The Health Benefits Of
Ganoderma Lucidum
How to Prevent and Control Most Diseases
Health Benefits Of

Ganoderma Lucidum

How to Prevent and Control Almost any Disease

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Introduction

Ganoderma is one of the oldest used mushrooms for health and treatment of various diseases. It is only in the past few years that this superb mushroom is becoming more accessible to a lot of people.

But what is Ganoderma? Where does it come from? Find out all about this wonderful mushroom in this book.

- What Ganoderma is
- Where Ganoderma products come from
- How Ganoderma products are made
- How to safely and properly take Ganoderma
- And so much more

Read this book today and transform your life forever.
Chapter 1: Nature of Ganoderma

Ganoderma comes from mushrooms. It is also known by the names lingzhi (among the Chinese) and reishi (among the Japanese). The name literally translates to “supernatural”. It is a tough, woody type of mushroom. It tastes bitter.

Parts often used for medicinal purposes include the mushroom’s fruiting body and mycelium. The fruiting body is the part readily visible, protruding from the substrate or ground. Mycelium refers to the filaments that connect several mushrooms together.

GANODERMA SPECIES

Ganoderma mushroom species are classified as polypores. The fruiting bodies develop tubes or pores on their undersides. They form brackets along tree trunks and other kinds of substrates. This characteristic gave them the name “bracket” or “shelf” fungi. Ganoderma species also form basidiospores with double walls, which set them apart from other polypore species.

The brackets or basidiocarps grow large. These are also known as “conks”. These are perennial and woody. The texture and appearance of these brackets resemble that of leather. The fruiting bodies form tunicate spores. The spores are double-walled. The inner layers are ornamented in colors ranging from yellow to brown.

The basidiospores may or may not have any stems. The fruiting bodies usually grow out in a hoof or fan-like manner. Also, these mushrooms may grow on already decomposing wood or on living ones. Ganoderma species grow on both hardwood and coniferous types of wood.

Ganoderma species are classified as lignicolous fungi. The mushrooms grow on wood or woody substrates. But instead of feeding on naturally decaying wood or portion of the wood, the fungi actively secretes enzymes that cause wood decomposition. This release the nutrients needed by the fungi. Some of the enzymes target carbohydrates within the wood, breaking it down so that the mushroom can absorb it easily. Some enzymes target lignin in the wood. Most Ganoderma species cause white-rot decay. The mushrooms release enzymes that digest cellulose and lignin components of the wood substrate.
There are several known species of Ganoderma. The most notable is **Ganoderma lucidum**. Other species include the following:

- Ganoderma annularis
- Ganoderma alba
- Ganoderma aurea
- Ganoderma atrium
- Ganoderma aplatum
- Ganoderma amboinense
- Ganoderma brownie
- Ganoderma lobatum
- Ganoderma curtisii
- Ganoderma nigrolucidum
- Ganoderma meredithiae
- Ganoderma orbiforme
- Ganoderma multipileum
- Ganoderma oregonense
- Ganoderma rubra
- Ganoderma philippii
- Ganoderma purpurea
- Ganoderma sinense
- Ganoderma pseudoferreum
- Ganoderma tsugae
- Ganoderma miniatocinctum
- Ganoderma viridis
- Ganoderma tornatum
- Ganoderma boninense
- Ganoderma zonatum
GANODERMA LUCIDUM

This is the most notable Ganoderma species. Ganoderma lucidum is also related to Ganoderma tsugae and Ganoderma sichuanense. Countries in East Asia have been using G. sichuanense for over 2,000 years for its medicinal benefits in traditional Chinese medicine (TCM). In fact, Ganoderma is one of the oldest mushroom types used for medicinal purposes.

Lingzhi (Chinese name for Ganoderma lucidum) grows flat, corky and soft. It has a prominent cap with a red varnish and shaped like a kidney. The pores underneath the cap appear in different colors, ranging from white to dull brown, depending on how old the pores are.

Ganoderma lucidum follows 2 growth forms, depending on where the mushroom grows. Ganoderma lucidum that grows in North America are sessile. The fruiting bodies are large and rest directly on the substrate. The stalks may grow very small or may not even grow at all. The other growth form is observed among mushrooms that grow mainly in tropical regions. These have smaller fruiting bodies. The stalks grow long and narrow. Intermediate forms are also often found thriving well. The morphologies are also unusual, very different from the 2 main growth forms.

Growth of Ganoderma lucidum is heavily influenced by the condition in the environment that they are exposed to. The morphology of the mushrooms differs, depending on the conditions during the growth period. The main known factors that greatly affect morphology include humidity, light and temperature. The quality of air and water also contribute to morphological development, although these are less important. Growers noticed that carbon dioxide levels in the environment can also affect mushroom morphology. Higher carbon dioxide levels cause the stem to elongate. Some reishi mushrooms form antlers on the cap, possibly due to high carbon dioxide levels, too.

Colors also vary, based on the environmental conditions. There are 6 main colors. Each color is believed to exhibit different characteristics. The most widely used and most researched is the red reishi. It is also known as Akashiba. Another widely used is the black reishi or Kuroshiba. Other colors are blue (Aoshiba), yellow (Kishiba), purple (Murasakishiba) and white (Shiroshiba).
Red vs. Black Reishi

Black and red reishi varieties have displayed the most noteworthy enhancing effects on health. Both traditional and modern medicine recognizes the benefits brought about by these 2 varieties. Supplements commercially available use these 2 varieties, too.

Of these 2, red reishi has been proven to provide more benefits compared to the black variety. Red reishi is also proven as more effective in boosting the functioning of the body’s immune system, vital organs and overall bodily functions.

Black reishi is also known as Ganoderma sinensis. It is a fairly common reishi variety. It is also easily found in a lot of Chinese herbal stores. The mushroom has an uneven shape. Growths can reach to diameters of about 10 inches, with an average of 6 inches for mature matures. Most Ganoderma products labeled as using “wild reishi mushrooms” often use the black variety.

This variety still possesses valuable health benefits. It is often used as a moderate variety of herbal tonic. However, its effects are far inferior to that of red reishi. Its significantly lower levels of polysaccharide component account for the lesser effectiveness.
BIOCHEMISTRY

Ganoderma lucidum contains tripertenes known as ganodermic acids. The molecular structure of these acids resembles the structure of the body’s own steroid hormones.

**Other compounds present in Ganoderma lucidum include:**
- Polysaccharides, for example, beta-glucan
- Mannitol
- Coumarin
- Alkaloids

**Sterols are also present, like:**
- Ganoderol
- Ganoderiol
- Ganodermanontriol
- Ganodermadiol
- Ganodrenic acid
- Lucidadiol

**Most important components include:**
- Lingzhi-8 protein – This is an immune-modulating and anti-allergenic compound.
- Beta and hetero-beta-glucans – These are immune-stimulating and anti-tumor compounds.
- Ganodermic acids and tripertenes – These are compounds that act as anti-allergenic agents. These also reduce blood pressure and cholesterol levels.

Polysaccharides are compounds such as fiber and carbohydrates. These are often present in hot water extracts of Ganoderma or in the water-soluble pieces. Water-soluble extracts and polysaccharides do not require intake with food.

Tripertenes are present in ethanolic extracts of Ganoderma. These are fat-soluble compounds in reishi mushrooms that contribute to a lot of health benefits. When taking ethanolic extracts, it is highly advisable to take it with food.
HABITAT

Ganoderma lucidum and its closely related species, Ganoderma tsugae, prefer growing on deciduous trees. They grow on stumps and at the base of these trees. Maple is the most common tree that supports reishi growth. These mushrooms are also successfully cultivated.

It is grown indoors under sterile indoor conditions. It is also successfully grown outdoors, using woodchip beds or logs as growing substrates.

Red reishi is cultivated through wooden box, natural wood logs or wood pulp methods. In the wood box growing method, the fungi are grafted into wooden logs. These logs are placed inside wooden boxes after grafting. The mushrooms grow to medium-sizes, with moderate qualities. Harvest is done 6 months after grafting.

In the wood pulp method, wood pulp is placed inside a glass bottle. The reishi is then added. Harvest is done 3 months after. The harvest is often small and the mushrooms are often of poor quality.

The Japanese were the first to develop the natural wood log cultivation method for red reishi. This is the most complex of all 3 cultivation forms. The mushrooms grow large and with superior qualities. High quality strains of reishi mushrooms are first cultured in test tubes for 85 days. Once the fungi germinate, these are implanted into holes drilled along carefully selected high quality logs.

Often, these logs are around 26-30 years old. These logs with the germinating mushrooms are placed in greenhouses, buried under soil rich in vital nutrients. The logs stay buried for 5 months. During the entire time it stays buried, the fungi absorb almost all of the nutrients in the soil. In this method, constant monitoring of the growing conditions is required to assure a harvest of high quality mushrooms.
Chapter 2: Benefits of Ganoderma

Ganoderma has a very long history of medicinal use. It is one of the most widely used mushrooms in TCM, spanning over 2,000 years of use.

It is believed that the active compounds of Ganoderma is able to penetrate and affect the 5 key organs of the human body- the heart, liver, lungs, kidneys and pancreas. It can treat a lot of illnesses in the body, which includes several diseases involving the circulatory, endocrine, digestive, respiratory, locomotory (bones and muscles) and neural systems.

It can also help in treating surgical, ENT (ears, nose, throat), gynecological, medical and pediatric conditions. These effects are believed to come from the fundamental characteristic of reishi of providing support to the vital essence of the human body and in securing all the basics of health and wellness.

TRADITIONAL USES

For centuries, Ganoderma has been used for its ability to increases the body’s oxygenation status. It also alkalinizes the body. Both these actions are believes to be the foundation of Ganoderma’s health benefits.

Good oxygenation status promotes good health. It eliminates the foundation that supports health problems such as arthritis, heart diseases, osteoporosis, adult-onset type of diabetes and other degenerative diseases like cancer.

Supporters of Ganoderma believe that diseases cannot survive long in an environment rich in oxygen. The body, in turn, thrives better because cells need oxygen in order to function well and maintain good health. This herb also helps in quickly adjusting the body’s pH levels to normal.

Other traditional uses include:
- Promotes longevity
- Relieve fatigue
- Keep cholesterol levels under control
- Reduces and prevents high blood pressure
- Relieves inflammation
- Helps in building stamina
- Supportive effects on the immune system
HEALTH BENEFITS

Several researches and preliminary studies showed that active compounds in Ganoderma do provide some health benefits. The results of these studies showed that Ganoderma can reduce cholesterol levels in the body. It can also reduce inflammation in the respiratory tract. Aside from these, Ganoderma has been known to help in these health conditions:

Cancer and Immunity
Ganoderma acts as an immune stimulant in cancer patients. It strengthens the immune system, making the body more resistant against opportunistic infections. It also helps in combating fatigue, which may be as a symptom of the disease or as a side effect of cancer treatments. It also boosts the body’s ability to reduce the rate of cancer cell proliferation.

The result of a study made in 2003 showed Ganoderma’s effects in cancer. The study involved 34 people who were already in the advanced stages of cancer. They were given Ganoderma supplements over a 12-week period. They took the supplements 3 times each day, every day for the entire duration of the study. Results found that all these cancer patients had significantly higher levels of T cells compared to when they started the study. T cells are immune cells known to have an inhibitory action on cancer cells and play a central role in immunity.

Also, studies have found that Ganoderma stimulates the production of interleukin-2. This compound is part of the immune system that fights several forms of cancer.

Other similar studies showed that other types of immune cells also increased when cancer patients took Ganoderma supplements. These cells helped them have more energy, even after cancer treatments. It also reduced their risk of acquiring infections.

A few other laboratory studies also found that Ganoderma inhibits cancer cell proliferation. Several laboratory tests were done to determine the effect of Ganoderma on breast cancer cells. The herb effectively slows down growth. Combining Ganoderma with green tea achieved even better results. This is due to the anti-tumor properties of some of Ganoderma’s active compounds.

One early study found that Ganoderma can also help in treating tumors in the rectum and colon or colorectal adenomas. Taking extracts of reishi mushrooms every day for 12 months helps in reducing the number of tumor growth in this type of cancer.
Ganoderma improves oxygenation status in the body. A study in 1931 by Otto Warburg (which won a Nobel Prize) found the connection between cancer and oxygen. Cancer cells thrive best in a low-oxygen, high pH condition. The cancer cells produce lactic acid, which can bring down pH levels to as low as 6.0. These cancer cells also produce a lot of carbon dioxide. By reversing these conditions, the progression of cancer can be halted. Increasing the amount of oxygen that reaches the cells can kill or at least inhibit cancer cell growth.

Also, maintaining a healthy and well-balanced pH helps in fighting cancer cells. Also, Ganoderma is found to neutralize the suppressive effects of cyclophosphamide treatment on RBCs (red blood cells) and WBCs (white blood cells). Cyclophosphamides like Cytoxan and Neosar are among the commonly used chemotherapeutic drugs in cancer treatments. One of the side effects of these medications is the suppression of RBC and WBC production. This causes increased fatigue, risk for infections and other blood-related problems. Ganoderma helps by stimulating protein production in the bone marrow.

**Antioxidant Actions**
A lot of small studies found promising results on the antioxidant benefits of Ganoderma. Regular use can help increase the levels of antioxidants in the body. It also enhances antioxidant action in the plasma. Antioxidants help in eliminating free radicals that cause damage to the cells.

**UTI Treatment**
A study done in 2008 found that Ganoderma can help in alleviating the symptoms of urinary tract infection (UTI). This study included a group of 88 men who suffered from UTI. Ganoderma use provided significant relief from the symptoms compared to placebos.

**Benign Prostatic Hyperplasia (BPH)**
This is a non-cancerous prostate gland enlargement. Ganoderma reduced BPH symptoms that involved the lower portion of the urinary tract. These symptoms include increase in urinary frequency (urge to urination), decreased flow of urine when urinating, incomplete bladder emptying (feeling that some urine is still left in the bladder after urinating), and increase in the frequency of having to urinate at night.

Ganoderma contains active compounds that inhibit one of the enzymes involved in the development of BPH. By inhibiting this enzyme, the progression of the diseases is slowed down.
Weight Loss
Increased oxygen levels in the body help in increasing and improving fuel burning. Oxygen plays a central role in fuel burning processes in the body. Fuel burning mainly involves burning fat stores and converting it into readily usable energy forms. Hence, the more oxygen is present in the body, the more fat burning occurs. This process will also increase the body’s metabolic rates. All of these would result in weight loss.

Cirrhosis and Alcoholism
Ganoderma effectively helps in preventing the development of fatty liver induced by too much alcohol intake. It also helps in inhibiting the progression of cirrhosis. Ganoderma works best when taken in the early stages of alcoholic liver conditions. The benefits are also most appreciated if severe loss liver function has not yet been experienced.

Yeast Infections and bronchitis
The development and release of macrophages are enhanced with Ganoderma intake. These are immune cells that function by swallowing and digesting bacteria and other pathogens. Increased number of macrophages helps in preventing the development of secondary infections that may turn respiratory conditions into chronic bronchitis.

Also, mature macrophages act on yeast cells. It helps in naturally and safely bringing back yeast population under control within the body.

Uterine myomas (fibroids)
This condition is characterized by the formation of abnormal cell masses within the uterine wall. Ganoderma helps in preventing chemicals that support fibroid growth, such as bFGF (basic fibroblast growth factor) and histamine. The chemical compound bFGF promotes growth of fibroids. Histamine causes inflammation. Together, these chemicals promote the development of fibroids or uterine myomas and its symptoms.
High blood pressure
A few trials, studies, and user feedback provide evidences that Ganoderma lowers blood cholesterol high blood pressure levels. Scientists in Russia performed a study on several mushrooms, which aimed to determine potential use for cholesterol-lowering medications. Of the mushrooms that were studied, the scientists found that extracts from Ganoderma has cholesterol-lowering effects. It stops cholesterol accumulation in the laboratory animals’ arteries.

Two other controlled clinical studies explored the effects on human high blood pressure. In both studies, the results showed that extracts from Ganoderma significantly lower high blood pressure compared to placebos.

Stress
For centuries, Eastern physicians were already aware of how effective Ganoderma is on controlling emotional outbursts in times of prolonged exposure to stress. It is also believed that the improved oxygenation from Ganoderma use helps the body fight off the negative effects of stress. It also helps in promoting relaxation.

Pain
In modern times, doctors in Tokyo working at the Hijitaki Clinic saw the benefits of Ganoderma. Physical pain in 2 of their patients suffering from neuralgia and another 2 of their patients suffering from herpes zoster (shingles) dramatically decreased after using Ganoderma.

Hepatitis B
One early research found a promising link between Ganoderma and Hepatitis B. The study used one specific Ganoderma product, Ganopoly. The results showed that using this product for a 12-week period reduces the amount of Hepatitis B virus circulating in the body. Also, liver function seems to have improved after taking Ganoderma.
Other conditions
A few studies have also found that Ganoderma helps in alleviating the symptoms of the following health conditions:

- Viral infections
- Bacterial infections
- Liver disease
- Kidney disorders
- HIV disease
- CFS or chronic fatigue syndrome
- Altitude sickness
- Insomnia
- Poisoning
- Stomach ulcers
Other Benefits
There are still lots more benefits from using Ganoderma, such as:

• Helps improve brain function, clarity and power
• Helps balance levels of blood sugar
• Helps improve pancreatic functions
• Helps improve texture of the skin
• Helps shield skin cells against degeneration
• Helps diminish appearance of aging
• Helps boost metabolism
• Helps remove toxins
• Helps unclog the arteries
• Helps and supports good liver function
• Helps invigorate and improve oxygenation in the body
• Helps fight and reduce free radicals
• Helps in improving sexual functions
• Helps rejuvenate tissues and cells in the body
• Help improve function of the digestive system
• Helps in reducing fatigue and improving the quality of sleep
• Relieves congestion of the sinuses and other problems in the respiratory tract
• Helps in providing energy and improving vigor
• Helps balance levels of cholesterol
• Helps regulate blood pressure
• Effective in assisting in the healing of psoriasis, skin wounds, mouth ulcers, scrapes, external bleeding, stings and bug bites
• Helps strengthen immunity
Chapter 3: Forms, Preparations, Dosages

In order to obtain the most benefits from Ganoderma, proper dosages and the right preparation should be taken. This also helps in reducing any potential negative side effects while on Ganoderma.

TYPES OF EXTRACTS

Ganoderma is commercially available in several forms. It can be purchased as a pill supplement, capsules or in liquid extract form. Some available forms contain the extract. Some companies just grind whole Ganoderma mushrooms and put them in capsules or pills.

Some companies use high technology as part of Ganoderma extraction processes. This technology extracts the essence of Ganoderma and turns it into powdered form. Some companies choose to retain the extract’s liquid form and place it in capsules. This technology can yield extract concentrations reaching as much as 15:1. This is a high concentration, which can be illustrated as removing 65 kilograms worth of Ganoderma extract from 100 kilograms of mushroom.

Another available form is ethanolic extracts. This kind of extract is obtained by subjecting reishi mushrooms to ethanol. An alcoholic tincture is produced from this process. This process yields a more concentrated Ganoderma extract, more potent than the tea or powdered reishi mushrooms. Also, this form is much more expensive than the hot water extract or Ganoderma tea.

PREPARATIONS

There are many ways to prepare Ganoderma, if buying them in prepared pills, capsules or coffee mixes is not an option. Ganoderma mushrooms can be purchased fresh or dried. Fresh ones are soft and the dried ones are really tough. Chitin (a type of carbohydrate complex) present in the walls of the mushroom toughens up during the drying process. This creates a tough wall that may make it difficult to remove the essence of the mushroom. Hot water helps in getting past the tough chitin wall and releasing the beneficial compounds form within the mushrooms.
**Hot Water Extract**
Ganoderma has a distinctly bitter taste. It is traditionally prepared through hot water extraction method.

1. Gather ganoderma, either dried or fresh.
2. Slice lingzhi very thinly. Or, pulverize to produce fine mushroom powder.
3. Boil a pot of water.
4. Add Ganoderma (thin slices or powder).
5. Lower the heat to a simmer.
6. Allow the Ganoderma mixture to simmer for 2 hours.
7. Strain and allow to cool.

The hot water extract is dark and has a fairly bitter taste. Some people opt to make a stronger dose by repeating the above process using the extract in the second cycle. The extract is then cooled and stored in a dark, airtight container. Either take as a tincture or add a few drops to warm or cool water.

**Ganoderma Tea**
Ganoderma Tea Making Ganoderma tea would require steeping the mushrooms in water far longer than when making the traditional tea. The amount of mushrooms to use depends on personal preferences. The standard recommendation is using 3 to 5 grams of reishi mushrooms per day, with 3 grams approximately equivalent to 1 tablespoon of ground or broken mushroom pieces.

How much water to use depends on preferences as well. It depends on how much tea is intended to drink in a day and how concentrated it will be. Most common recipe is using 4 to 5 cups water for 3 to 5 grams of mushroom.

Making Ganoderma tea is a lot like making the hot water extract. Only, this method produces a less concentrated liquid. To make Ganoderma tea:

1. Pour water into a ceramic or stainless steel pot (4-5 cups per 3-5 grams reishi mushrooms, add or reduce according to preference). Bring the water to a boil. Avoid using aluminum pots, especially if the process involves prolong boiling.
2. Add the reishi mushrooms once the water is on a full boil. Lower the heat down to a simmer. Allow to simmer for about 2 hours.
3. Remove the brewed tea from heat. Pour and strain. Set the liquid aside to cool down a little.
4. The strained reishi pieces can be boiled over and over. However, with each boiling, the resulting tea loses color and becomes less bitter. If the last brewed tea lost color and no longer tastes bitter, time to throw away the mushroom.
Again, Ganoderma extracts and teas have a particularly bitter taste. It takes quite a while to get used to the taste. Sweeteners and other drinks may be added to improve the taste. However, as much as possible, avoid adding refined or white sugar. This is unhealthy and defeats the healthy purpose of the tea or extract. Some ingredients that can be added to Ganoderma include:

- Honey (1 teaspoon per cup of tea or as desired)
- Juice, such as lemon
- Ginger
- Green tea

**Homemade Ethanolic Ganoderma Extract**

Ethanolic extracts can be very expensive. However, one can make a good quality extract at home with this recipe:

1. Get a few pieces of dried mushrooms. Break into smaller pieces for easier, better and more thorough extraction.
2. Purchase a 100-proof vodka. This will extract the active molecules from the reishi mushroom.
3. Fill a canning jar (quart-size or half-gallon) with the mushrooms, halfway to the rim.
4. Fill the jar with 100-proof vodka up to the rim.
5. Screw the lid of the jar.
6. Label the jar with the date.
7. Keep the canning jar in a warm area. Make sure to keep it out of direct sunlight.
8. Leave the jar in this condition for 4-6 weeks. Shake the jar daily throughout this period.
9. Strain the reishi-vodka mixture through clean cheesecloth, strainer or coffee filters. It may be necessary to repeat the straining process in order to remove all the solids.

**DOSAGES**

Standard dosages for Ganoderma lucidum vary depending on the form. General and standard Ganoderma extract often contain both the polysaccharides and the tripertenes. This variety of reishi product is composed of both the water-soluble and the ethanolic extract forms. The standard dose for this variety is between 1.44 to 5.2 grams. The most common dose among users of the basic reishi extract is 5.2 grams, divided into 3 different doses of 1,800 milligrams per dose.

For Ganoderma composed of purely ethanolic extract, the standard dosage is 6 milligrams.
For water-soluble extracts, the dosage usually follows that of the basic reishi extract.

Basic reishi extracts are derived from pure dehydrated mushroom powder. This makes the basic extract about 10 times as powerful as that of the actual, whole mushroom. To illustrate the difference in potency, taking just about 5 grams of basic extract is similar to taking 50 grams of whole reishi mushroom.

According to the Pharmacopoeia of ORC (People’s Republic of China), the recommended daily intake of reishi extract is 6-12 grams. If taking Ganoderma polysaccharide extract (such as Ganopoly), daily doses may reach up to 5.4 grams, which is equivalent to about 81 grams of the mushroom’s fruiting body. This dosage is used over a 12-week period. Clinical trials used for determining the effectiveness of Ganoderma lucidum follow this dosage.

In traditional practice, the recommended daily dose is from 0.5 – 1.0 grams for general health benefits. For chronic illnesses, daily dosages are at 2-5 grams. For serious illnesses, daily extract intake can reach up to 15 grams.

**Considerations**

One common question is how long before the desired health benefits become evident. The results vary among individuals. Some may notice effects after a few doses. Some may have to take Ganoderma for a few days to weeks before significant improvements are experienced.

Usually, benefits are experienced more sooner when using high quality Ganoderma extracts or products. Normally, the benefits are obtained after 10 to 14 days of continued use. Significant changes in the overall well-being are most often appreciated after 2 months of regular and proper intake.

The most important thing to remember is to make Ganoderma use a part of one’s daily health routine. Take the herb as part of preventive measures and for overall health improvement.

**Guidelines in taking Ganoderma**

Ganoderma extract can be taken in supplemental pill forms or as teas. It is most advisable to take Ganoderma in the morning, preferably before breakfast. Ganoderma is best absorbed when taken on an empty stomach. Drink a lot of water after taking Ganoderma. Water enhances the effects of Ganoderma by increasing the elimination of wastes and toxins.
Also, experts advise taking Vitamin C with Ganoderma extracts. This vitamin helps in better absorption of the beneficial active compounds of the mushroom. Several studies have also found that Vitamin C aids in breaking down the complex molecular structure of polysaccharides. The smaller components are then easily absorbed and can be used immediately by the body.

**Choosing the right Ganoderma product**

There are many forms and preparations available for Ganoderma. Each form produces different levels of health benefits. A good and high quality product should be in essence or extract form.

Also, effectiveness, quality and potency vary, depending on the type of mushroom (e.g., red vs black, type of cultivation method, etc) and the process the manufacturer used (e.g., hot water extract, powdered mushrooms, ethanolic extracts, etc). The quality of the mother fungi (source of the cultivated spawn) and the growing conditions also influence the quality of the reishi mushroom and that of the resulting Ganoderma product.

When choosing among the many Ganoderma products, it is important to consider the label. The products should be properly and clearly labeled, with all the components used clearly and properly stated. All ingredients should be written, including all added ingredients such as what type of sweetener is used. The extract ratio should also be placed in the label, including the product origin, and the manufacturer’s and importer’s address. If all these are present in the label, the Ganoderma product is most probably of high quality.
Chapter 4: Side Effects and Precautions

Some people are hesitant of taking Ganoderma because of the potential side effects. But, so far, based on classic literature, anecdotal evidence, few clinical trials and user reports, there are no side effects. In fact, after more than 2,000 years of use, there are no indications of any side effects. All available literatures and even the results of the many clinical studies on Ganoderma found no traces of negative effects from reishi use. Ganoderma is considered a superior herb, which means non-toxic. It can safely be consumed in large amounts, over a long period without suffering from any side effects.

Moreover, reishi is classified by the American Herbal Pharmacopoeia as Class 1. This classification indicates that the herb is safe to consume as long as it is taken in the proper way. However, despite the long history of safe use, some sensitive individuals may feel some discomforts. Some discomforts may actually be related to the detoxification process stimulated by Ganoderma.

These may include:
- Mild digestive symptoms
- Sore bones
- Dizziness
- Skin rashes

These are often experienced during the initial period of Ganoderma use. As the body clears itself of toxins accumulated over several years of poor health and lifestyle choices, these discomforts should disappear.

Some of these discomforts may also be indications that the body is starting to recover from the strain of infections, diseases, and stress. These are also indications that reishi is indeed working in the body, transforming it into a healthier and better regulated one.

To reduce the discomforts, experts suggest taking Vitamin C while taking Ganoderma.
PRECAUTIONS

Although safe, there are some conditions that may not be advisable to take Ganoderma. It is considered safe for use in all age groups - children up to older adulthood. However, some considerations may have to be observed to ensure safety. Children might need lower dosages and/or less frequency because of issues on developmental levels and maturation level of the various organs. Older adults may also have some conditions (e.g., liver and kidney issues, degenerative problems, etc) that may cause potential problems with Ganoderma use.

It is possibly safe to continue taking Ganoderma extracts by mouth for up to a year. There are possible safety issues when taking Ganoderma in powdered form by mouth for more than a month. Powdered Ganoderma shows some link to liver toxicity if taken for a prolonged period.

Some people may also experience stomach upset, bloody stools, nose bleeds, itchiness, and dryness of the throat, nasal area and mouth.

Taking Ganoderma with wine may also cause the appearance of rashes. Some people may experience allergic symptoms when they breathe in the spores of reishi mushroom. Special Precautions

Special Precautions
Some people are highly advised to avoid Ganoderma because there are very few reliable studies and information that supports safety.

Pregnancy and Breastfeeding
Pregnant women should not take Ganoderma because there isn’t enough evidence that it is safe for the developing fetus. Breastfeeding women should also avoid Ganoderma because it may be excreted in breast milk. There is not enough evidence to prove safety of Ganoderma components to babies. To be on the safe side, just avoid Ganoderma during pregnancy and breastfeeding periods.
People with bleeding disorders
People who already have bleeding disorders should also avoid Ganoderma. It is best to get the advice of a health professional before taking Ganoderma. Large doses and long-term use of Ganoderma may increase bleeding risks. Also, taking large doses of reishi is not advisable for people who suffer from thrombocytopenia. This is a type of clotting disorder. Ganoderma may increase bleeding risks. People with low blood pressure Active compounds in reishi have blood pressure-lowering effects. If a person with an already low blood pressure takes Ganoderma, the levels may drop to dangerously low levels. Ganoderma may also interfere with treatments for this condition.

Surgery
Bleeding complications may increase during or after a surgery if on Ganoderma. It is advisable to inform the surgeon about Ganoderma use when a surgery is being planned. It is advisable to at least temporarily stop Ganoderma use for 2 weeks or more before undergoing any type of surgery.

Transplant patients and people on immunosuppressive drugs
Reishi stimulates the immune system. It should be avoided by people who just had organ transplants to avoid transplantation reactions. Also, people on immunosuppressive therapies should also avoid Ganoderma. The herb may interfere with the treatments.

To always be safe, consult a health professional. It is also better if the health professional has knowledge and experience in complementary medicine. Deeper understanding of how Ganoderma works in the body and possible interactions with present disorders, treatments and medications is crucial to ensuring safety.

Interactions with medications
Before taking Ganoderma or other supplements ad medications, consult a doctor. Some drug-herb or herb-herb reactions may occur and produce some negative effects. Some known negative interactions include the following:

Antihypertensive medications
These are drugs designed to lower high blood pressure. Combining these with Ganoderma may produce very low blood pressures because the drug and the herb have the same effect. A few commonly prescribed antihypertensive drugs include:

- captopril (Capoten)
- losartan (Cozaar)
• enalapril (Vasotec)
• valsartan (Diovan)
• hydrochlorothiazide (HydroDIURIL)
• Amlodipine (Norvasc)
• diltiazem (Cardizem)
• furosemide (Lasix)

**Antiplatelet and Anticoagulants**
These medications work in the body by slowing down the clotting process. This potentially puts the body at higher risk for bleeding problems. This may happen when not monitored enough and when precautions are not observed.

Ganoderma also has an anti-clotting effect in the body. Taking this with anti-platelet or anticoagulant drugs may further decrease the body’s clotting process. This can lead to serious bleeding problems because the body would be incapable of producing enough clots to regulate or stop bleeding. This combination may also cause easy bruising.

Some commonly prescribed anti-coagulant and anti-platelet drugs include:
- warfarin (Coumadin)
- heparin
- aspirin enoxaparin (Lovenox)
- dalteparin (Fragmin)
- clopidogrel (Plavix)

Some drugs, like NSAIDs (non steroidal anti-inflammatory drugs), also has blood-thinnign and anti-coagulant effects. Using them with Ganoderma may also cause increased bleeding risks. These drugs include:
- ibuprofen (such as Advil and Motrin)
- naproxen (such as Naprosyn)
- diclofenac (Voltaren, Cataflam, etc)

**ADVERSE REACTIONS**
A few adverse reactions have been reported, though, despite safety claims. These include:
- bone pain
- dry mouth
- dizziness
- stomach upset
- constipation
- diarrhea
- nosebleed
- skin irritation
One small clinical trial was performed to determine if Ganoderma produces any adverse reactions. The study compared the effect of Ganoderma extracts and placebos in healthy adults. The participants were divided into groups. One group received 4 grams of Ganoderma extract every day for 10 days. The other group received placebos.

Results showed that there is no significant difference between the 2 study groups. Laboratory tests showed that there were no changes in the participants’ blood CD19, CD 8 and CD4 levels. There was also no significant increase in the CD56 levels. These blood indicators are used to determine if a certain drug, supplements, herb or treatment produces any adverse reactions in the body.

One possible source for adverse reactions is the presence of certain compounds in Ganoderma. Compounds chemically and structurally related to adenosine, as well as ganodermic acid are considered potential causes for adverse reactions because these can interfere with the binding of thrombin and fibrinogen. This effect was demonstrated in several in vitro experiments. Another protease compound in Ganoderma exhibits this same effect.

On the other hand, another study found an opposite result. This placebo-controlled clinical trial gave one study group 1.5 grams of Ganoderma extract every day for 4 weeks. Laboratory tests revealed that there were no significant changes in the hemostatic or platelet function in the body for both groups.

**Toxicology**

So far, there is no evidence that Ganoderma can be toxic in the body. There are no established toxicity levels, too. However, researchers estimate that the mean lethal dose is around 10-21 g/kg of body weight. Some animal studies, however, found higher dosages, reaching to 38g/kg, may have potential toxicity.
Wrapping up..

Thank you for reaching the end of this eBook. Get started on your journey to health today by taking Ganoderma. Tell others about the wonderful benefits of Ganoderma and help them obtain health and wellness too.

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Again, thank you for reading.