Starting Your Workout Safely

Warmups, cooldowns, and proper stretching can prevent injuries.

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By Dana D. Sterner, RN

You're ready, motivated, and excited about starting an exercise program! Walking seems to fit your lifestyle; it's convenient, easy, and fun, and your health practitioner tells you it's a safe activity. To forestall excuses, you plan to work out early in the day. You also want to lose a few pounds, so for greater intensity, you decide to include some speed walking. You're committed!

Wearing new workout apparel, you speed out the front door full of enthusiasm. But about five minutes into your walk, it happens: an injury. Your enthusiasm slowly evaporates as you hobble home, pampering a soft-tissue injury. Depending upon its seriousness, it could set you back six weeks or more.

If this sounds familiar, you're not alone: Most injuries occur within the first six minutes of an exercise routine.[1] Why? Because more than half of those starting a program skip the warmup or cooldown phases to save time.[2,3]

Don't set yourself back

Skipping these phases can cost you time and money. Injuries can also dampen your motivation to restart the activity once you've recovered. According to the Mayo Clinic,[4] the warmup phase allows your body to adjust gradually to the demands of exercise. By avoiding injury to your muscles and putting less strain on your heart, you'll find exercising easier and more enjoyable.

Start with a warmup

Dr. Tommy Thompson, chair of the Health, Physical Education, and Recreation Department of the University of North Carolina at Pembroke, emphasizes that "the purpose of a warmup is to literally warm skeletal muscles by increasing blood flow. A warmup allows heated muscles to stretch further and work harder without tearing."[1]

It gives your body time to divert blood from the internal organs to the working muscles. Blood vessels dilate to reduce blood flow resistance and stress to the heart. As your body temperature and blood flow increase, muscles warm and oxygenate, facilitating contraction and relaxation. Ligaments, tendons, and other connective tissue become more pliable and less prone to strains or tears. Synovial fluid is also warmed and becomes thinner and more easily absorbed by articular cartilage, which swells to cushion more effectively against compression, lowering injury risk.[5,6]

Begin your warmup slowly, targeting the muscles you'll use during your workout. Perform slow, active movements, and increase to more vigorous motions, or a slower walking or jogging pace, for five to seven minutes. This may be all you need.

Starting slowly carries two benefits. First, it prevents premature buildup of lactic acid, a byproduct of anaerobic glycolysis. Lactic acid accumulates in muscle fibers during bouts of short, high-intensity exercise. If you haven't trained your muscles to handle a lactic acid overload, you'll fatigue more quickly. Ever begin jogging without walking first, or arrive late to a fitness class and dive right in to catch up? You might have found yourself exhausted within the first five minutes. A gradual warmup will help lower the oxygen deficit and make breathing easier.[3,7,8]

Second, a warmup also prepares you mentally. It gives you time to adjust to the workout and your surroundings, clearing your mind for concentration. Being focused will help with coordination and reaction time, which also reduces injuries.[3]

Cooldowns are just as vital

Cooling down is the gradual lowering of body temperature and heart and respiratory rates to their pre-warmup states. Ending an exercise activity abruptly can cause a significant drop in blood pressure due to pooling of venous blood from the extremities. You may experience dizziness, fainting, and even muscle spasms or cramping. It takes the body about three minutes to realize it doesn't need to keep pumping additional blood to your muscles. Cooling down affords the body time to divert blood slowly back to the internal organs. As breathing returns to normal, the extra O_2 consumption will remove the excess lactate and waste products from the muscles. Adrenaline in the blood will also decrease to lower your heart rate. Your core temperature will drop to normal, bringing your body back safely to its near-resting state.[3]

A cool down can be simply a slower version of the aerobic activity you just did. Slow from a walk to a stroll, or from a jog to a walk, and give yourself at least five to seven minutes to recover—longer if needed.

Stretching to the finish

Stretching always has been encouraged before and after a workout to help reduce muscle soreness, tightness, and injury. But a study in the *British Medical Journal* concluded that "stretching before or after exercising does not confer protection from muscle soreness."[9] It also suggested more research was needed to determine if stretching reduced injuries. *Medicine and Science in Sports and Exercise* concluded in a research review that there wasn't enough "evidence to endorse or discontinue routine stretching before and after exercise to prevent injury,"[10] but they also called for more study. So, do we need to stretch or not?

The main purpose of stretching is to increase your range of motion within a muscle or joint. Proper stretching can increase flexibility, improve circulation, decrease anxiety and stress, relax tight muscles, and improve coordination. All good reasons to stretch for a healthier you! The best time to stretch is after your cooldown,

when muscles are warm and fatigued. It also gives your body added time to return to its near-resting state after your workout.[3]

There are no absolutes when it comes to preventing exercise injuries. But, by establishing good warmup, cooldown, and stretching techniques, you're on your way to a safer, healthier you.

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