**Photosensitivity**

**En Español (Spanish Version)**

**Principal Proposed Natural Treatments**
- Beta-carotene

**Other Proposed Natural Treatments**
- Adenosine Monophosphate (AMP); Chocolate; Coriander Oil; EGCG (From Green Tea); Nicotinamide; Vitamin B₆; Vitamin C; Vitamin E

**Herbs and Supplements to Use Only With Caution**
- Artichoke; Celery; Chrysanthemum; Dandelion; Dill; Endive; Essential Oils; Fennel; Fig; Lettuce; Lime; Marigold; Parsley; Parsnip; St. John's Wort; Sunflower

Everyone will burn if exposed to enough ultraviolet radiation from the sun or other sources. However, some people burn particularly easily or develop exaggerated skin reactions to sunlight. Doctors call this condition photosensitivity. For some people, consuming certain medications or plant products—or rubbing them on their skin—can cause photosensitivity. Similar reactions are seen in diseases such as some forms of porphyria (a group of usually hereditary metabolic disorders) or lupus. In another condition, called polymorphous light eruptions (PLEs), dramatic rashes can develop after fairly limited sun exposure.

The most important step toward treating photosensitivity is to identify whether an external substance is causing the reaction, and then eliminate it if possible. Antibiotics are among the most common photosensitizing drugs. Many other natural substances can also cause this reaction. Another commonsense step is to use sunscreen and wear protective clothing, or simply to stay out of the sun.

Some types of photosensitivity may respond to specific treatments such as oral beta-carotene, steroids, or other medications.

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**Principal Proposed Natural Treatments**

Beta-carotene, a plant pigment giving color to carrots and yams, may be beneficial for at least two kinds of photosensitivity: PLEs and photosensitivity caused by certain types of porphyria. It is the best-studied supplement for photosensitivity, although only four studies on it have been placebo-controlled, and these had conflicting results. According to one theory, beta-carotene prevents skin damage by neutralizing free radicals, harmful chemicals created in the skin by the action of radiation.

One characteristic of beta-carotene is that it gives a deep yellow color to human skin when taken in high doses for several months. Since supplementation must go on for a while to see results, this side effect makes it difficult to conduct a truly double-blind study in which neither researchers nor the participants know who is taking the active compound and who is taking placebo. (For reasons why double-blinding is so important, see *Why Does This Database Rely on Double-blind Studies?*) Once people begin to turn yellow, they are likely to figure out what they're taking, possibly affecting the study outcome. Therefore, even the results of placebo-controlled studies of beta-carotene are open to question.
That said, three controlled trials of beta-carotene for polymorphous light eruptions found mixed results. A 10-week study in 50 people with PLE given beta-carotene plus canthaxanthin (another carotene) or placebo found evidence of significant benefit.\(^{15}\) However, in two other controlled trials of beta-carotene alone, lasting 12 to 15 weeks (the number of participants was not reported), modest benefits were seen in one study and no benefits at all in the other.\(^{16}\)

In a preliminary, double-blind blind study, coriander oil applied topically was more beneficial than a placebo cream.\(^{60}\)

Many uncontrolled studies have reported that beta-carotene extends the time that people with erythropoietic protoporphyria (EPP) can safely spend in the sun.\(^{17-19}\) However, studies that lack a control group, as these did, are notorious for producing over-optimistic results, and an 11-month controlled trial found no benefit.\(^{20}\) A few case reports suggest beta-carotene may also be helpful in another kind of porphyria called porphyria cutanea tarda.\(^{21}\)

For more information, including dosage and safety issues, see the full Beta-carotene article.

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**Other Proposed Natural Treatments**

Many, though not all, studies suggest that various antioxidant substances, including chocolate, vitamin C, lycopene, mixed carotenoids, flavonol-enriched green tea extracts, vitamin E, and zeaxanthin taken orally or used topically may help prevent sunburn in people without photosensitivity.\(^{22-25,43-49,51-59}\)

On this basis, a variety of antioxidants have been tried for photosensitivity as well. In a double-blind, placebo-controlled trial of 12 people with EPP, 1 g of vitamin C taken orally daily appeared to help reduce symptoms.\(^{38}\) However, the study was too small for the results to be statistically significant.

A small double-blind, placebo-controlled trial of individuals with PLE found no benefit with combined vitamin C (3 g per day) and vitamin E (1,500 IU per day).\(^{42}\)

In an uncontrolled study of adenosine monophosphate (AMP) in 21 people with porphyria cutanea tarda, many participants showed decreased photosensitivity, much to the surprise of the investigator.\(^{39}\)

Two cases of EPP were also reportedly improved by vitamin B\(_6\).\(^{40}\) In addition, nicotinamide—another B vitamin—was found to help prevent polymorphous light eruptions in an uncontrolled (and, therefore, highly unreliable) study of 42 people.\(^{41}\)

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**Herbs and Supplements to Use Only With Caution**

A number of common herbs and plant products are known to provoke extreme reactions to sunlight in some individuals. One of the more well-known culprits is St. John's wort, which has caused fatal photosensitivity reactions in cattle that grazed on it. In one study of highly sun-sensitive people, double doses of the herb produced mild increases in reaction to ultraviolet radiation.\(^{1}\) There is also one report of a severe skin reaction in an individual who used St. John's wort and then received ultraviolet therapy for psoriasis.\(^{2}\) In addition, topical St. John's wort apparently caused severe sunburn in one individual.\(^{3}\) For this reason, photosensitive people should probably avoid St. John's wort.

Photosensitivity can also result from touching or eating other plants, including celery, dill, fennel, fig, lime, parsley, and parsnip, as well as arnica, artichoke, chrysanthemum, dandelion, lettuce, endive, marigold, and sunflower.\(^{45}\) Lest you swear off gardening or salads altogether, be aware that most people do not react to these
plants. Essential oils of plants may be more problematic than the whole plant itself.

References [+]  


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