

BIA Info 6/2001 Beware the Sun! – Risks and Protection

Those sunny weekends... Who doesn't like bathing in the summer sunshine? We simply seem to need a certain amount of sunshine to feel well and healthy. But too much sun also carries some serious risks.

The Risk Factors

In excess quantities, the sun's ultraviolet (UV), visible, and infrared rays can cause damage to both the eyes and the skin, which can result in inflammation of the horny skin layer (stratum corneum) or in conjunctivitis (flash or snow blindness), burned retina, skin erythema (sunburn), or

accelerated skin aging. The worst effects are **cataracts** and **skin cancer**. Cataracts (a clouding of the lens tissue) is quite common. The chances of contracting cataracts rise as a person ages. One cause of cataracts is the eyes' exposure to the sun over many years. Replacement of the lenses with artificial lenses can often prevent ultimate blindness. Even more dangerous is skin cancer. Some 100,000 cases of skin cancer are reported in Germany every year, with 2,500 ending in death. The most frequent types are basal cell carcinoma (skin cancer) and squamous cell carcinoma. The main cause of these cancers is UV radiation affecting the skin. It is particularly the sunburn suffered by young children that increases the risk of contracting skin cancer later in life. Yet basal cell carcinoma and squamous cell carcinoma can normally be successfully cured with the appropriate medical attention. The less common "black" skin cancer, or malignant melanoma, is often promoted by a high number of pigment spots and earlier cases of skin cancer. The chances of recovering from this form of skin cancer are significantly lower (with a mortality rate of about 20%).

Skin Sensitivity

Human skin reacts differently to the effects of the sun's rays. A distinction is made among four different skin types among Europeans. The most sensitive, Skin Type I, (light skin, freckles, reddish hair) burns easily in the sun, whereas the least sensitive, Skin Type IV, (light brown / olive coloured skin, dark hair) rarely ever gets a sunburn. Certain medications and cosmetics can even increase the skin's sensitivity. Adjusting to the sun slowly reduces the skin's sensitivity to its

effects. Children's skin is particularly sensitive to the sun's rays.

Exposure

By spending time out in the open, by sunbathing, or travelling to sunnier climates on holiday, people

increase their exposure to the sun. In Germany, some 2.5 to 3 million people work outdoors; these people are particularly exposed to UV light during their working hours. One measure of the daily UV exposure is the so-called UV Index, which is published by the German government's office for radiation protection (*Bundesamt für Strahlenschutz*) on the

Internet at the address www.bfs.de.

Protection

The most important protection against too much exposure to the sun is avoidance. Getting a particularly deep tan is not really "cool", but actually rather dangerous! The skin should be allowed to adjust to the sun gradually. Very intense sunshine should be guarded against with suitable clothing and headwear. Sun screens with a sun protection factor (SPF) of 15 or higher can also help. Children are particularly in need of protection. It is also wise not to visit solariums or sun studios too often either. The eyes can best be protected with sunglasses of the DIN EN 1836 standard. The frames should also protect against peripheral light.

Occupational Safety Regulations

Both the accident prevention guidelines "*Allgemeine Vorschriften*" (BGV A1) and the planned accident prevention guidelines "*Optische Strahlung*" (BGV B9) call for protective measures against the risks of exposure to the sun at outdoor workplaces.

Additional Information

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