

**MEDICINAL MUSHROOMS**

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Introduction

A **mushroom** is fleshy, spore-bearing fruiting body of a fungus, typically produced above ground on soil or on its food source. People have used mushrooms medicinally and as food for thousands of years. The oldest written reference to people using mushrooms medicinally is from an Ayurvedic source¹.

The Chinese have one of the most sophisticated uses of medicinal mushrooms and have a written history of using them that dates back several thousand years as well. The Greeks and Romans ate mushrooms frequently. The Greeks said mushrooms were the "*Food of the Gods*."

General characteristics of Medicinal Mushrooms

There is over 1.4 million species of mushrooms on earth, but only 10% have been scientifically named and catalogued. All medicinal mushrooms contain beta-D-glucan, which are a type of polysaccharide. They have been studied extensively for their ability to modulate the immune system. Much

of the modern scientific research done on mushrooms is related to cancer prevention and treatment, HIV and AIDS, and other immune function disorders.

There are lots of different ways to prepare medicinal mushrooms. They can be cooked into food, made into a tea or decoction or syrup, or powdered and taken as capsules. Another method is to decoct the mushrooms and then add 20% alcohol to the water extraction to preserve it.

Mushrooms are a low-calorie food eaten cooked, raw or as a garnish to a meal. In a 100 g serving, mushrooms are an excellent source of B vitamins, such as riboflavin, niacin and pantothenic acid, an excellent source of the essential minerals, selenium and copper and a good source of phosphorus, potassium. Fat, carbohydrate and calorie content are low, with absence of vitamin C and sodium. There are 27 calories in a typical serving of fresh mushrooms².

Types of Mushrooms.**Common button mushroom**

In China, mushrooms in this genus have been used for hypertension as well as in formulas for low back pain and tendon pain. Like other medicinal mushrooms they have been studied extensively as a tool against various cancers and have shown promising results.

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Fig. 1 Common button mushroom

Shiitake

Shiitake mushrooms originate in Japan, China and other Asian countries with temperate climates where they have been enjoyed as food and medicine for thousands of years.

They are now the second most cultivated mushroom in the world and can often be found in grocery stores. They are wonderful in soups or simply sautéed with garlic and butter.

They are high in potassium, calcium, phosphorous, proteins and magnesium. These mushrooms have been studied extensively for their immuno modulating effects.

Shiitake mushrooms are beneficial against cancer, not because they attack the cancer cells but because they enhance a person's immune system. This is the reason they can also be helpful for someone experiencing frequent colds and flus and seasonal allergies. Shiitake has also been shown to inhibit both *Herpes simplex 1* and 2.

Fig.2 Shiitake mushroom



Shiitakes have been shown to promote cardiovascular health as well by optimizing lipid levels. Shiitake mushrooms are classified as a sweet taste with mild actions. They are considered building and strengthening in Traditional Chinese Medicine. Like all mushrooms, Shiitake mushrooms should be fully cooked before consuming, as a small number of people can develop an itchy rash from consuming them raw.

Reishi

Reishi has long been heralded as the *elixir of life*³. Traditional Chinese Medicine (TCM) considers it to be in the highest class of tonics to promote longevity. This is the first medicinal substance to be written about by the Chinese and several entire books have been written about this single mushroom.

This mushroom is well proven to prevent and combat cancer and other immune system disorders. It has beneficial effects on the liver, helping both to regenerate and protect it. It's also been shown to reduce fatty deposits on the liver. It has multiple benefits for the heart, helping to normalize cholesterol levels and regulate blood pressure.

Reishi can also oxygenate the blood, making it a useful ally against altitude sickness.

This polypore mushroom is too hard to eat and is commonly taken as a decoction or used as a powdered herb.

Fig.3 Reishi mushroom



Chaga

Chaga is a parasite that grows on Birch trees. It is most famous for its use against a wide range of cancers, notably cancer of the breast, lip, skin and colon.

The decocted root is tasty and is sometimes called a “coffee substitute”.

Fig. 4 Chaga mushroom**Maitake**

Maitake is another medicinal mushroom masquerading as a gourmet food. It has been studied extensively for breast cancer and has been shown to reduce tumor size and aggressiveness

Fig. 5 Maitake mushroom**Oystermushroom**

This common edible mushroom has natural statins that help to regulate blood cholesterol. It is commonly found in the wild in temperate climates and in our grocery stores

**Fig. 6 Oyster mushroom*****Psilocybe* mushrooms**

Mushrooms with psychoactive properties have long played a role in various native medicine traditions in cultures all around the world. They have been used as sacrament in rituals aimed at mental and physical healing, and to facilitate visionary states.

Psilocybin, a naturally occurring chemical in certain psychedelic mushrooms such as *Psilocybe cubensis*, is being studied for its ability to help people suffering from psychological disorders, such as obsessive-compulsive disorder. Minute amounts have been reported to stop cluster and migraine headaches. Psilocybin mushrooms have also shown to be successful in treating addiction, specifically with alcohol and cigarettes.

**Fig.7 *Psilocybe* mushrooms****Other uses**

Mushrooms can be used for dyeing wool and other natural fibers. The chromophores of mushroom dyes are organic compounds and produce strong and vivid colors, and all colors of the spectrum can be achieved with mushroom dyes. Before the invention

of synthetic dyes, mushrooms were the source of many textile dyes.⁴

Mushrooms and other fungi play a role in the development of new biological remediation techniques (e.g., using mycorrhizae to spur plant growth) and filtration technologies (e.g. using fungi to lower bacterial levels in contaminated water).

References

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