

## 6 Potential Benefits of Berberine You Should Know About

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**Berberine is a natural supplement said to have health benefits, from lowering blood sugar to helping weight loss. Is it worth the hype?**

### **What is berberine?**

There are a plethora of over-the-counter supplements filled with promises of better health. But one in particular stands out from the rest: berberine.

Based on the attention it's been getting recently, it may seem like berberine just crashed onto the supplement scene. But it's far from new.

Typically used in traditional Chinese medicine, the natural supplement is a yellow compound found in the roots, rhizomes, and stem barks of many plant species, including goldthread, Oregon grape, and barberry.

The bright yellow compound, which is a class of isoquinoline alkaloids, is getting lots of buzz for its potential health benefits.

It has a cholesterol-lowering effect, which may help prevent heart disease. And it has the potential to help lower blood sugar, which may help prevent type 2 diabetes and manage other types of diabetes.

Berberine may even help fight cancer, improve symptoms of ulcerative colitis and irritable bowel syndrome, and more.

Here's everything you need to know about berberine and its potential health benefits.

## **Potential benefits of berberine**

It's no wonder berberine has stood the test of time. It's a promising treatment for a variety of health ailments.

"Berberine is also quite antimicrobial and anti-inflammatory, and it is used to treat bacteria, fungus, parasites, viruses, and other microbes," says Rosia Parrish, a licensed naturopathic doctor and functional medicine specialist at Boulder Natural Health in Boulder, Colorado.

Because it has antimicrobial properties, berberine has an effect on the digestive tract.

"Plus, it helps with bile and bilirubin secretion," says Parrish. Bile is a fluid released from the liver to aid in digestion. The waste product bilirubin is a pigment found in bile.

## **Lower blood sugar**

One in 10 people in the United States has diabetes, 90 to 95 percent of whom have type 2.

Recent studies on the potential health effects of berberine have caught the attention of health care professionals and people looking for natural ways to treat diabetes.

"It seems that berberine may slightly reduce blood glucose levels and may be as effective as [the diabetes drug] metformin," says Dana Hunnes, a senior dietitian at the Ronald Reagan UCLA Medical Center and professor at the Fielding School of Public Health in Los Angeles.

In a 2018 *Oncotarget* review, researchers found berberine could be an effective treatment for people with type 2 diabetes. Its blood sugar-lowering effects, they

wrote, were comparable to metformin, a common drug prescribed to regulate high blood sugar.

An earlier meta-analysis found berberine to be just as potent a glucose-lowering therapy as prescription meds like Avandia and Glucotrol.

Take all of this with a grain of salt, though. Many of the studies on berberine and diabetes are reviews of previously published studies, not randomized, controlled trials that put berberine head to head with a diabetes medication. The few studies we do have are fairly small, so it's hard to say for sure whether the supplement can really help.

More research is needed, but the researchers say a combination of berberine and metformin might allow a reduction in the dosage of each drug and have fewer side effects from using one or the other drug.

Before you try berberine, you'll need to talk to your doctor—especially if you take insulin. You want to be sure you don't experience low blood sugar as a result.

(Check out 10 more promising herbs and supplements for diabetes.)

## **Lower cholesterol**

Heart disease is the leading cause of death in the United States, and high cholesterol is a major culprit.

When fatty deposits build up from high cholesterol, they can cause clogged arteries and impede blood flow to the heart and body. Lowering cholesterol assists in fighting heart disease.

Studies have shown that berberine can help reduce cholesterol levels in some individuals.

In a study in *Phytomedicine*, obese participants were given 500 milligrams of berberine three times a day for 12 weeks. The results revealed a reduction in blood lipid levels and mild weight loss.

This is just one study, of course. Researchers will need to conduct more human studies to determine whether the supplement can really lower cholesterol. But it's a promising sign that berberine may help you keep your ticker healthy.

For people who don't tolerate statins, the most common type of drug for treating high cholesterol, berberine may be a safe alternative to consider.

## **Prevent recurring UTIs and cystitis**

Berberine might help women avoid the pain and burning of recurring urinary tract infections (UTIs) and bladder inflammation known as cystitis.

"I typically use it for infections, including urinary tract infections and cystitis," says Parrish.

In a 2018 randomized controlled trial, published in the *Journal of Chemotherapy*, a combination of different plant extracts (including berberine) was used to evaluate the effectiveness in preventing the recurrence of UTIs. Group A received berberine, arbutin, and birch.

Meanwhile, Group B got berberine, arbutin, birch, and forskolin. Group C received proanthocyanidins, plant compounds that researchers believe are responsible for cranberry juice's ability to treat UTIs.

Participants in the groups A and B had a lower number of recurrent cystitis during treatment and follow-up, with a lower median bacterial load than the Group C.

## **Lose weight**

Maintaining a healthy weight protects us from heart disease, type 2 diabetes, stroke, osteoarthritis, and certain types of cancer. Berberine may help with weight loss and assist in shrinking belly fat.

In a small study published in the journal *Evidence-Based Complementary and Alternative Medicine*, 37 men and women with metabolic syndrome took 300 milligrams of berberine three times a day for three months.

At the end of the study, their body mass indexes (BMIs) dropped from an obese range to an overweight range. They also lost an average of two inches around their waists.

Again, this study had limitations, including its small sample size. Further research is needed, particularly with larger groups, to validate the findings.

Overweight or obese people may want to try berberine in conjunction with a healthy diet and exercise regimen to enhance weight loss. Just know that you won't be able to pop a supplement and lose the weight quickly.

## **Find digestive relief**

The anti-inflammatory and antimicrobial aspects of berberine may support the gut microbiome of people with gastrointestinal ailments, diarrhea, and bacterial overgrowth due to irritable bowel syndrome, ulcerative colitis, and other inflammatory bowel diseases.

In a randomized, placebo-controlled study published in *Phytotherapy Research*, patients with diarrhea-predominant irritable bowel syndrome took 400 milligrams of berberine a day for eight weeks, resulting in improvements in diarrhea frequency and urgency, and abdominal pain.

Parrish says she prescribes berberine for digestive microbial imbalances when treating small intestinal bacterial overgrowth or pathogenic digestive bacteria.

## **May help prevent certain cancers**

Supplemental berberine might reduce colorectal polyps, according to a double-blind, placebo-controlled trial published in 2020 in *The Lancet Gastroenterology & Hepatology*.

The study included nearly 900 people in China between the ages of 18 to 75 who had polyps removed during a colonoscopy. (Most intestinal polyps are benign, but some can become cancerous.)

After the procedure, the people were randomly assigned to take 300 milligrams of berberine twice daily or a placebo, and followed up one and two years later.

None of the participants developed colorectal cancer during the study, but those taking berberine had fewer recurrent polyps (36 percent) compared with placebo takers (47 percent).

According to the researchers, berberine could be a low-cost and safe option to help prevent colorectal cancer. Also, no serious side effects were reported.

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## **How do people use berberine?**

Berberine is available as an extract and in powder or capsule form. (Parrish prefers the capsules.)

Most of the time, berberine supplements include other botanicals and herbs aimed at treating a given condition. For example, people with diabetes might buy a berberine supplement with cinnamon, which has been associated with lowering blood sugar.

“Many herbs have synergistic effects when taken together, so I may use more than one ingredient to create a botanical supplement blend,” Parrish says.

Numerous studies on berberine cite dosages between 900 to 1,500 milligrams per day. Typically, the dosage is 500 milligrams, three times per day.

Even with the study recommendations, you should ask your primary health care provider if berberine is safe and how much you should use.

“If you get the green light from your doctor, look for a third-party certification from NSF International, UL, or NSF on the label,” Parrish suggests. Since supplements aren’t reviewed by the Food and Drug Administration (FDA), third-party certification is one way to ensure safety.

She also advises making an appointment with a naturopathic doctor who knows your complete medical history and will work alongside your primary care physician.

## **Risks or side effects**

As with any supplement or medication, some side effects might occur.

Studies note berberine is generally well-tolerated.

However, some people may experience headaches, skin irritation, nausea, cramping, vomiting, diarrhea, constipation, or a slow heart rate if berberine is taken in high doses.

## **Talk to your doctor.**

Parrish stresses the importance of talking to your physician before taking berberine.

“Berberine has a number of interactions with pharmaceutical drugs, other botanical medicine, so please work with a doctor to ensure proper monitoring,” she says.

## **Watch your blood sugar levels.**

Berberine has the capacity to lower blood sugar, but there’s a risk of your levels going too low, especially if you are already taking prescription diabetes medicines like insulin.

Hypoglycemia is a dangerous health condition that occurs when sugar levels dip too low.

If you have diabetes, you’ll want to regularly check your blood sugar to make sure it’s not dipping too low. And anyone who takes berberine will want to keep an eye on their blood sugar levels with regular lab tests.

“It is important to monitor with labs to ensure people are in a healthy range and not lowering their levels too much,” advises Parrish.

## **Don’t take when pregnant.**

Due to the lack of studies, Parrish says pregnant women should avoid berberine.

## **Should you use berberine?**

When it comes to using berberine for weight loss, lowering blood sugar, or improving cholesterol, Hunnes says your best chance of improving your overall health is to eat a plant-based diet.

“People who eat a whole-foods, plant-based diet have a lower BMI and weight, have lower blood glucose levels, lower cholesterol levels, and can prevent and reverse certain chronic diseases, including hypertension, diabetes, and coronary heart disease,” she says. “The data is very strong to support this. The data for supplements is very weak in comparison.”

Berberine may be something worth trying when dealing with recurring UTIs or frequent diarrhea in bowel diseases.