



12 Benefits of Ginkgo Biloba (Plus Side Effects & Dosage)



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Ginkgo biloba is rich in antioxidants and can help reduce inflammation. It may also be beneficial for heart health, brain function, and eye health, along with several other conditions.

Ginkgo biloba, or maidenhair, is a tree native to China that has been grown for thousands of years for a variety of uses.

Because it's the only surviving member of an ancient order of plants, it's sometimes referred to as a living fossil.

While its leaves and seeds are often used in traditional Chinese medicine, modern research primarily focuses on ginkgo extract, which is made from the leaves.

Ginkgo supplements are associated with several health claims and uses, most of which focus on brain function and blood circulation.

Here are 12 benefits of ginkgo biloba.



Kristin Duvall/Stocksy

1. Contains powerful antioxidants

Ginkgo's antioxidant content may be the reason behind many of its health claims ([1](#) ✓, [2](#) ✓).

Ginkgo contains high levels of [flavonoids](#) and terpenoids, which are compounds known for their strong antioxidant effects ([3](#) ✓).

[Antioxidants](#) combat or neutralize the damaging effects of free radicals ([4](#) ✓).

Free radicals are highly reactive particles that are produced in the body during normal metabolic functions, such as converting food to energy or detoxification ([4](#) ✓).

Yet, they also have the potential to damage healthy tissues, contributing to accelerated aging and disease development ([4](#) ✓).

Research on ginkgo's antioxidant effects is promising. However, it remains unclear exactly how it works and how effective it may be at treating specific diseases.

SUMMARY

Ginkgo contains potent antioxidants, which fight the damaging effects of free radicals and may be behind most of its health claims.

2. Can help reduce inflammation

Inflammation is part of the body's natural response to injury or invasion by a foreign substance.

In the inflammatory response, various components of the immune system are recruited to fight against the foreign invader or heal the injured area.

Some chronic diseases trigger an [inflammatory response](#) even when there is no illness or injury present. Over time, this excessive inflammation can cause permanent damage to the body's tissues and DNA ([5](#)).

Years of animal and test-tube research shows that ginkgo extract can reduce markers of inflammation in both human and animal cells in a variety of disease states ([2](#), [6](#), [7](#)).

Some specific conditions in which ginkgo extract has shown to reduce inflammation include ([8](#), [9](#), [10](#)):

- [arthritis](#)
- inflammatory bowel disease (IBD)
- [cancer](#)
- heart disease
- stroke

While this data is encouraging, human studies are needed before drawing

concrete conclusions about ginkgo's role in treating these complex diseases.

SUMMARY

Ginkgo has the ability to reduce inflammation caused by various conditions. This may be one of the reasons it has such broad health applications.

3. Improves circulation and heart health

In traditional Chinese medicine, ginkgo seeds were used to open “channels” of energy to different organ systems, including the kidneys, liver, brain, and lungs.

Ginkgo's apparent ability to increase blood flow to various parts of the body may be the origin of many of its supposed benefits.

One older study in people with heart disease who supplemented with ginkgo revealed an immediate increase in blood flow to multiple parts of the body. This was attributed to a 12% increase in levels of circulating [nitric oxide](#), a compound responsible for dilating blood vessels (11).

Similarly, another 2008 study showed the same effect in older adults who were treated with ginkgo extract (12).

Additional research also points to ginkgo's protective effects on heart health, brain health, and stroke prevention. There are multiple potential explanations for this, one of which may be the anti-inflammatory compounds present in the plant (13, 14, 15).

More research is needed to fully understand how ginkgo affects circulation and heart and brain health.

SUMMARY


Ginkgo can increase blood flow by promoting the dilation of blood vessels. This may have applications for the treatment of diseases related to poor circulation.


4. Reduces symptoms of psychiatric disorders and dementia

Ginkgo has been repeatedly evaluated for its ability to [reduce anxiety](#), stress, and other symptoms associated with Alzheimer's disease and cognitive decline linked to aging.

Overall, research results are inconsistent in this area.

Some studies show a marked reduction in the rate of cognitive decline in people with dementia using ginkgo, but others fail to replicate this result.

For example, one review of 21 studies revealed that when used in conjunction with conventional medicine, ginkgo extract may increase functional capabilities in those with mild Alzheimer's ([16](#) )

Another review evaluated four studies and found a significant reduction in a spectrum of symptoms associated with dementia when ginkgo was used for 22–24 weeks ([17](#) )

These positive results could be related to the role that ginkgo may play in improving blood flow to the brain, especially as it relates to vascular types of dementia.

Overall, it's too soon to definitively state or refute ginkgo's role in treating dementia, but recent research is beginning to make this piece clearer.

SUMMARY

It cannot be concluded that ginkgo treats Alzheimer's and other forms of dementia, but it might help in some cases. The chances of it helping seem to increase when used alongside conventional treatment.

5. Improves brain function and well-being

There is some speculation that ginkgo may [enhance brain function](#) in healthy individuals.

A handful of small, older studies support the notion that supplementing with ginkgo may increase mental performance and perceived well-being ([18](#) ✓, [19](#) ✓).

Results from studies like these have given rise to claims linking ginkgo to improved memory, focus, and attention span.

However, a 2012 review of research on this relationship concluded that supplementing with ginkgo did not result in any measurable improvements in memory, executive function, or attention capacity ([20](#) ✓).

While supplementing with ginkgo may improve mental capability, more studies are needed.

SUMMARY

Some research shows that ginkgo may improve mental performance in healthy people, but the data is inconsistent.

6. Can reduce anxiety

Some research indicates that supplementing with ginkgo may reduce

[symptoms of anxiety.](#)

A handful of animal studies have observed reductions in anxiety symptoms that may be attributed to the antioxidant content of ginkgo ([21](#), [22](#)).

In one 2007 study, 170 people with generalized anxiety were treated with either 240 milligrams (mg) of ginkgo, 480 mg of ginkgo, or a placebo. The group treated with the highest dose of ginkgo reported a 45% greater reduction in symptoms of anxiety, compared to the placebo group ([23](#)).

While supplementing with ginkgo may reduce anxiety, it's still too early to draw any definitive conclusions from the available research.

SUMMARY

Some research shows that ginkgo may help treat anxiety, though this is likely due to its antioxidant content.

7. Can treat depression

A review of animal studies suggests that supplementing with ginkgo may help treat symptoms of depression ([22](#)).

One human study in 136 older adults also found that ginkgo biloba extract could improve symptoms of [depression](#) and reduce levels of S100B, a marker of brain injury, when paired with an antidepressant ([24](#)).

Another study showed that older adults with post-stroke depression who took ginkgo biloba extract alongside an antidepressant for 8 weeks experienced significant reductions in symptoms of depression compared to taking an antidepressant alone ([25](#)).

Nonetheless, depression is a complex condition that may have a variety of root causes.

More research is needed to better understand the relationship between


ginkgo and how it may affect depression in the general population.


SUMMARY

Some studies in animals and humans suggest that ginkgo biloba may help reduce symptoms of depression, especially if used alongside other treatments. However, more research is needed.

8. Can support vision and eye health

Very little research has investigated how ginkgo relates to vision and [eye health](#). However, early results are promising.

One review showed that people with glaucoma who supplemented with ginkgo experienced increased blood flow to the eye, but this didn't necessarily translate to better vision ([26](#) )

Another 2013 review of two studies evaluated the effect of ginkgo extract on the progression of age-related macular degeneration. Some participants reported an improvement in vision, but this wasn't statistically significant across the board ([27](#) )

Many of these positive results seem to be related to increased blood flow to the eye.

It's unclear if ginkgo would improve vision in those who don't already have vision impairment.

More research is needed to determine whether ginkgo can increase vision capacity or slow the progression of degenerative eye disease.

SUMMARY

Some early research shows that supplementing with ginkgo may increase blood flow to the eyes but not necessarily improve vision. More research is needed.

9. Can treat headaches and migraines

In traditional Chinese medicine, ginkgo is a very popular [treatment for headaches](#) and migraines (28 ✓).

Very little research is available on ginkgo's ability to treat headaches. However, depending on the root cause of the headache, it may help.

For example, it's well known that ginkgo has anti-inflammatory and antioxidant effects. If a headache or migraine is caused by excessive stress, ginkgo may be useful (3 ✓).

Additionally, if a headache is related to reduced blood flow or constricted blood vessels, ginkgo's ability to dilate blood vessels may improve symptoms (15 ✓).

On the contrary, some migraines are caused by the excessive dilation of blood vessels. In this situation, ginkgo may have little to no effect (29).

Keep in mind that these examples are just inferences and don't substitute hard evidence.

If you want to try ginkgo for your migraines, it's unlikely that it will cause much harm. Just be aware that it may not necessarily help.

SUMMARY

Because of its ability to increase blood flow and reduce inflammation, ginkgo may be an effective treatment for some types of headaches. However, more research is needed.

10. Can improve asthma and COPD symptoms

Some research indicates that ginkgo may improve symptoms of asthma and other inflammatory respiratory diseases like [COPD](#).

This is attributed to the anti-inflammatory compounds in ginkgo, which may allow for reduced inflammation of the airways and increased lung capacity ([7](#)).

One older study in 75 people evaluated the use of ginkgo extract alongside glucocorticosteroid medication therapy for managing asthma symptoms ([30](#)).

The levels of inflammatory compounds in the saliva of those who received ginkgo were significantly lower than those who received traditional medication alone ([30](#)).

Another 2013 study in 100 people evaluated the use of a mixture of Chinese herbs, which included ginkgo, for treating COPD symptoms ([31](#)).

Those who used the herbal formula reported a considerable reduction in cough and bronchitis at a 3-month follow-up, compared to the control group ([31](#)).

At this point, it cannot be determined if this improvement can be attributed to ginkgo alone, or if it was a synergistic effect of the other herbs used in the treatment group formula.


While these results are encouraging, more research on this specific application of ginkgo is needed.


SUMMARY

Ginkgo may treat symptoms associated with respiratory diseases because of its anti-inflammatory effects. More research is needed.

11. Reduces PMS symptoms

Preliminary research indicates that ginkgo may help treat both the physical and psychological symptoms of [premenstrual syndrome](#) (PMS).

One older study in 85 college students revealed a 23% reduction in reported PMS symptoms when consuming ginkgo ([32](#) )

Interestingly, the placebo group in this study also experienced a slight reduction in PMS symptoms, though it was much lower, at around 8.8% ([32](#) )


Further research is needed to better understand the cause and effect relationship between ginkgo and PMS symptoms.

SUMMARY

Ginkgo may help reduce PMS symptoms, but more research is needed.

12. Treats sexual dysfunction

Some sources indicate that ginkgo may treat issues related to sexual dysfunction, such as [erectile dysfunction](#) or [low libido](#).

Ginkgo has the ability to improve blood levels of nitric oxide, which improves circulation via the dilation of blood vessels ([11](#) )

As a result, ginkgo may also be useful for treating various symptoms of sexual dysfunction by improving blood flow to those areas of the body.

Some research has investigated using ginkgo to treat sexual dysfunction caused by the use of antidepressant drugs (SSRIs). Results indicated that ginkgo wasn't any more effective than a placebo in these cases ([33](#) ✓).

Additionally, there may be an interaction between ginkgo and SSRI medications, which could render them less effective ([34](#) ✓).

One 2008 study evaluated the use of ginkgo to increase sexual desire and contentment in females who were concurrently undergoing sexual psychotherapy ([35](#) ✓).

The combination of ginkgo and therapy were effective over a longer term compared to a placebo, but supplementing with ginkgo alone was not.

The rationale for using ginkgo to treat sexual dysfunction makes sense, but research does not support it at this time.

SUMMARY

Ginkgo may improve symptoms of sexual dysfunction due to its impact on blood flow. However, research has not proven it to be effective.

Potential side effects

It's important to talk to a doctor before including ginkgo in your routine.

For most adults, the risk associated with taking ginkgo is relatively low, but there are cases in which ginkgo could cause serious harm ([34](#) ✓).

If you are allergic to plants that contain alkylphenols or taking certain medications, you should not take ginkgo.

Possible side effects include ([34](#) ✓):

- nausea
- diarrhea
- dizziness
- headaches
- stomach pain
- rash/allergic reaction

Ginkgo has the potential to interact unfavorably with certain medications. Some interactions could increase the risk of bleeding ([34](#)).

Possible adverse medication interactions include ([34](#)):

- blood thinners (Warfarin, aspirin)
- SSRIs/MAOIs/antidepressants (Prozac, Zoloft)
- NSAIDS (ibuprofen, naproxon)

SUMMARY

As with any supplement, it's important to consult a doctor before taking ginkgo biloba and discontinue use if you develop any negative side effects or adverse medication interactions.


Dose and supplement forms

Ginkgo biloba is commercially available in the following forms:

- capsules
- tablets
- liquid extracts
- dried leaves/tea

Most of the current research reflects results used with purified ginkgo extract. Do not eat raw ginkgo seeds, as they are poisonous ([34](#)).

One of the limitations of the studies on ginkgo is that they did not use standardized dosing.

However, the bulk of the evidence seems to support the safety of taking 120–160 mg divided into several doses throughout the day (34 )

There is no clearly defined maximum dosage, but it's wise to start with a lower dose and work your way up to ensure tolerance.

Most research has not evaluated doses greater than 600 mg per day, so it's probably not a good idea to exceed this amount.

Additionally, keep in mind that it can take several weeks before you begin to notice any effects.

SUMMARY

Ginkgo comes in various forms and seems to be most effective when taken in several doses throughout the day that total 120–160 mg.

The bottom line

Ginkgo biloba has strong anti-inflammatory and antioxidant capacities and an ability to improve circulation.

Together, these characteristics have the potential to affect numerous body systems and diseases, although the science behind it still has some catching up to do.

While ginkgo has been used for centuries, it's not completely understood how it works. Much of the available research is inconsistent or inconclusive, and it's important to keep that in mind.

As with any herbal supplement, there are risks involved. Ginkgo could lead to serious health complications if you are allergic or taking certain medications.

If you're thinking of including ginkgo in your regimen, be sure to consult a doctor first.

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How we reviewed this article:

HISTORY

Our experts continually monitor the health and wellness space, and we update our articles when new information becomes available.

● **Current Version**

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Ginkgo Biloba: Health Benefits, Uses, and Risks



[Uses](#) | [Health benefits](#) | [Risks](#) | [Takeaway](#)

Ginkgo biloba has many health benefits. It's often used to treat mental health conditions, [Alzheimer's disease](#), and [fatigue](#). It's been used in traditional Chinese medicine for about 1,000 years. It came on the Western culture scene a few centuries ago, but has enjoyed a surge of popularity over the last few decades.

ADVERTISEMENT

Uses of ginkgo biloba

Ginkgo is used as an herbal remedy to treat many conditions. It may be best known as a treatment for [dementia](#), Alzheimer's disease, and fatigue. Other conditions it's used to treat are:

- [anxiety](#) and [depression](#)
- [schizophrenia](#)
- insufficient blood flow to the brain
- blood pressure problems
- [altitude sickness](#)
- [erectile dysfunction](#)
- [asthma](#)
- neuropathy
- cancer

- [premenstrual syndrome](#)
- [attention deficit hyperactivity disorder \(ADHD\)](#)
- [macular degeneration](#)

Like many [natural remedies](#), ginkgo isn't well-studied for many of the conditions it's used for.

Health benefits of ginkgo biloba

Ginkgo's health benefits are thought to come from its high antioxidant and anti-inflammatory properties. It may also increase blood flow and play a role in how neurotransmitters in the brain operate.

Some studies support the effectiveness of ginkgo. Other research is mixed or inconclusive. In 2008, results of the [Ginkgo Evaluation of Memory \(GEM\) study](#) were released. The study sought to find out if ginkgo would reduce the occurrence of all types of dementia, including Alzheimer's disease. It also looked at ginkgo's impact on:

- overall cognitive decline
- blood pressure
- incidence of cardiovascular disease and stroke
- overall mortality
- functional disability

The GEM study, the largest of its kind to date, followed 3,069 people age 75 or older for 6 to 7 years. Researchers found no effect for preventing dementia and Alzheimer's disease in study participants who either took ginkgo or a placebo. And a [2012 meta-analysis](#) found ginkgo had no positive effects on cognitive function in healthy people.

Still, a [2014 study](#) showed ginkgo supplementation may benefit people who already have Alzheimer's and take cholinesterase inhibitors, common [medications](#) used to treat the condition.

The GEM study also found ginkgo didn't [reduce high blood pressure](#). There was also no evidence ginkgo decreases the risk of heart attack or

stroke. It may, however, [reduce the risk of peripheral artery disease](#) caused by poor blood circulation.

According to a [2013 systematic review](#), ginkgo can be considered an adjuvant therapy for schizophrenia. Researchers found ginkgo seemed “to exert a beneficial effect on positive psychotic symptoms” in people with chronic schizophrenia who take antipsychotic medication.

Researchers in that study also found positive study results for ADHD, autism, and generalized anxiety disorder, but indicated more research is needed.

According to an older review of evidence study, ginkgo may improve erectile dysfunction caused by antidepressant medications. Researchers believe ginkgo increases the availability of nitric oxide gas which plays a role in increasing blood flow to the penis.

Ginkgo may help relieve premenstrual syndrome (PMS) symptoms, according to a [2009 study](#). During the study, participants taking either ginkgo or a placebo experienced a reduction in symptoms. Those taking ginkgo had significantly more relief.

Ginkgo biloba risks

Ginkgo is generally safe for healthy people to use in moderation for up to six months. Severe side effects are rare. Still, the Food and Drug Administration (FDA) doesn't regulate ginkgo and other over-the-counter herbal supplements as strictly as other drugs. This means it's hard to know exactly what's in the ginkgo you buy. Only buy a brand of supplement you trust.

Ginkgo may cause an allergic reaction in some people. Your risk may be higher if you're allergic to urushiols, an oily resin found in poison ivy, sumac, poison oak, and mango rind.

Ginkgo may increase bleeding. Don't use ginkgo if you have a bleeding disorder or take medications or use other herbs that may increase your risk of bleeding. To limit your bleeding risk, stop taking ginkgo at least two weeks before undergoing a surgical procedure.

Don't take ginkgo if you're on any medications that alter clotting. Don't take it if you're taking NSAIDs like ibuprofen, too. Ginkgo can have serious side effects. If you're on any medication, let your doctor know the dose you plan on taking.

Ginkgo may lower blood sugar. Use with caution if you have diabetes or hypoglycemia or if you take other medications or herbs that also lower blood sugar.

Don't eat ginkgo seeds or unprocessed ginkgo leaves; they're toxic.

Due to the potential bleeding risk, don't use ginkgo if you're pregnant. Ginkgo hasn't been studied for use in pregnant women, breastfeeding women, or children.

Other potential side effects of ginkgo are:

- headache
- [vomiting](#)
- [diarrhea](#)
- nausea
- [heart palpitations](#)
- [dizziness](#)
- [rash](#)

Takeaway

There was a time ginkgo seemed like a magic bullet for preventing age-related memory loss and other health conditions. But research to date doesn't support much of the enthusiasm.

Most evidence for ginkgo is anecdotal or decades old. Still, research has shown ginkgo may slow the progression of Alzheimer's disease, help treat some common mental health conditions, improve sexual function, and improve blood flow to the peripheral arteries.

Don't replace a current medication with ginkgo or start taking ginkgo to treat a serious condition without consulting your doctor.