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9 Health Benefits of Lion's Mane Mushroom (Plus Side Effects)



Medically reviewed by [Alexandra Perez, PharmD, MBA, BCGP](#) — By Erica Julson, MS, RDN, CLT — [Updated on June 29, 2023](#)

[Dementia](#) [Depression and anxiety](#) [Nervous injury](#) [Gastric ulcers](#)
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Lion's mane mushrooms are large, white, shaggy mushrooms that resemble a lion's mane as they grow. They contain bioactive substances that have many beneficial effects on the body, especially the brain, heart, and gut.

Health Benefits of #lionsmene #mushroom 🍄 🤖 🌀 🐅



Lion's mane mushrooms, also known as *Hericium erinaceus*, *hou tou gu* or *yamabushitake*, have both culinary and medicinal uses in Asian countries like China, India, Japan, and Korea (1[✓]).

Here are nine health benefits of lion's mane mushrooms and their extracts, along with dosages, preparation, and side effects.

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1. Could protect against dementia

The brain's ability to grow and form new connections typically declines with age, which may explain why mental functioning worsens in many older adults (2[✓]).

Studies have found that lion's mane mushrooms contain two special compounds that can stimulate the growth of brain cells: hericenones and erinacines (3[✓]).

Additionally, animal studies have found that lion's mane may help protect against [Alzheimer's disease](#), a degenerative brain disease that causes progressive memory loss.

In fact, lion's mane mushroom and its extracts have been shown to reduce symptoms of memory loss in mice, as well as prevent neuronal damage caused by amyloid-beta plaques, which accumulate in the brain during Alzheimer's disease (4[✓], 5[✓], 6[✓]).

A 2020 study of people with mild Alzheimer's disease found that supplementation with 1 gram of lion's mane mushroom daily for 49 weeks significantly improved cognitive test scores compared with a [placebo](#) (7[✓]).

The ability of lion's mane mushroom to promote nerve growth and protect the brain from Alzheimer's-related damage may explain some of its beneficial effects on brain health.

However, it's important to note that most of the research has been conducted on animals or in test tubes. Therefore, more human studies are needed.

SUMMARY

Lion's mane mushrooms contain compounds that stimulate brain cell growth and protect them from damage caused by Alzheimer's disease. However, more research involving humans is needed.

2. Helps relieve mild symptoms of depression and anxiety

Up to one-third of people living in developed countries experience symptoms of [anxiety](#) and [depression](#) (8, 9).

While there are many causes of anxiety and depression, [chronic inflammation](#) could be a major contributing factor.

Animal research has found that lion's mane mushroom extract has anti-inflammatory effects that can [reduce symptoms of anxiety](#) and depression in mice (10 )

Other animal studies have found that lion's mane extract can also help regenerate brain cells and improve the functioning of the [hippocampus](#), a region of the brain that processes memories and emotional responses (11 , 12 )

Researchers believe that improved hippocampus functioning may explain the reductions in anxious and depressive behaviors in mice receiving these extracts.

While these animal studies are promising, there is very little research involving humans.

One small 2010 study of [menopausal](#) women found that eating cookies containing lion's mane mushrooms daily for 1 month helped reduce self-reported feelings of irritation and anxiety (13 , 14 )

SUMMARY

Studies suggest that lion's mane mushrooms may help relieve mild symptoms of anxiety and depression, but more research involving humans is needed to better understand the correlation.



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3. May speed recovery from nervous system injuries

The nervous system consists of the brain, spinal cord, and other nerves that travel throughout the body. These components work together to send and transmit signals that control almost every bodily function.

[Brain](#) or [spinal cord](#) injuries can cause various adverse medical outcomes. They often cause [paralysis](#) or loss of mental functions and can take a long time to heal.

However, research has found that lion's mane mushroom extract may help speed recovery from these types of injuries by stimulating the growth and repair of nerve cells (15[✓], 16[✓]). It may also help reduce the severity of brain damage after a [stroke](#).

However, no studies have been conducted involving humans to determine if lion's mane would have the same therapeutic effect on nervous system injuries as animal research has suggested.

SUMMARY

Rat studies have found that lion's mane extract can speed up recovery from nervous system injuries, but research involving humans is lacking.

4. Protects against ulcers in the digestive tract

Ulcers can form anywhere along the digestive tract, including the stomach, small intestine, and large intestine.

Two major factors typically cause [stomach ulcers](#): overgrowth of the bacteria *H. pylori* and damage to the mucous layer of the stomach that's often due to long-term use of nonsteroidal anti-inflammatory drugs (NSAIDs) (17[✓]).

Lion's mane extract may protect against the development of stomach ulcers by inhibiting the growth of *H. pylori* and protecting the stomach lining from damage (18[✓]).

Several older studies have found that lion's mane extract can prevent the growth of *H. pylori* in a test tube, but no studies have tested whether the extract has the same effects inside the stomach (19[✓], 20[✓]).

Another 2013 animal study found that lion's mane extract was more effective at preventing alcohol-induced stomach ulcers than traditional acid-lowering drugs — and without any negative side effects (21[✓]).

Lion's mane extract can also reduce inflammation and prevent tissue damage in other intestinal areas. In fact, they may help treat [inflammatory bowel diseases](#) like [ulcerative colitis](#) and [Crohn's disease](#) (22 ✓, 23 ✓, 24 ✓).

A 2016 study of people with ulcerative colitis found that taking a mushroom supplement containing 14% lion's mane extract significantly reduced symptoms and improved quality of life after 3 weeks (25 ✓).

However, when the same study was repeated in patients with Crohn's disease, the benefits were roughly the same as with placebo (26 ✓).

It's important to note that the herbal supplement used in these studies included several types of mushrooms, so it's difficult to conclude about the effects of lion's mane specifically.

Overall, research suggests that lion's mane extract may help inhibit the development of ulcers, but more research involving humans is needed.

SUMMARY

Lion's mane extract has been shown to protect against stomach and intestinal ulcers in rodents, but research involving humans has been conflicting.

5. Reduces risk of heart disease

Major risk factors for [heart disease](#) include the following:

- [obesity](#)
- [high triglycerides](#)
- large amounts of [oxidized cholesterol](#)
- an increased tendency to get [blood clots](#)

Research shows that lion's mane extract can influence some of these factors and reduce the risk of heart disease.

Studies of rats and mice have found that lion's mane mushroom extract improves fat metabolism and lowers triglyceride levels (27[✓]).

One 2010 study of rats fed a [high fat diet](#) and given daily doses of lion's mane extract showed 27% [lower triglyceride levels](#) and 42% less weight gain after 28 days (28[✓]).

Since obesity and high triglycerides are both considered risk factors for heart disease, this is one way that lion's mane mushrooms contribute to heart health.

Test-tube studies have also found that lion's mane extract can help prevent the oxidation of cholesterol in the bloodstream (29[✓]).

Oxidized cholesterol molecules tend to attach to artery walls, causing them to harden and increase the risk of [heart attack](#) and stroke. Reducing oxidation is beneficial for heart health.

What's more, lion's mane mushrooms contain a compound called hericenone B, which can decrease the rate of blood clotting and lower the risk of heart attack or stroke (30[✓]).

Lion's mane mushrooms appear to benefit the heart and blood vessels in multiple ways, but studies involving humans are needed to support this.

SUMMARY

Animal and test-tube studies suggest that lion's mane extract can reduce the risk of heart disease in several ways, but human studies are needed to confirm these findings.

6. Helps manage diabetes symptoms

Diabetes is a disease that occurs when the body's ability to **manage blood sugar levels** is impaired. As a result, levels are consistently elevated.

Chronically **high blood sugar levels** eventually cause complications like **kidney disease**, nerve damage in the hands and feet, and vision loss.

Lion's mane mushroom may be **beneficial for diabetes management** by improving blood sugar management and reducing some of these side effects.

Several animal studies have shown that lion's mane can cause significantly **lower blood sugar levels** in both normal and diabetic mice, even at daily dosages as low as 2.7 milligrams (mg) per pound (6 mg per kg) of **body weight** (31[✓], 32[✓]).

One way that lion's mane lowers blood sugars is by blocking the activity of the **enzyme** alpha-glucosidase, which breaks down **carbs** in the small intestine (33[✓]).

When this enzyme is blocked, the body is unable to digest and absorb carbs as effectively, which results in lower blood sugar levels.

In addition to **lowering blood sugars**, lion's mane extract may reduce **diabetic nerve pain** in the hands and feet.

In mice with **diabetic nerve damage**, 6 weeks of daily lion's mushroom extract significantly reduced pain, lowered blood sugar levels, and even increased antioxidant levels (34[✓]).

Lion's mane mushroom shows potential as a therapeutic diabetes supplement, but more research is needed to determine exactly how it might be used in humans.

SUMMARY

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SUMMARY

Animal and test-tube studies show that lion's mane extract can kill cancer cells and slow the spread of tumors, but studies

involving humans are still needed.

8. Reduces inflammation and oxidative stress

Chronic inflammation and [oxidative stress](#) are believed to be the root causes of many modern illnesses, including heart disease, cancer, and [autoimmune disorders](#) (47 )

Research shows that lion's mane mushrooms contain powerful anti-inflammatory and antioxidant compounds that may help reduce the impact of these illnesses (48 )

In fact, a 2012 study examining the antioxidant abilities of 14 different mushroom species found that lion's mane had the fourth highest antioxidant activity and recommended it be considered a good dietary source of antioxidants (49 )

Several animal studies have found that lion's mane extract reduced markers of inflammation and oxidative stress in rodents and may be especially useful in managing [inflammatory bowel disease](#), [liver damage](#), and stroke (22 , 50 , 51 )

Lion's mane mushrooms may also help reduce some of the health risks associated with obesity, as they have been shown to decrease the amount of inflammation fat tissue releases (52 )

More studies are needed to determine the potential health benefits in humans, but the results from lab and animal studies are promising.

SUMMARY

Lion's mane mushroom contains powerful antioxidant and anti-inflammatory compounds that may help reduce the impact of chronic illness.

9. Boosts the immune system

A strong immune system protects the body from bacteria, viruses, and other disease-causing pathogens.

On the other hand, a weak immune system puts the body at a higher risk of developing infectious diseases.

Animal research shows that lion's mane mushroom can boost immunity by increasing the activity of the intestinal immune system, which protects the body from pathogens that enter the gut through the mouth or nose (53 )

These effects may partly be due to beneficial changes in [gut bacteria](#) that stimulate the immune system (54 )

A 2012 study even found that supplementing with lion's mane extract daily nearly quadrupled the lifespan of mice injected with a lethal dose of [salmonella](#) bacteria (55 )

The immune-boosting effects of lion's mane mushrooms are very promising, but this area of research is still developing.



SUMMARY

Lion's mane mushrooms have been shown to have immune-boosting effects in rodents, but much more research is needed.

Dosage

There's no standard dosage for lion's mane mushrooms. The safest, most beneficial amount depends on factors like your age and overall health. You may want to talk with a doctor about the right dosage for you.

For improving cognition, some researchers recommend 3 to 5 grams per day. (56)

In a 2020 study, people ages 50 and older with mild Alzheimer's disease symptoms showed significantly improved cognitive function after taking three 350-mg lion's mane capsules daily for 49 weeks. (7[✓])

Taking three 400-mg capsules daily for 8 weeks helped relieve depression, anxiety, and [sleep disorders](#) for 77 people who were overweight or had obesity, according to a 2019 study. (57[✓])

SUMMARY

The most effective dosage of lion's mane mushrooms depends on factors like your age and overall health.

How to prepare lion's mane

Lion's mane mushrooms can be enjoyed raw, cooked, dried, or steeped as tea.

Many people describe their flavor as "seafood-like," often comparing it to crab or lobster (58[✓]).

The mushrooms can be cooked and served in dishes like risotto, pasta, or soup.

Lion's mane mushroom powder can be mixed into hot water, tea, [coffee](#), a [smoothie](#), or other beverages. It can also be added to soup, stew, or gravy.

SUMMARY

Lion's mane mushrooms can be eaten raw, cooked, or dried.

Forms

Fresh lion's mane mushrooms have the greatest health benefits, according to some researchers. However, the cultivation methods may affect the mushrooms' medicinal properties. [\(59\)](#)

Lion's mane mushrooms are available over the counter in some of the following forms:

- tablets
- capsules
- powder
- tinctures

However, researchers advise that there are currently no guidelines to ensure these products are safe and effective.

SUMMARY

Although fresh lion's mane mushrooms may provide the most health benefits, they can also be taken as a supplement in forms like tablets or capsules.

Safety and side effects

No studies involving humans have examined the side effects of lion's mane mushroom or its extract, but they appear to be very safe.

No adverse effects have been seen in rats, even at doses as high as 2.3 grams per pound (5 grams per kg) of body weight per day for 1 month or lower dosages for 3 months (60[✓], 61[✓], 62[✓]).

However, anyone who is allergic or sensitive to mushrooms should avoid lion's mane since it's a mushroom species.

There have been documented cases of people experiencing [difficulty breathing](#) or skin rashes after exposure to lion's mane mushrooms, likely related to allergies (63[✓], 64[✓]).

SUMMARY

Animal studies suggest that lion's mane mushroom and its extracts are very safe, even at high doses. However, allergic reactions in humans have been reported, so anyone with a known mushroom allergy should avoid it.

Frequently asked questions

Are lion's mane mushrooms good for you?

People use lion's mane for various health issues, such as lowering the risk of heart disease, boosting the immune system, and managing diabetes.

However, more research is needed to confirm these benefits. Lion's mane appears to be safe to use, as long as you speak with a doctor before you start using it and follow the instructions carefully.

Does lion's mane improve memory?

Lion's mane contains substances that may contribute to nerve growth, and some studies have suggested that using it might boost thinking and memory and help protect against Alzheimer's. However, more research is needed.

Is lion's mane good for ADHD?

Some people use lion's mane for ADHD because of its potential to protect and [enhance brain function](#). However, there is no scientific evidence to support this use.

Is lion's mane illegal?

Lion's mane is legal to buy and use. However due to its rarity, it is a protected species in some countries and US states, making foraging illegal. Check with your local regulations if you plan to forage for lion's mane and always ensure you obtain lion's mane from a reputable and sustainable source ([65](#)).

The bottom line

Lion's mane mushroom and its extract have been shown to have various health benefits.

Research has found that lion's mane may protect against [dementia](#), reduce mild symptoms of anxiety and depression, and help repair nerve damage.

It's also been shown to have strong anti-inflammatory, antioxidant, and immune-boosting abilities and to lower the risk of heart disease, cancer, ulcers, and diabetes in animals.

While the current research is promising, more studies involving humans are needed to develop practical health applications for lion's mane mushrooms.

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