

# OPTIMAL HEALTH UNIVERSITY™

Presented by Dr. Clark R. Mills

## Marvelous Mushrooms

*You may want to consider adding a few sliced mushrooms to your stir fry, or sprinkling some over your salad — they'll add a lot more than flavor. It turns out that, from the white-button to the portabella, most mushrooms used in cooking have phenomenal health benefits. For instance, mushrooms have been linked to cancer prevention.*

*As a provider of holistic health care, Dr. Mills promotes nutrition as an all-natural way to fight disease. So read on to learn about the powerful health benefits of the marvelous mushroom.*



### Cancer Conquerors

Research shows that mushrooms “may be useful in protecting against virally induced cancers through enhancement of natural killer cells, and may also play a role in the prevention of cancers induced by diet and poor lifestyle choices. Thus, mushrooms may have a significant role in cancer treatment.” (*Arch Environ Health* 2003;58:533.)

During a 15-year study (1972 to 1986) in the Nagano area of Japan — where farmers grow the edible mushroom *Flammulina velutipes* — researchers compared the health of 174,505 farmers and nonfarmers. The researchers assumed that the farmers ate some of the mushroom species they farmed.

Results showed a cancer death rate among the nonfarmers of 160.1 per 100,000 compared with 97.1 per 100,000 among the mushroom farmers (*Arch Environ Health* 2003;58:533).

Another study revealed that, astonishingly, a number of medicinal mushrooms were beneficial in clinics where cancer patients are treated. “Polysaccharides from mushrooms do not attack cancer cells directly but produce their anti-tumor effects by activating different immune responses in the [patient].” (*Appl Microbiol Biotechnol* 2002;60:258-74.)

In addition, mushrooms have been shown to combat breast and prostate cancers specifically.

Certain forms of the hormone estrogen are a major factor in the development of breast cancer. But now there’s good news for women. It turns out that diets high in mushrooms may lower that risk by reducing the production of these destructive estrogens.

And scientific inquiries show that vegetables that contain antioxidant plant chemicals called phytochemicals — such as flavones and isoflavones — suppress breast cancer cell proliferation. These chemicals are abundant in popular mushroom varieties, including the white-button (*J Nutr* 2001;131:3288).

In addition, according to researchers in Japan, a man suffering from prostate cancer “with rapidly progressive bone metastasis” showed dramatic improvement when given an extract of

the *phellinus linteus* mushroom (*Urol Int* 2004;73:188-90).

### Maitake: King of Mushrooms

If you only incorporate one new mushroom variety into your diet, Dr. Mills suggests the maitake.

When it comes to reducing cancer risks, the maitake mushroom — whose official name is *Grifola frondosa* — appears to top the list. These magnificent mushrooms grow in the forests of Asia, Europe, Canada and parts of the eastern United States. Large in size, with overlapping caps, their taste is often described as “meaty.”

Researchers in Japan knew that maitake D-Fraction, an extract from the maitake mushroom, created an anti-tumor effect in mice by enhancing their immune systems. Based on that knowledge, they conducted a human study and concluded that the extract “appears to repress cancer progression.” (*J Med Food* 2003;6:371-7.)

There’s similar evidence that Fraction X (FXM), also from the maitake mushroom, may have a positive impact on another immune-system related disease: diabetes. How? By reversing insulin resistance, a condition where abnormal amounts of insulin are required for normal body function (*Res Commun Mol Pathol Pharmacol* 2002;112:68-82).



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It seems that FXM lowers both circulating glucose and insulin concentrations, “suggesting that FXM works primarily by enhancing peripheral insulin sensitivity.” (*Diabetes Obes Metab* 2002;4:43-8.)

The D-Fraction and other extracts may also provide some benefit in the treatment of high cholesterol, high blood pressure and hepatitis (*Altern Med Rev* 2000;6:48-60).

### A Huge Industry

Just how many mushroom sales are generated by their taste — vs. health benefits — is unknown. But one thing is certain: No matter where you live, this fungus is definitely among us!

Approximately 190 million pounds of mushrooms were produced in Canada during 2011, according to a census of all mushroom growers. And in Australia, 51,000 tons of these delectable delicacies were grown between 2012 and 2013. According to the Australian Bureau of Statistics, mushrooms are the country’s second most valuable vegetable crop: second only to potatoes.

A whopping 857 million pounds of mushrooms were sold in the United States during the 2012 to 2013 season, according to the National Agricultural Statistics Service (NASS), Agricultural Statistics Board, U.S. Department of Agriculture. These statistics are up 1 percent from both the 2011 to 2012 and 2001 to 2011 seasons.



### A Strong Note of Caution

While there’s no doubt that many mushrooms have medicinal benefits, they aren’t without their risks. Researchers in California say that all data should be “tempered by the possibility

that there are toxic levels of metals, including arsenic, lead, cadmium, and mercury” — as well as the presence of radioactive contamination — in mushrooms (*Exp Biol Med* 2004;229:393-406).

In addition, several varieties of wild mushrooms are extremely toxic — ingesting even small amounts may cause death. While it may be tempting to pick your own mushrooms, resist the urge. This also goes for the mushrooms picked by well-meaning friends or questionable merchants. Instead, “harvest” your mushrooms from the produce aisle of your local grocery store.

The illegal, so-called “psychedelic mushrooms” used as recreational drugs are often highly toxic to the liver.

Also, be aware that mushrooms can spark allergic reactions. Their spores, for instance, have frequently been associated with respiratory allergy (*Chest* 2002;122:1080).

### Talk With Your Doctor of Chiropractic

Before filling your refrigerator’s vegetable bin with mushrooms, talk with the chiropractor first. It’s important to maintain nutritional balance and not go overboard with any single food: even foods with known therapeutic benefits.

This goes double for supplements. Never add a supplement to your diet without discussing it first with your doctor of chiropractic. There is often a fine line between therapeutic and toxic when it comes to dosage. That said, if you don’t like the taste of mushrooms, there are several reputable mushroom extract supplements on the market. Ask the doctor to help you choose one.

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### Mushroom Varieties

Following is a sampling of the multitude of mushroom varieties.

**Note:** While fresh is always preferable, in some regions not all gourmet mushrooms are available fresh. So look for dried versions and reconstitute them in hot water. But make sure to add both the mushrooms and water to your dish, since the water cleaves out many nutrients.

*White* — These popular smooth-flavored mushrooms may be tossed into any dish.

*Shiitake* — Most associated with Pan-Asian and Pacific-Rim cuisine, shiitake mushrooms add a unique, exotic flavor.

*Maitake* — These cancer-busting mushrooms are difficult to find fresh, so you may have to resort to supplement form.

*Crimini* — Sometimes referred to as the “Italian” mushroom, this brown beauty is a near cousin of the white mushroom and can be used in the same delicious ways.

*Enoki* — Creamy and white, these miniature mushrooms grow clustered together on a single stalk. They are best used raw.

*Portabella and Baby Bella* — These are relatives of the white mushroom. Because of portabella’s large size and meaty consistency, it makes an ideal burger or meat substitute.

*Morel* — Whether you choose the white or black variety of this gourmet delight, you’ll be thrilled with its distinctly earthy, delicate flavor.

*Oyster* — It’s their oyster-shell shape that gives these mushrooms their unique name.