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Lower Your Blood Pressure with This Simple Exercise

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Simple isometric exercises, including wall sits, offer a natural strategy to lower blood pressure

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About eight minutes of isometric training three times a week may be enough to significantly lower blood pressure

Wall squats, planks, glute bridge and the overhead hold are examples of simple isometric exercises you can do virtually anywhere

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For the 48.1% of U.S. adults with high blood pressure,[1] learning how to do simple isometric exercises, including wall sits, may offer a natural strategy for relief. In fact, a systematic review and meta-analysis of 270 randomized controlled trials looked at the effects of multiple types of exercise, including aerobics, high-intensity interval training (HIIT), resistance training and combined training, on blood pressure.

While all were beneficial, isometric exercise came out on top as "the most effective mode in

reducing both systolic and diastolic blood pressure."[2] It turns out that static contraction of muscle as you hold your body in one position, i.e., isometric exercise, may offer blood pressure benefits that some other types of more dynamic movement don't.

Isometric Exercises Improve Resting Blood Pressure

When it comes to exercise recommendations to lower blood pressure, cardio aerobic-type exercises typically come to mind. But, according to researchers from Canterbury Christ Church University, this is outdated advice based on older study data that excludes HIIT and isometric exercise.[3]

The meta-analysis, which included clinical trials that analyzed the effects of exercise for two weeks or more on resting blood pressure, found all types of exercise led to significant reductions in resting systolic and diastolic blood pressure. However, the greatest reductions occurred after isometric training.[4]

The top number of your blood pressure measurement, the systolic, is a measurement of the maximum pressure inside your arteries as your heart contracts. The bottom number, the diastolic, is a measurement of the pressure in your blood vessels when your heart is not contracting. Both numbers are important in determining how much damage may occur over time to your blood vessels and other organ systems.

Effectiveness based on the "surface under the cumulative ranking curve" (SUCRA) values for systolic — which refers to the mean probability of being the best for lowering your systolic blood pressure — placed isometric exercise in the No. 1 slot with an effectiveness rating of 98.3%, followed by combined training (75.7%), dynamic resistance training (46.1%), aerobic exercise training (40.5%) and high-intensity interval training (39.4%).[5]

In rank order, the analysis found significant reductions in resting systolic blood pressure and diastolic blood pressure:

- Isometric exercise (–8.24/–4.00 mmHg)
- Combined training (–6.04/–2.54 mmHg)
- Dynamic resistance training (–4.55/–3.04 mmHg)
- Aerobic exercise (−4.49/–2.53 mmHg)
- High-intensity interval training (–4.08/–2.50 mmHg)

Broken down to individual exercises, wall squats (isometric) were the most effective for reducing systolic blood pressure while running (aerobic) was most effective for reducing diastolic blood pressure. Overall, however, isometric exercise worked best for lowering both systolic and diastolic blood pressure. Study author Jamie O'Driscoll told The Washington Post:[6]

> "Our main message is that actually engaging in exercise is fantastic and any exercise might reduce your blood pressure. But if you're an individual who is currently exercising to the guidelines and you're still having a bit of difficulty reducing that blood pressure and you want to avoid going on medication, perhaps isometrics is an additional mode to complement the exercise you're already doing."

What Are Isometric Exercises?

Isometric exercises are low-impact movements that involve holding a position so the same muscle length is maintained, tiring out your muscles to fatigue.[7] "Any kind of an exercise that is holding tension in any position which doesn't involve dynamic movement is generally isometric exercise," study author Jamie Edwards told The Washington Post.[8] In other words, static contraction defines isometric exercise, examples of which include:[9]

Wall squat	**Isometric calf raise**	**Planking**
Hollow-body hold	**Low isometric squat**	**Static slide lunge**
Overhead hold	**Iso hang**	**Glute bridge**
Incline pushup hold	**V-sit**	**Single-leg stand**

In addition to blood pressure benefits, isometric strength exercises may help strengthen joints better than dynamic strength training,[10] and it's useful for reducing pain while increasing range of motion and functional ability in people with knee osteoarthritis.[11] Isometric training is also beneficial for relieving neck pain, improving joint mobility and improving neck dysfunction.[12]

Past research similarly revealed that isometric resistance training reduces systolic blood pressure by nearly 7 mmHg and diastolic blood pressure by close to 4 mmHg. Performing isometric handgrip exercise also significantly reduces systolic blood pressure and mean arterial pressure, offering another accessible tool for blood pressure health.

As the scientists explained in the journal Medicine, "Low- to moderate-intensity isometric handgrip exercise can be performed anywhere, requires relatively inexpensive equipment, and does not elicit the same level of cardiovascular stress as aerobic exercise."[13] As for how isometric exercise lowers blood pressure so effectively, The Washington Post reported:[14]

> "Isometric exercises effectively lower blood pressure because contracting a muscle and holding the position temporarily reduces blood flow to that muscle, O'Driscoll said. When you release that contraction, blood flow through the muscle tissue increases. This produces important signals that prompt blood vessels to relax more and creates less resistance to blood flow, which ultimately reduces blood pressure, O'Driscoll said."

Eight Minutes of Isometric Exercise, Three Times a Week

How much isometric exercise is necessary to lower blood pressure? Isometric exercise training programs often use protocols involving four, two-minute contractions separated by one to four-minute rest intervals. The sessions are done three times a week.[15] In other words, about eight minutes of isometric training three times a week may significantly lower blood pressure.

A wall sit is one straightforward option that can be easily done in two-minute increments, followed by two minutes of rest and repeated four times. The entire workout is then repeated three times each week. "On average, a regular isometric routine of wall sits lowered systolic blood pressure (the top number) by 10 mmHg and diastolic pressure by 5 mmHg, according to the research," The Washington Post reported.[16]

Meditation Exercises Also Lower Blood Pressure

On the topic of low-impact forms of exercise that are useful for maintaining healthy blood pressure, meditation exercises, particularly qigong, are useful for lowering diastolic blood pressure in people with elevated levels,[17] while research shows meditation may also help lower blood pressure with just three months of practice, while at the same time decreasing psychological distress and increasing coping ability among young adults.[18]

Another group of researchers conducted a meta-analysis involving 13 studies on meditation and yoga for blood pressure health. Blood pressure decreased in response to both meditation and yoga, and meditation appeared to be particularly useful in decreasing the blood pressure of subjects older than 60 years.[19]

The calming effect of meditation has also been shown in numerous studies to benefit blood pressure. In a 2019 study published in the Journal of Human Hypertension, mindfulness meditation was evaluated for its effects on not only blood pressure but also anxiety, stress and depression.

For an eight-week period, participants engaged in mindfulness training for two hours a week, or participated in a control group involving health education talks. The meditation group had lower blood pressure monitoring values after the intervention, and were also less judgmental, more accepting and less depressed than the control group.[20]

Practicing "mindfulness" means you're actively paying attention to the moment you're in right now. Rather than letting your mind wander, when you're mindful, you're living in the moment and letting distracting thoughts pass through your mind without getting caught up in their emotional implications.

What Else Works to Lower Blood Pressure?

If your blood pressure is running high, you need to restore your insulin and leptin sensitivity, and the following strategies are among the most effective for doing so:

- **Replace processed foods with whole, unprocessed organic foods**.
- **Avoiding seed oils —** It would be helpful to also eliminate seeds and nuts unless you have been on a low-LA (linoleic acid) diet for at least three years.
- **Optimize your vitamin D level**.
- **Only use healthy fats —** Sources of healthy fats to add to your diet include grass fed butter, raw organic dairy, organic pastured egg yolks, coconuts, coconut oil and macadamia nuts and grass fed meats. The best carbs to add would be ripe fruit that you tolerate well. But the key is to make sure your fat intake is below 30%, which you can determine with Cronometer. If you fail to do this, the carbs can convert to fat and change your cholesterol profile unfavorably.

- **Exercise regularly**.

Optimizing your sodium to potassium ratio is also important. It's generally recommended that you consume five times more potassium than sodium, but most Americans get the opposite ratio, eating two times more sodium than potassium. If you eat a lot of processed foods, which contain processed table salt, your sodium to potassium ratio is likely out of balance.

While conventional health care practitioners may suggest you remedy this by limiting salt intake, especially when it comes to lowering the risk of high blood pressure, focusing on increasing potassium is key. Research shows an association between higher potassium intake and lower blood pressure, regardless of sodium intake.[21]

To improve your ratio, eliminate processed foods, which are very high in processed salt and low in potassium and other essential nutrients. When using added salt, use a natural salt such as Himalayan salt. Further, eat a diet of whole, unprocessed foods, ideally organically and locally-grown to ensure optimal nutrient content.

This type of diet will naturally provide much larger amounts of potassium in relation to sodium. In my view the absolute best way to increase your potassium is by eating ripe fruit. Taking potassium supplements is not a good strategy and will simply not provide you with the benefits you are seeking. Other examples of potassium-rich foods include:[22]

Spinach	Broccoli	Beet greens
Avocado	Bananas	Cantaloupe
Oranges	Coconut water	Tomatoes
Yogurt	Winter squash	Wild-caught salmon

Latest Obesity Drugs to Do Wonders for Blood Pressure — How Perfect

Eli Lilly's obesity drug tirzepatide — brand name Zepbound — is being positioned as the latest breakthrough to lower blood pressure. The U.S. Food and Drug Administration approved tirzepatide to manage Type 2 diabetes in 2021, under the brand name Mounjaro, a direct competitor to semaglutide (Ozempic). It was then approved to treat obesity in 2023,[23] competing with the popular weight loss drug Wegovy.[24]

Now, however, tirzepatide is being said to "do wonders" for blood pressure,[25] after research published in the journal Hypertension[26] found it led to an average 7.4 mmHg drop in systolic blood pressure among those taking the lowest dose. Those taking the highest dose had an average drop of 8 mmHg.[27] In a statement from the American Heart Association, study author Dr. James A. de Lemos said:[28]

> "Although tirzepatide has been studied as a weight loss medication, the blood pressure reduction in our patients in this study was impressive. While it is not known if the impact on blood pressure was due to the medication or the participants' weight loss, the lower blood pressure measures seen with tirzepatide rivaled what is seen for many hypertension medications."

The news came just days before an announcement by former director of the U.S. Centers for Disease Control and Prevention Tom Frieden called for high blood pressure to be the "focus of the next breakthrough":[29]

> "In 2023, the weight-loss drug Wegovy and similar medications were a scientific and cultural — and profit-making — breakthrough … But what if we had medications that cost 5,000 times less and are better at preventing heart attacks and strokes? And what if only 1 in 5 people who need these medications get them? That's the situation with drugs to treat high blood pressure — and it needs to change."

It seems to be the perfect setup to roll out the next "blockbuster" blood pressure medication, but tirzepatide can cause side effects ranging from nausea and diarrhea to hair loss and gastroesophageal reflux disease.[30]

It also causes thyroid C-cell tumors in rats and, according to the FDA, "contains warnings for inflammation of the pancreas (pancreatitis), gallbladder problems, hypoglycemia (blood sugar that is too low), acute kidney injury, diabetic retinopathy (damage to the eye's retina) in patients with Type 2 diabetes mellitus and suicidal behavior or thinking."[31]

Given these significant risks, it's important to remember that blood pressure can often be effectively lowered via lifestyle changes, including simple isometric exercises.

How to Perform 6 Popular Isometric Exercises

Getting back to isometric exercises, they provide a simple way to support healthy blood pressure while offering additional health gains. Best of all, you can do them virtually anywhere. If you'd like to give it a try, here are six examples of isometric exercises and how to perform them.

1. Wall squat and low squat — For the wall squat, stand with your back flat against a wall, then walk your feet about 1.5 feet (0.5 meter) out from the wall. With your feet shoulder-width apart, back flat against the wall and your abs tight, squat until your knees are bent at a 90-degree angle, or as low as you can comfortably go. Remain squatting for as long as you can, then stand back up by pushing up from your heels.

The low squat is similar, but here you're not using a wall. Start by standing with your feet slightly more than hip-width apart. Keep your hands on your hips, or straight out in front of you. Push your hips back into a sitting position while bending your knees. Keep your spine long (don't round forward). Hold for 10 to 30 seconds, then return to the starting position.

2. High plank and side plank — For the high plank, start in a kneeling pushup with your hands shoulder-distance apart. Straighten your knees, pushing down into the balls of your feet to raise your body into a high plank position, which looks exactly like the upward position of a pushup.

With your hands aligned with your shoulders and legs straight, engage your core and hold for 20 to 60 seconds, or as long as you can maintain proper form.

For the side plank, start out lying on your left side with legs straight (your hips, knees and feet stacked). Bend your left elbow and place your forearm on the ground under your shoulder. Push your left forearm into the ground to lift your torso and hips off the ground.

Engage your core to maintain your body in a straight line from head to heel. You can keep your right arm by your side or stretched up in the air. Hold for at least 10 seconds. Lower your torso down and switch sides.

3. Overhead hold — Using a suitable weight (based on your level of fitness) with both hands, engage your core and extend your arms above your head. Keep your arms fully extended and in line with your shoulders. Hold the weight steady over your head for 20 to 30 seconds.

4. Glute bridge — Lie on your back. Bend your knees so that your heels are about 12 to 16 inches from your behind. Keep your arms by your sides. Press into your heels, brace your core, and push your pelvis upwards by squeezing your glutes. Maintain the bridge position for 30 seconds without letting your hips sink.

5. Hollow-body hold — Lie on your back with your legs extended toward the ceiling, perpendicular to the floor. Squeeze your core to press your low back into the floor, then raise your head and shoulders a few inches off the floor while simultaneously lowering your legs as close to the floor as possible. Hold until you can't hold any longer, then lower your head and shoulders to the floor.

6. Incline pushup hold — Place your hands on a sturdy surface, such as a bench or low table. Position your hands slightly wider than your shoulders. Walk backward until you're in a pushup position, with your body weight supported on your hands and the balls of your feet. Engage your core and make sure your shoulders are not pushing up toward your ears.

Bend your elbows as in the downward motion of a pushup until your chest nearly touches the bench or table. Your arms should flare outward, forming 45-degree angles with your torso. Pause here and hold as long as you can, then step forward to stand up.

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Notes

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