

## WARM UP TO WORK OUT

**S**uppose you were told that you only had to add an extra five to 10 minutes to each of your workouts to prevent injury and lessen fatigue. Would you do it?

Most people would say yes. Then they might be surprised to learn that they already know about those few minutes, which are called a warm-up. If done correctly, a pre-exercise warm-up can have a multitude of beneficial effects on a person's workout and, consequently, his or her overall health.

### What happens in your body?

When you begin to exercise, your cardio-respiratory and neuromuscular systems and metabolic energy pathways are stimulated. Muscles contract and, to meet their increasing demands for oxygen, your heart rate, blood flow, cardiac output and breathing rate increase. Blood moves faster through your arteries and veins and is gradually routed to working muscles.

Your blood temperature rises and oxygen is released more quickly, raising the temperature of the muscles. This allows the muscles to use glucose and fatty acids to burn calories and create energy for the exercise. All of these processes prepare the body for higher-intensity action.

Specifically, a gradual warm-up:

- Leads to efficient calorie burning by increasing your core body temperature
- Produces faster, more forceful muscle contractions
- Increases your metabolic rate so oxygen

is delivered to the working muscles more quickly

- Prevents injuries by improving the elasticity of your muscles
- Gives you better muscle control by speeding up your neural message pathways to the muscles
- Allows you to comfortably perform longer workouts because all of your energy systems are able to adjust to exercise, preventing the buildup of lactic acid in the blood
- Improves joint range of motion
- Psychologically prepares you for higher intensities by increasing your ability to focus on exercise

### Where to Begin

Your warm-up should consist of two phases:

- Progressive aerobic activity that utilizes the muscles that you will be using during your workout
- Flexibility exercises

Choosing which warm-up activity to use is as easy as slowing down what you will be doing during your workout.

For example, if you will be running, warm up with a slow jog, or if you will be cycling outdoors, begin in lower gears.

An ideal intensity for an aerobic warm-up has yet to be established, but a basic guide-

line is to work at a level that produces a small amount of perspiration but doesn't leave you feeling fatigued. The duration of the warm-up activity will depend on the intensity of your workout as well as your own fitness level.

After the aerobic warm-up activity, you should incorporate flexibility/stretching exercises. Stretching muscles after warming them up with low-intensity aerobic activity will produce a better stretch, since the rise in muscle temperature and circulation increases muscle elasticity, making muscles more pliable. Be sure to choose flexibility exercises that stretch the primary muscles you will be using during your workout.

### Make the Time

To fully reap the benefits of the time you are spending exercising, you must warm up. Taking those extra few minutes to adjust to increased activity will ensure a better performance from your body and, in turn, will make your workout more efficient, productive and, best of all, enjoyable.

### Additional Resources

About.com: [www.exercise.about.com/od/exerciseforbeginners/a/anatomyworkout\\_3.htm](http://www.exercise.about.com/od/exerciseforbeginners/a/anatomyworkout_3.htm)

About.com: [www.sportsmedicine.about.com/cs/injuryprevention/a/aa071001a.htm](http://www.sportsmedicine.about.com/cs/injuryprevention/a/aa071001a.htm)

*If you are interested in information on other health and fitness topics, contact: American Council on Exercise, 4851 Paramount Drive, San Diego, CA 92123, 800-825-3636; or, go online at [www.acefitness.org/GetFit](http://www.acefitness.org/GetFit) and access the complete list of ACE Fit Facts® articles.*



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