

Shiitake mushrooms — Carcinogenic? ^[1]

Dear Alice,

I have been putting mushrooms in my family meals often over the last several months. I mainly use shiitake. I just read some mushrooms may contain carcinogens. I'm worried because I've been feeding mushrooms to my family. Are mushrooms healthy or not?

Answer

Dear Reader,

Before you say “Oh Shiitake!,” cultivated (rather than wild), cooked mushrooms are generally a healthy addition to your diet. As far as your concern over cancer-causing agents in mushrooms, some studies found that synthetic and chemically modified compounds, which included agaritine — a mycotoxin found in fresh mushrooms, produced carcinogenic effects in mice. However, in a follow-up study, the same effects could not be replicated and the methodology used in these studies has come under question. And while many mushrooms, including shiitake, are typically safe for consumption, there are a few causes for caution when it comes to eating fungi.

Mushrooms, including shiitake, have many health benefits. Of those, shiitake mushrooms can boast about:

- Containing soluble and insoluble fiber
- Being a good source of B₁, B₂, B₁₂, C, D, and E vitamins

Though more research is needed, these particular mushrooms have demonstrated antioxidant, antimicrobial, and antiviral properties. They have also been found, in some studies, to support the immune system in protecting against the spread of cancer.

Shiitake are not the only mushrooms that are considered beneficial. While, again, more studies are needed, findings from current research examining benefits across several varieties suggest that mushrooms may contribute to health in the following ways:

- By providing some protection against b-amyloid peptide toxicity in the brain and mild cognitive impairment, which are both precursors to dementia – (though so far, only detected

in studies with mice)

- By reducing breast cancer risk — in a Korean study investigating breast cancer in women
- By supporting weight management — particularly when substituting mushrooms for meat in the diet
- By promoting oral health — found in a study where a mouthwash with shiitake extract was used to combat plaque buildup

While these preliminary findings are very promising, there are two points of caution when it comes to eating mushrooms. The first is that some mushrooms found in the wild — such as death cap, panther cap, and liberty cap — can be extremely poisonous! Short of having a mycologist or mushroom expert on hand to verify that a mushroom collected in the wild is safe, the recommendation is to refrain from eating any wild mushrooms. Secondly, eating raw or undercooked shiitake mushrooms can sometimes cause a condition called shiitake dermatitis, which manifests itself in the form of a rash lasting about one to three weeks. Cooking the nutritious shiitake mushrooms before eating them can minimize the risk of illness while still providing the health benefits found in the mushrooms.

If you have other nutrition questions, you may consider checking out the *Go Ask Alice!* [Nutrition & Physical Activity](#) [2] archive. In the meantime, continue having fun cooking with fungi!

Alice!

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