

## Medications and the Sun

Many drugs can have side effects when people taking them are exposed to the sun. These are called sun-sensitizing drugs. There are two types of reactions seen:

### Photoallergy:

1. Problems occur when the skin is exposed to the sun after certain medicines or compounds are applied to the skin's surface.
2. Reactions typically occur one to three days after the substance comes into contact with the skin.
3. The ultraviolet light of the sun causes a structural change in the drug which then causes antibody formation.
4. The reaction usually appears as a rash which can be very itchy, have red bumps, scaling, and oozing.
5. The rash can spread to parts of the body that were not exposed to the sun.
6. These are generally caused by topical medications and cosmetic ingredients such as musk abrette, sandalwood oil, and bergamot oil.
  - a. Plants can also contain photosensitizing chemicals and cause skin damage: citrus (lime), Ficus (fig), Daucus (carrot), and Cymopterus (parsley).

### Phototoxic reaction:

1. This is the most common type of sun-sensitivity drug reaction.
2. It can occur when the skin is exposed to the sun after certain medications are injected, ingested, or applied to the skin.
3. It may arise within a few hours or up to a few days after the drug is taken.
4. Symptoms can persist up to 20 years after the medication is stopped.
5. The reaction is limited to sun-exposed skin and
  - a. May or may not be itchy and sore
  - b. May appear as an exaggerated sunburn
  - c. May cause blisters and peeling of the skin
  - d. With prolonged use of the drug, skin thickening and darkening or loss of skin pigment can occur.

Not every person who uses these drugs has a reaction. Also, it can be a one-time occurrence, or could happen each time the drug is taken and sun exposure occurs.

Sun-sensitizing drugs can aggravate existing skin conditions, including eczema and herpes, and may inflame scar tissue.

## Drugs associated with sun sensitivity reactions

1. **Antibiotics:**
  - a. Doxycycline, Tetracycline
  - b. Fluoroquinolones: ciprofloxacin, Levofloxacin
  - c. Sulfa drugs

2. **Antifungals:**
  - a. Griseofulvin
3. **Antidepressants**
  - a. Tricyclics: Doxepin, Elavil (amitriptyline)
  - b. Trazodone
  - c. St. John's wort
4. **Anti-psychotics**
  - a. Typical antipsychotics such as Haldol
  - b. Atypical antipsychotics such as Risperdal
5. **Anti-Parkinson agents**
  - a. Cogentin
  - b. Symmetrel
6. **Anti-histamines:**
  - a. Promethazine
  - b. Diphenhydramine (Benadryl)
7. **Antihypertensives (blood pressure drugs):**
  - a. Diltiazem, Cardizem, Nifedipine
  - b. Captopril
8. **Diuretics:**
  - a. Hydrochlorothiazide
  - b. Furosemide (Lasix)
  - c. Chlorothiazide
9. **Cholesterol reducing drugs:**
  - a. Statins: simvastatin, atorvastatin, lovastatin
10. **Disease-modifying agents** (used to treat rheumatoid arthritis, lupus)
  - a. Plaquenil
  - b. Sulfasalazine (Azulfidine)
  - c. Methotrexate
11. **Non-steroidal anti-inflammatory agents (NSAIDs)**
  - a. Feldene
  - b. Naproxen
12. **Diabetes drugs**
  - a. Glipizide, glyburide
13. **Others**
  - a. Oral contraceptives
  - b. Xanax

## 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 the proper precautions.

- ❖ Seek shade if outside for any length of time
- ❖ Wear protective clothing: densely woven and bright or dark colored fabrics provide the greatest sun defense. Broad-brimmed hats help protect the face, ears, and back of the neck. There is specially formulated sun-protective clothing available.
- ❖ Sunscreens
  - Use a broad-spectrum sunscreen with an SPF of at least 30.
  - Use the right amount: most people use only about half of what they need. Sunscreens need to be applied thickly enough to get the full SPF protection. This means that an average face requires at least a third of a teaspoon, an average body needs at least an ounce.
  - Apply sunscreen one-half hour before sun exposure to give it time to fully absorb and bind to your skin.
  - Sunscreen breaks down on the skin and its effect wears off. An SPF 30 sunscreen should be reapplied about 15 minutes after exposure to the sun, and then about every two hours. Reapply immediately after swimming or sweating heavily.
- ❖ Sunblock vs. Sunscreen:
  - Sunblock is a sunscreen that refers to the opaque (or physical) product that is effective at blocking both UVA and UVB rays and uses a heavy carrier oil to resist being washed off. Titanium dioxide and zinc oxide are two of the important ingredients found in sunblock. These are the ones that appear very thick and white.
  - Chemical sunscreens contain organic chemical compounds that absorb ultraviolet light as well as tiny particles that reflect, scatter, and absorb UV light. These absorb into the skin and thus are not seen like the sunblocks are.

## Treatment:

- ❖ Stop the drug and avoid exposure to direct sunlight by wearing clothing and sunscreen for at least two weeks.
- ❖ Physical sunscreens such as those containing zinc or titanium oxide are preferred because chemical sunscreen may exacerbate the reaction.
- ❖ Cool, wet dressings may help soothe the irritated skin.
- ❖ Oral antihistamines (Benadryl) and topical corticosteroids (hydrocortisone cream) may provide symptomatic relief.
- ❖ In extreme cases, oral therapy with prednisone may be needed.