

MEDICATIONS AND THE SUN



SUN SENSITIVITY

Many drugs can cause side effects when people taking them are exposed to the sun.

Two types of reactions will be presented:

- Photoallergy
- Phototoxic reactions





PHOTOALLERGY

Photoallergy is an allergic reaction of the skin after being exposed to a medication and may not occur until several days after sun exposure.

The ultraviolet light of the sun causes a structural change in the drug which then causes antibody formation. Affected individuals must have been previously sensitized before a reaction occurs.

PHOTOALLERGY SKIN REACTION

The reaction usually appears as a rash which can be very itchy, have red bumps, scaling, and oozing.

The rash can spread to parts of the body that were not exposed to the sun.



CAUSES OF PHOTOALLERGY



These are generally caused by topical medications and cosmetic ingredients such as musk ambrette, sandalwood oil, and bergamot oil. Plants can also contain photosensitizing chemicals (furocoumarins) and cause skin damage: giant hogweed, rue, citrus (lemon, lime), figs, wild carrot, coriander, dill and cymopterus (spring parsley).

COMMON MEDICATIONS THAT CAUSE PHOTOALLERGIC REACTIONS



| Class | Medication (limited list, there are many others) |
|-------------------|---|
| NSAIDs | Ketoprofen, celecoxib, topical diclofenac, Feldene |
| Diabetes drugs | Sulfonylureas: glipizide, glyburide |
| Cholesterol drugs | Statins: atorvastatin, fluvastatin, lovastatin, pravastatin, simvastatin Fenofibrate |
| Neuroleptics | Phenothiazines: chlorpromazine, fluphenazine, perphenazine, thioridazine |
| Antifungals | Itraconazole, griseofulvin |
| Antibacterials | Fluoroquinolones: ciprofloxacin, levofloxacin |
| Other drugs | 5-Fluorouracil, quinidine, dapson, oral contraceptives, clomipramine, esomeprazole |
| Sunscreens | Para-aminobenzoic acid, cinnamates, benzophenones, salicylates |

PHOTOTOXICITY

This is the most common type of sun-sensitivity drug reaction. It can occur when the skin is exposed to the sun after certain medications are injected, ingested, or applied to the skin.

The drug absorbs energy from UVA light and releases it into the skin, causing cellular damage.

It may arise within a few hours or up to a couple of days after drug exposure.

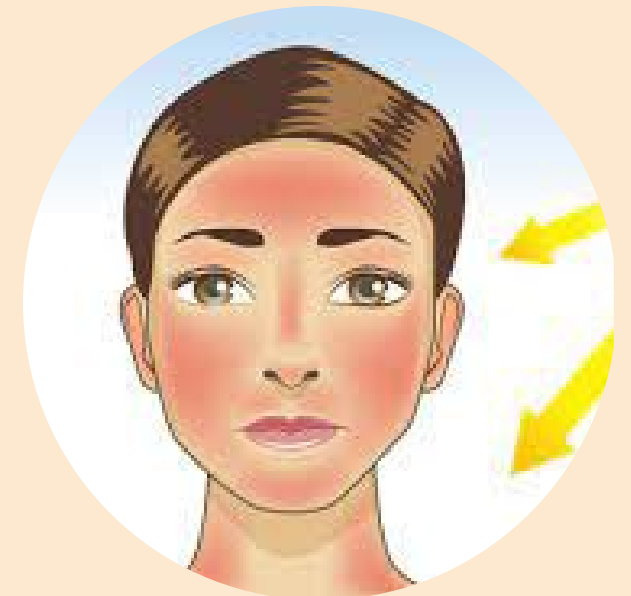
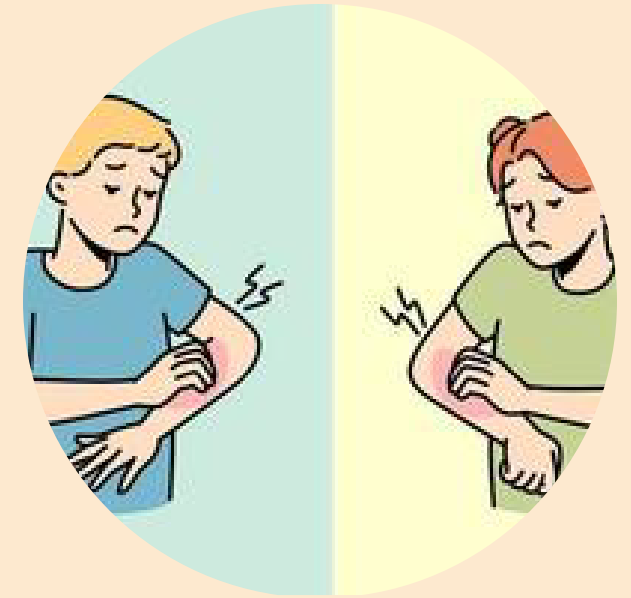
Symptoms usually last for a few days but can persist for several months.



PHOTOTOXICITY SKIN REACTION

The reaction is limited to sun-exposed skin and it:

- may or may not be itchy and sore.
- may appear as an exaggerated sunburn.
- may cause blisters and peeling of the skin.
- may, with prolonged use, cause skin thickening, darkening, or loss of skin pigment.





COMMON MEDICATIONS THAT CAUSE PHOTOTOXICITY

| | |
|-------------------|---|
| Class | Medications (limited list, there are many others) |
| Antibiotics | Tetracycline, doxycycline, sulfonamides, fluoroquinolones (ciprofloxacin, levofloxacin) |
| NSAIDs | Ibuprofen, ketoprofen, naproxen |
| Diuretics | Furosemide, hydrochlorothiazide |
| Retinoids | Accutane, Retin A |
| Cholesterol drugs | Statins: atorvastatin, fluvastatin, lovastatin, pravastatin, simvastatin |
| Neuroleptic drugs | Phenothiazines: chlorpromazine, fluphenazine, perphenazine, thioridazine Thioxanthenes: chlorprothixene, thiothixene |
| Antidepressants | SSRIs: paroxetine, fluvoxamine, fluoxetine, citalopram, sertraline, escitalopram. Imipramine |
| Antifungals | Itraconazole, voriconazole, griseofulvin |
| Others | 5-Aminolevulinic acid, methyl-5-aminolevulinic acid, para-aminobenzoic acid, 5-Fluorouracil, amiodarone, diltiazem, quinidine, coal tar, St John's Wort, niacin |

PREVENTION

Not everyone will develop a photosensitivity reaction. When two people take the same medication, one may develop a reaction and the other may not. The key to preventing a reaction is taking proper precautions.



PREVENTING REACTIONS



- ✓ Seek shade if outside for any length of time.
- ✓ Wear protective clothing (densely woven and darker colored fabrics provide the most protection) and broad-brimmed hats. There are specially formulated sun-protective clothing available.
- ✓ Sunscreens:
 - Use broad-spectrum (SPF at least 30) and apply thickly enough to get good coverage.
 - Apply ½ hour before sun exposure
 - Reapply about 15 minutes after exposure to the sun and then about every two hours and after swimming or sweating heavily.
- ✓ Sunblocks can also be used.



TREATMENT



For both phototoxic and photoallergic reactions, the drug or chemical causing photosensitivity should be discontinued whenever possible.

Sun-protective measures such as sun avoidance, sun-protective clothing, and sunscreen are essential.

Most phototoxic reactions can be treated as sunburn.

- Symptomatic treatment with cool compresses, emollients, and oral analgesics usually suffice. Topical anesthetics should be avoided because of the possibility of a contact allergy.



SUN INDUCED MEDICATION REACTIONS



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