

“Beet” high blood pressure naturally with this misunderstood root veggie— and see the results in *just 10 days!*

If you're of a certain age, you may remember when beets were dreaded—and considered DREADFUL.

The smell of it boiling would waft through the house. Come mealtime, there it was—that bright red vegetable that bled onto everything else on your plate.

True, this so-called “blood turnip” has a way of staining everything in its path... so well that it's actually been used as a red dye since the 16th century.

But people have actually used the humble beet to treat illnesses relating to the circulatory system since the Middle Ages—giving it a “bloody” reputation way beyond its deep color.

And we now know that beetroot can actually keep your blood vessels healthy and lower your blood pressure, without the use of drugs.

Modern chefs have found a way to make beets a bit more fashionable these days, with fancy restaurants charging an arm and a leg for dishes that once came out of grandma's kitchen.

But if you still wince at the thought of actually *eating* beets... if their widely-praised “earthy” flavor just tastes like dirt to you... then you may want to consider an easy and relatively painless way of drinking your beets with beetroot shots.

You won't even have to hold your nose!

The signal that tells your cells to relax

Beetroot is very high in a naturally-occurring substance called nitrate. Your body converts the nitrate in beetroot to nitrite, and then the

nitrite gets converted to something called “nitric oxide.”

Nitric oxide has been big in the scientific community for more than 25 years. It's a small molecule made up of one part of nitrogen and one part of oxygen—the two substances that form most of the air we breathe.

In 1998, three American scientists were awarded a Nobel Prize for their research on nitric oxide six years prior,¹ which earned it the title of “Molecule of the Year” in the journal *Science* in 1992.²

Nitric oxide is what scientists call a cell-communication molecule—although, technically, it's a gas. It tells cells in the body, specifically the endothelial cells that line blood vessels, to relax and stay flexible instead of stiffening up.

GET HEALTHIER,
WIDER, AND MORE FLEXIBLE
BLOOD VESSELS

The result: healthier, wider, and more flexible blood vessels... and, as a result, lower blood pressure.³

Don't confuse it, though, with NITROUS oxide, the so-called laughing gas dentists sometimes use as an anesthetic. That's a whole other level of relaxation!

Now you're cooking with gas!

Just recently, I've seen a surge in really great research on beetroot “shots” and juice for lowering blood pressure.



This is an important advancement, since one in every three American adults has high blood pressure.⁴

Based on the research, I'm going to say that beetroot shots (which are sold in small 2.4-ounce bottles) might very well be one of the best natural treatments for hypertension.

In one of the studies, researchers in London asked 68 people to drink a cup of either beetroot juice or nitrate-free beetroot juice daily. In the end, the researchers found that the regular beetroot juice lowered blood pressure, but the nitrate-depleted beetroot juice did not.⁵

The same researchers reported similar benefits among people who had elevated cholesterol levels. After six weeks, beetroot juice led to almost a 25 percent improvement in blood vessel flexibility, along with a slightly lower risk of blood clots. People in the placebo group (those taking nitrate-depleted beetroot juice) actually worsened.⁶

Most studies have shown clinically meaningful reductions in both systolic blood pressure (the upper number) than in diastolic blood pressure

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BEETROOT (continued from previous page)

(the lower number).⁷ For example, a small study in Brazil found that beetroot concentrate reduced systolic blood pressure by 6.2 mm Hg and diastolic blood pressure by 5.2 mm Hg. Furthermore, the subjects' heart rate decreased by seven beats per minute, another sign of a healthier heart.⁸

Beets have got the competition beat

You'll find plenty of nitrate in celery, lettuce, arugula, and spinach—but beetroot is, hands down, the richest source and, studies have shown, the most effective in protecting your heart health.

It not only works better... but its effects also last longer.

Researchers in the Netherlands tested four different nitrate-rich drinks on healthy and physically active men and women with normal blood pressure over the course of five weeks. Each drink contained 800 mg of nitrate:

1. concentrated beetroot juice
2. fresh arugula
3. fresh spinach
4. sodium nitrate

The drinks lowered systolic blood pressure anywhere from 3 to 6 mm Hg during the same time, except for the drink with sodium nitrate.⁹

But it gets interesting when you consider that while all of the drinks reduced diastolic blood pressure by several points, beetroot concentrate had the *greatest* effect—7.5 mm Hg lower.

Not only that, but the beetroot juice kept blood pressure lower for *at least five hours*.

Improve physical performance... on and off the field

You don't need to have blood pressure issues in order to benefit from beetroot shots—because there's also good research showing that the bi-

ologically-active ingredient in beetroot might even help improve energy and exercise performance.

For example, people with heart failure typically experience a serious reduction in muscle strength, poorer exercise capacity, and a lower overall quality of life.

KEEP YOUR BLOOD VESSELS HEALTHY AND LOWER YOUR BLOOD PRESSURE, WITHOUT DRUGS

The heart just doesn't have enough energy pump enough blood.

With that in mind, a team of physicians and researchers in St. Louis asked nine patients with heart failure to drink either nitrate-rich beetroot juice or beetroot juice with the nitrate removed.

The patients had about a 10 percent improvement in leg strength just two hours after taking the nitrate-rich beetroot—and that's pretty significant for people with heart failure.¹⁰

Nitrate and beetroot has also taken many professional and college sports teams by storm, because the nitrate in

beetroot enables blood vessels to flex under strenuous physical activity.

For example, England's underdog Leicester City soccer team won a major title in 2016, and the Auburn Tigers football team in Alabama had unexpected winning streaks—all apparently because the players had started taking nitrate-rich beetroot shots.¹¹

Now, I suspect a lot of hard training and team play went into their victories as well, but the nitrate in beetroot does appear to increase the efficiency of mitochondria, the energy factories of our cells.

It also helps athletes use less oxygen, which makes for more efficient exercise and better endurance.^{12,13}

Even recreational athletes can benefit, based on the studies done so far.

A double shot of energy (without the caffeine)

Note that the beets we're talking about are *not* the genetically-modified sugar beets used for making table sugar.

Instead, the juice is squeezed out of the red beetroots you cook with, use in salads, or have in beet soup (also known as borscht).

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Go beet red to stay sharp

Beetroot might also be able to help people with type 2 diabetes who have subtle cognitive problems.

In diabetics, those issues get worse with age—at a faster rate than among people without diabetes—putting them at greater risk for developing Alzheimer's disease.

At the University of Exeter Medical School in the UK, researchers tested seniors with type 2 diabetes, giving them either nitrate-rich or nitrate-depleted beetroot juice.

The subjects underwent cognitive tests before and after drinking beetroot juice daily for two weeks.

By the end of the study, people drinking nitrate-rich beet juice had a significant improvement in their reaction time.¹⁵



But it appears that most of the studies used either Beet It® Sport Shots or Beet It® juice. The 2.4-ounce shots (the equivalent of about two mouthfuls) contain a standardized 400 mg of nitric oxide, which can be taken in two doses (on two subsequent days) to lower blood pressure.

Taking more than 400 mg daily has no additional benefits.

Beetroot is an acquired taste, so I recommend the shots because you have to consume less than the juice, which contains approximately 180 mg of nitrate in an eight-ounce glass.

You can buy Beet It® online or at many natural foods stores. The shots do contain some lemon juice to improve the flavor, but if it's still a little too "beet-y" for you, you can pour the contents into a glass and then add a little stevia to sweeten the flavor.

Research has shown that blood nitrate levels reach their peak two or three hours after drinking beetroot, and those levels remain high for six to nine hours. So, the key would seem to be drinking beetroot shots or juice a couple hours or so before exercising.¹⁴

What's more, you should see a reduction in blood pressure within 10 days of consistently taking the product.

Note that drinking beetroot—just like eating lots of beets—might turn your urine pink. This isn't harmful, but you should advise your doctor if you happen to give a sample, because he might otherwise think the pink color is blood in your urine! **HR**

1. www.nobelprize.org/nobel_prizes/medicine/laureates/1998/press.html
2. The molecule of the year. *Science* 18 Dec 1992; Vol. 258, Issue 5090, pp. 1861 DOI: 10.1126/science.1470903 <http://science.sciencemag.org/content/258/5090/1861>
3. Lara J, Ashor AW, Oggioni C, Ahluwalia A, Mathers JC, Siervo M. Effects of inorganic nitrate and beetroot supplementation on endothelial function: a systematic review and meta-analysis. *Eur J Nutr*, 2016;55(2):451-9. doi: 10.1007/s00394-015-0872-7.
4. www.cdc.gov/bloodpressure/facts.htm
5. Kapil V, Khambata RS, Robertson A, et al. Dietary nitrate provides sustained blood pressure lowering in hypertensive patients: a randomized, phase 2, double-blind, placebo-controlled study. *Hypertension*, 2015;65:320-327.
6. Velmurugan S, Gan JM, Rathod KS, et al. Dietary nitrate improves vascular function in patients with hypercholesterolemia: a randomized, double-blind, placebo-controlled study. *American Journal of Clinical Nutrition*, 2016;103:25-38.
7. Siervo M, Lara J, Ogbonmwan I, et al. Inorganic nitrate and beetroot juice supplementation reduces blood pressure in adults: a systematic review and meta-analysis. *J Nutr*, 2013;143(6):818-26. doi: 10.3945/jn.112.170233.
8. Silva DV, Silva Fde O, Perrone D, et al. Physicochemical, nutritional, and sensory analyses of a

Did You Know?

If you want to put on your scientist's cap, you can actually check out your own nitrate levels.

It's easy to do, thanks to Berkeley Test's reliable nitrate test strips.

All you do is dab a little bit of saliva on a strip, and you can measure your nitrate levels (and indirectly, your nitric oxide levels) before and maybe an hour after having a beetroot shot.

You can order saliva test strips from Amazon.com.

- nitrate-enriched beetroot gel and its effects on plasmatic nitric oxide and blood pressure. *Food and Nutrition Research*, 2016;60:29909. doi: 10.3402/fnr.v60.29909.
9. Jonvik KI, Nyakayiru J, Pinckaers PJ, et al. Nitrate-rich vegetables increase plasma nitrate and nitrite concentrations and lower blood pressure in healthy adults. *Journal of Nutrition*, 2016;146:986-993.
10. Coggan AR, Peterson LR. Dietary Nitrate and Skeletal Muscle Contractile Function in Heart Failure. *Curr Heart Fail Rep*, 2016;13(4):158-65. doi: 10.1007/s11897-016-0293-9.
11. www.nutraingredients.com/Research/Leicester-City-s-secret-weapon-Beetroot-juice
12. Jones AM. Dietary nitrate supplementation and exercise performance. *Sports Med*, 2014;44 Suppl 1:S35-45. doi: 10.1007/s40279-014-0149-y.
13. Affourtit C, Bailey SJ, Jones AM, Smallwood MJ, Winyard PG. On the mechanism by which dietary nitrate improves human skeletal muscle function. *Front Physiol*, 2015;6:211. doi: 10.3389/fphys.2015.00211.
14. Jones AM. Dietary nitrate supplementation and exercise performance. *Sports Med*, 2014;44 Suppl 1:S35-45. doi: 10.1007/s40279-014-0149-y.
15. Gilchrist M, Winyard PG, Fulford J, et al. Dietary nitrate supplementation improves reaction time in type 2 diabetes: development and application of a novel nitrate-depleted beetroot juice placebo. *Nitric Oxide*, 2014;40:67-74. doi: 10.1016/j.niox.2014.05.003.
16. Kang JH, Willett WC, Rosner BA, et al. Association of Dietary Nitrate Intake With Primary Open-Angle Glaucoma: A Prospective Analysis From the Nurses' Health Study and Health Professionals Follow-up Study. *JAMA Ophthalmology*, 2016;1-11.

The benefits of beetroot can be eye-opening!



Another study suggests that nitrate-rich foods might reduce the risk of open-angle glaucoma, the most common form of this eye disease.

Researchers at the Harvard Medical School analyzed data collected from over 100,000 male and female subjects every two years, from the mid-1980s through 2012.

Those with the highest daily intake of nitrate—approximately 240 mg daily—had a 21 percent lower risk of open-angle glaucoma and a 44 percent lower risk of glaucoma with the early stages of vision loss.¹⁶

Now, this study focused on nitrate-rich vegetables, and most of the subjects got their nitrate from leafy green vegetables and not specifically beetroot.

But considering how much more nitrate beetroot has than those other vegetables, imagine what it could do for the eyes as well as the heart!