

EFFECTS OF OZONE DEPLETION ON SKIN

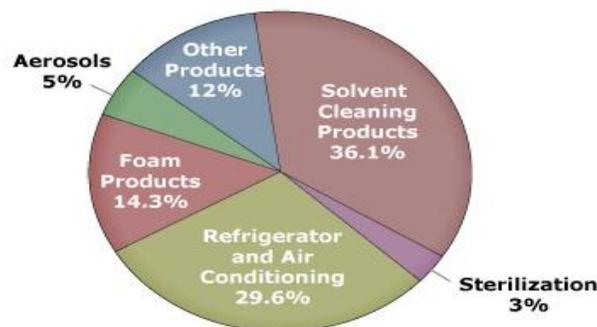
Effects of ozone depletion can result in 1) increased cases of skin cancer, 2) skin damage, 3) cataracts and other eye damage, and 4) immune suppression.

Skin Cancer

The incidence of skin cancer in the United States has reached epidemic proportions. One in five Americans will develop skin cancer in their lifetime, and one American dies every hour from this devastating disease.

Medical research is helping us understand the causes and effects of skin cancer.

Many health and education groups are working to reduce the incidence of this disease, of which 1.3 million cases have been predicted for 2000 alone, according to The American Cancer Society. The figure below shows the sources of ozone depleting substances.



Various sources that produce ODS.

Melanoma

Melanoma, the most serious form of skin cancer, is also one of the fastest growing types of cancer in the United States. Many dermatologists believe there may be a link between childhood sunburns and melanoma later in life. Melanoma cases in this country have more than doubled in the past 2 decades, and the rise is expected to continue.

Nonmelanoma Skin Cancers

Nonmelanoma skin cancers are less deadly than melanomas. Nevertheless, left untreated, they can spread, causing disfigurement and more serious health problems. More than 1.2 million Americans will develop nonmelanoma skin cancer in 2000 while more than 1,900 will die from the disease. There are two primary types of nonmelanoma skin cancers.

- **Basal Cell Carcinomas** are the most common type of skin cancer tumors. They usually appear as small, fleshy bumps or nodules on the head and neck, but can occur on other skin areas. Basal cell carcinoma grows slowly, and rarely spreads to other parts of the body. It can, however, penetrate to the bone and cause considerable damage.

- **Squamous Cell Carcinomas** are tumors that may appear as nodules or as red, scaly patches. This cancer can develop into large masses, and unlike basal cell carcinoma, it can spread to other parts of the body.

These two cancers have a cure rate as high as 95 percent if detected and treated early. The key is to watch for signs and seek medical treatment.

Other Skin Damage

Other UV-related skin disorders include actinic keratoses and premature aging of the skin.

- **Actinic keratoses** are skin growths that occur on body areas exposed to the sun. The face, hands, forearms, and the "V" of the neck are especially susceptible to this type of lesion. Although premalignant, actinic keratoses are a risk factor for squamous cell carcinoma. Look for raised, reddish, rough-textured growths and seek prompt medical attention if you discover them.
- Chronic exposure to the sun also causes **premature aging**, which over time can make the skin become thick, wrinkled, and leathery.

Since it occurs gradually, often manifesting itself many years after the majority of a person's sun exposure, premature aging is often regarded as an unavoidable, normal part of growing older. With proper protection from UV radiation, however, most premature aging of the skin can be avoided.

Source: <https://www.e-education.psu.edu/egee102/node/1973>