5 minutes

Running primarily works the muscles in the backs of your legs - the hamstring in the upper leg, the calf muscle in the lower leg, and the Achilles tendon in the heel. You should also stretch the groin muscles on the insides of your thighs. See exercises A, B, C.

Cool-down - 5 minutes

Reduce your running speed gradually, finishing with at least two minutes at an easy walking pace.

Aerobics

Warm-up - 5 minutes

An aerobic warm-up can consist of any of your aerobic exercises - jumping jacks, jogging in place, kicks. Begin at a slower than workout level, and gradually increase your efforts.

Stretching - 5 minutes

Aerobics primarily work the muscles in the backs of your legs - the hamstring in the upper leg and the calf muscle in the lower leg - and your lower back muscles. See exercises A, B, C.

Cool-down - 5 minutes

Gradually decrease your level of exertion. Finish your cool-down by dropping your upper body from the waist and hanging loosely for about half a minute.

Bicycling

Warm-up - 5 minutes

To warm up for bicycling, ride at a comfortable speed on flat ground.

Stretching - 5 minutes

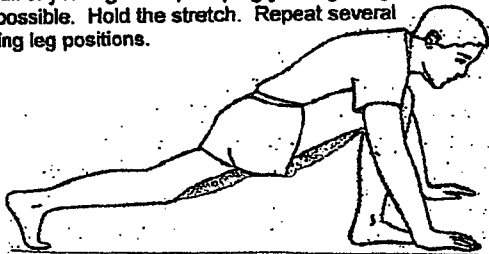
Bicycling primarily works the muscles of the upper legs - the quadriceps in the front and the hamstrings in the back - and the calf muscles in the backs of the lower legs. See exercises A, C, D.

Cool-down - 5 minutes

Gradually reduce your bicycling speed.

A. Hamstring / Groin Stretch

With hands flat on the floor, stretch your right leg behind you, balancing on the ball of your right foot. Bend your left leg so that your left foot is flat on the floor as far up between your hands as feels comfortable. Shift your weight to the ball of your right foot, keeping your right leg as straight as possible. Hold the stretch. Repeat several times, alternating leg positions.



B. Hamstring Stretch

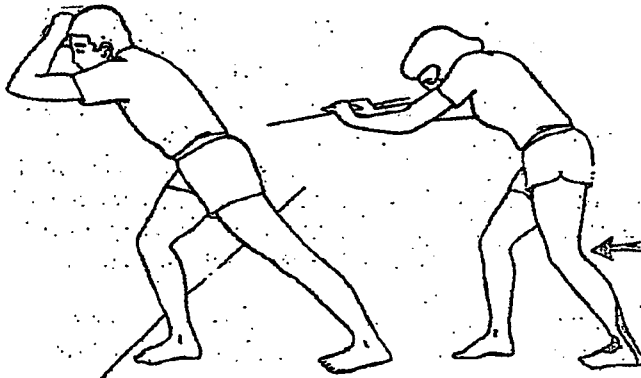
Sit with your legs straight out in front of you, toes pointing up, heels no more than six inches apart. Keeping your back straight, reach towards your toes as far as feels comfortable. Hold the stretch. Repeat several times.



C. Calf / Achilles Tendon Stretch

1. Lean your forearms against a solid support, with your head resting on your arms. Stretch your right leg behind you, keeping it straight, heel on the ground, toe pointed straight ahead. Bend your left leg and place it in front of you, heel flat. Keeping your back straight and both feet flat on the ground, move your hips forward. Hold the stretch. Repeat several times. Reverse the position of the legs and repeat.

2. In the same starting position bend your left leg so that both legs are bent. Hold the stretch. Repeat several times. Reverse the position of the legs and repeat.



D. Quad Stretch

Stand about a foot away from a solid support and lean against it with your right hand for balance. Bend your right leg up behind you and grasp it with your left hand. Gently pull your heel towards your body. Hold the stretch. Repeat several times for both legs, always grasping the foot with the opposite hand.

