

# Isometric exercise: Using body weight to lower blood pressure

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When you think about exercise, sweating through a cycling class, adding up miles from a brisk walk or pumping iron in the weight room may come to mind. But there's a different form of exercise that uses

something besides movement to give you a workout. It's isometric exercise, which is gaining attention for its role in helping lower and control your blood pressure.

## **What is isometric exercise?**

Isometric exercise focuses on tightening or contracting a specific muscle or group of muscles. The targeted muscles don't noticeably change in length, and the joints involved don't move. The exercise is done in a static position and relies on your body's weight to help maintain strength and stabilize your joints and core.

Because isometric exercise doesn't involve movement or full range of motion and targets specific muscles, it can improve strength and stability for people recovering from an injury or those with arthritis.

One misconception about isometric exercise is that it involves straining and holding your breath, which can raise your blood pressure. To hold an isometric or static exercise, you need to concentrate on slowly breathing in and out.

New research has revealed that isometric exercise can be an effective tool for preventing or lowering [high blood pressure](#).

## **Why is blood pressure important?**

High blood pressure is harmful because it makes the heart work harder and less efficiently. For a quick review of blood pressure, there are two key numbers when measuring your blood pressure: systolic and diastolic.

The Centers for Disease Control and Prevention define these as:

- Systolic blood pressure: Measures the maximum pressure in the arteries as the heart contracts and relaxes.
- Diastolic blood pressure: Measures the arterial pressure when the heart rests between beats.

Healthy blood pressure is less than 120/80 mm Hg.

## **What are the new research findings about exercise and blood pressure?**

In a large study published in the *British Journal of Sports Medicine*, [researchers examined the recommendations](#) for exercise to help lower blood pressure, which relied on older research that stressed aerobic or cardio exercises like cycling or running. The study also looked at the effects on blood pressure from [high-intensity interval training](#), or HIIT, and isometric exercise.

The authors defined healthy resting blood pressure as below 130/85 mm Hg and high blood pressure as 140/90 mm Hg.

The study authors reviewed 270 trials with 15,827 participants between 1990 and 2023, and compared the results for isometric, HIIT, [aerobic exercise](#), dynamic resistance training and a combination of the last two forms of exercise. Their findings were that isometric exercise led to the most significant reductions in systolic and diastolic blood pressure.

## **How can you build isometric exercise into your workout?**

Isometric exercise is an excellent addition to your cardiovascular and strength training routines.

Wall sits and planks are two of the best isometric exercises for lowering blood pressure. Here's how to do them:

## Wall sit

Stand with your back toward a wall. Step out about 2 feet from the wall. Place your feet firmly on the ground and shoulder-width apart. Slide your back down the wall while keeping your [abdominal muscles](#) tight and bending your legs until they're at 90 degrees or a right angle. It's like sitting in a chair without the chair. Check that your knees are straight above your ankles.

This exercise focuses on your glutes, or buttock, muscles and quadriceps, or thigh, muscles, as well as your abdominal or core muscles.

## Planks

- Wall plank. Stand facing a wall. Place your elbows and forearms on the wall. Take a step back, tuck in your bottom, and tighten your abdominal muscles by pulling your belly button into your spine. Hold for 20 seconds.
- Floor plank on knees. Lie on your stomach and prop yourself up slightly on your forearms. Using your knees and forearms, lift your hips off the floor to about the same height as your shoulders. Hold this position, focusing on using your core muscles, for 20 seconds. To progress to a harder version, press your toes into the floor, then lift your knees off the floor and squeeze your glutes and core to create a plank that involves full-body tension. Think about pulling your belly button into your spine.

Planks focus on your back, shoulders and abdominal muscles.

With both exercises:

- Remember to breathe slowly and regularly to give your muscles the oxygen they need.
- Start by holding the position for 20 seconds. Work your way up to holding the position for two minutes. Strive for doing four sets, with a few minutes between each set, three times a week.

Provided by Mayo Clinic

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