



PATIENT & CAREGIVER EDUCATION

Propolis

This information describes the common uses of Propolis, how it works, and its possible side effects.

Tell your healthcare providers about any dietary supplements you're taking, such as herbs, vitamins, minerals, and natural or home remedies. This will help them manage your care and keep you safe.

What is it?

Propolis has a number of properties, but evidence that it can treat various conditions is lacking.

Propolis is a mixture of pollen, beeswax, and resin collected by honeybees from buds and sap of certain trees and plants. It has been used in folk medicine, food, and beverages to improve health and prevent disease. Propolis is thought to be effective against a number of chronic conditions, infections, and inflammation, but this has yet to be confirmed in humans. In some instances propolis may actually have toxic effects.

Bee pollen, found in propolis, is a mixture of plant pollens, nectar, and bee secretions that bees form into granules to store as food. It is claimed as a “cure all” by some and thought to have antioxidant, antiaging, and stamina-increasing properties. Bee pollen has also been used to treat chronic inflammation as well as other conditions. Aside from its nutritional value however, clinical data suggest benefits are limited.

Allergic reactions to propolis and bee pollen have been reported. Patients who

are allergic to bee stings, honey, ragweed, or chrysanthemum should not take either of these supplements. For this reason, [royal jelly](#) should also be avoided.

What are the potential uses and benefits?

- **Cancer**

A study on propolis supplementation for colon cancer prevention in high-risk patients found no benefit, and actually indicated potential negative effects on muscle tissues including heart muscle cells.

- **Mouth ulcers from cancer treatment**

A few studies on propolis-containing products have had mixed results.

- **Diabetes**

Evidence is lacking to support this claim.

- **Heart disease**

Evidence is lacking to support this claim.

- **Infections**

A few small studies suggest propolis can be effective in treating ear infections.

- **Inflammation**

Lab studies show that propolis has immunomodulatory effects. Human studies are needed.

What are the side effects?

Increased use of propolis or bee pollen in cosmetics, supplements, food, and other industries has led to a rise in reports of both skin and systemic reactions.

Case Reports

- **Toxic reaction to sunlight:** A 32-year-old woman experienced itching and rash with sun exposure after taking a dietary supplement containing ginseng, goldenseal, and bee pollen.
- **Lip swelling, pain, skin redness and inflammation:** In an 18-year-old woman who used propolis spray for gum swelling caused by orthodontic bands.

- **Recurring lesion over a 1-year period:** In a 55-year-old man related to the ingestion of bee pollen containing propolis.
- **Fungal infection and recurrent itchy eyelid rash:** In a 28-year-old woman related to daily application of beeswax-containing lip gloss using her fingers.
- **Recurrent itchy widespread rash over a 3-year period:** In a 65-year-old woman with non-Hodgkin B-cell lymphoma related to the hobby of glass beading which involved contact with beeswax.
- **Life-threatening deep neck infection that traveled into the chest cavity:** In an otherwise healthy 40-year-old woman who took liquid propolis 3 times daily for 1 week to relieve common cold symptoms, requiring chest surgery.
- **Tumor mimicking lung cancer:** In a 36-year-old woman caused by the inhalation of long-term topically applied propolis on nasal passages to treat asthma. Interestingly, this patient tested negative to pollen allergies both before and after this adverse event occurred, even though this effect was confirmed to be related to the product.
- **Acute kidney failure:** In a 59-year-old man requiring dialysis after ingesting propolis for 2 weeks.
- **Increase in liver enzymes:** In a young man due to chronic ingestion of large amounts of propolis candies (>10 per day) to calm his sensation of sore throat.

What else do I need to know?

Do Not Take if:

- You are allergic to bee stings, honey, ragweed, or chrysanthemum. For this reason, [royal jelly](#) should also be avoided.
- You are taking warfarin: Propolis can increase the time required for blood coagulation.

If you have questions or concerns, contact your healthcare provider. A member of your care team will answer Monday through Friday from 9 a.m. to 5 p.m. Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call. If you're not sure how to reach your healthcare provider, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.

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