



Jessie may be having a photoallergic reaction or a polymorphous light eruption (PMLE).

### PMLE

Polymorphous light eruptions caused by sun exposure in people who have developed a sensitivity to sunlight and cause an itchy rash. The rash usually appears as red, tiny bumps or slightly raised patches of skin in sun-exposed areas. PMLE typically occurs during spring and early summer when a person's exposure to sunlight increases. Repeat episodes are less likely as the summer progresses, but often recur each year after the first incident. Women are more likely to develop the disorder with the first episode appearing during the teenage years or 20s. People with fair skin or those living in northern regions are more likely to develop the disorder.

Most eruptions resolve on their own within one or two weeks. An OTC cream containing at least 1 percent hydrocortisone may help reduce the itching, as may oral antihistamines (e.g.: Benedryl) and ibuprofen or naproxen may reduce the inflammation. In addition, protect all exposed skin from UV radiation using a high SPF sunblock and clothing.

### Photoallergic Reactions

In photoallergic reactions, incoming light activates a compound—usually a drug—that binds with skin proteins to create an allergen. The immune system initiates a cellular response that produces cytotoxic (killer) T-cells which in turn destroy healthy skin cells. The subsequent inflammation causes an itchy, bumpy, dermatitis that may include the formation of small, clear blisters. The rash typically appears in both sun-exposed and sun-protected areas of the body. Because it is an allergic response, prior exposure is required.

While phototoxic, photoallergic, and PMLE reactions may be difficult to tell apart, in most cases photoallergic reactions produce a bumpy itchy dermatitis while phototoxic reactions appear as a severe sunburn. The rash from PMLE tends to appear in sun-exposed areas while the rash from a photoallergic reaction tends to appear in both sun-exposed and sun-protected areas.

To treat a photoallergic reaction, attempt to identify and discontinue the sensitizing agent (see charts in the Wilderness Medicine Handbook or the Art & Technique of Wilderness Medicine). Resolution is variable once the offending agent is removed and depends solely upon the chemical composition of the compound. Cool compresses may offer relief from most S/Sx; oral benedryl may help.

Given Jessie's complexion, where she lives, and that her rash is present in only sun-exposed areas it's likely that the rash is due to PMLE. That said, to the extent that it is possible it makes sense to treat for both PMLE and a photoallergic reaction. Since cinnamates, benzophenones, and salicylates appear in most commercial sunscreens and

may cause a photoallergic reaction discontinue the use of her sunscreen and substitute a zinc oxide sunblock. Since oral contraceptives containing estrogen-progestin combinations may also trigger a photoallergic reaction, consider discontinuing those as well. Consider administering ibuprofen, Benedryl, an OTC cream containing at least 1 percent hydrocortisone, and cool compresses. With a bit of luck your treatment will help control the rash and allow her to enjoy the remainder of her trip.