

# The importance of sun protection

## WHY PROTECT AGAINST THE SUN?

In the past, sun exposure was thought to be a healthy benefit of outdoor activity. However, studies have shown many unhealthy effects of sun exposure, such as early aging of the skin and skin cancer.

## WHAT KIND OF DAMAGE DOES SUN EXPOSURE CAUSE?

Part of the sun's energy that reaches earth is composed of rays of invisible ultraviolet (UV) light. When ultraviolet light rays (UVA and UVB) enter the skin, they damage skin cells, causing visible and invisible injuries resulting in increased numbers of moles, freckles, wrinkles, and skin cancers.

"Sunburn" is a visible type of damage, which appears just a few hours after sun exposure. In many people, this type of damage also causes tanning, or increased pigmentation of the skin, which is noticeable a few days after sun exposure. Freckles, which occur in people with fair skin, are usually due to sun exposure. Freckles are nearly always a sign of sun damage, and therefore demonstrate the need for sun protection.

Ultraviolet light rays also cause invisible damage to skin cells. Some of the injury is repaired, but some of the cell damage adds up year after year. After 20 to 30 years or more, the built-up damage appears as wrinkles, age spots, and even skin cancer.

## DO I HAVE TO WORRY ABOUT SUN PROTECTION ON CLOUDY DAYS?

The clouds block a good part of UVB, the burning rays, but they do not block UVA, the tanning rays. Therefore, while there is less probability of getting sunburn, the skin is exposed to the deeper penetrating UVA rays, which cause tanning and wrinkling. As a result, it is important to stay protected from the sun, even on cloudy days.

## HOW DO I SELECT THE RIGHT SUNSCREEN FOR MY CHILD?

All infants should be kept out of direct sun and be covered by protective clothing when possible. If sun exposure is unavoidable, sunscreen should be applied to exposed areas (i.e. face, hands). Sunscreens have been deemed safe for infants older than 6 months of age.

Choose a broad spectrum sunscreen with an SPF 30 or higher. The protective ability of sunscreen is rated by its Sun Protection Factor (SPF) – the higher the SPF, the stronger the protection. Sunscreens labeled as "broad spectrum" indicate that they have passed the test for protection against UVA. Spread sunscreen evenly over all uncovered skin, including ears and lips, but avoid the eyelids.

## How to protect your child's skin from the sun:

### 1 AVOIDANCE

If possible, avoid the sun between 10 a.m. and 2 p.m. It is best to plan indoor activities or seek shade under trees, umbrellas, or tents. One useful rule of thumb is that if your shadow is shorter than you, the sun is directly above and it is best to head for cover. Sun exposure is more intense closer to the equator, in the mountains, and in the summer. The sun's damaging rays are increased by reflection from water, white sand, and snow.

### 2 SUN PROTECTIVE CLOTHING

Cover your skin with sun protective clothing when outdoors, including a wide-brimmed hat to protect the face, scalp, ears and neck. In addition to filtering out the sun, tightly woven clothing reflects heat and helps keep you feeling cool. Multiple retailers now sell sun protective clothing for adults and children. Sunglasses with UV protection can help protect the eyes and eyelids from the harmful effects of UV light. Not all sunglasses have UV protection, so be sure to check the label.

### 3 SUNSCREEN

Block sun damage by applying a **broad-spectrum UVA and UVB sunscreen** with an SPF of 30 or higher 20-30 minutes before going outside and reapply at least every two hours, even on cloudy days. If swimming or sweating, sunscreen needs to be applied more often. There is no such thing as a "waterproof" sunscreen. Instead, look for products that say "water resistant" for use in water. Reapply more frequently if perspiring excessively or toweling off frequently.

Most importantly, choose a sunscreen that your child will wear. New sunscreens are added to the marketplace frequently, and selection of a particular brand is often a matter of personal preference. Sunscreens containing titanium dioxide and zinc oxide may result in whitish discoloration of the skin. Therefore, for dark-skinned children, sunscreens that do *not* contain titanium dioxide or zinc oxide should be considered.

#### **ARE SPRAY SUNSCREENS SAFE AND EFFECTIVE?**

Spray sunscreens can provide coverage from UV rays, however care must be taken to avoid accidental inhalation of the product, especially in children. The sunscreens need to be applied evenly to avoid skipped areas due to the distribution of the droplets on the skin. Spraying sunscreen on the hands and then applying, rather than spraying the face directly, can help children avoid breathing in these fumes.

#### **WHAT IF MY CHILD'S SUNSCREEN MAKES THEIR EYES OR SKIN BURN?**

Look for sunscreens that are fragrance free and use ingredients such as zinc oxide or titanium dioxide as these tend to be less irritating. Check the labels and try different products. Consult with your dermatologist if you continue to have trouble finding a suitable product.

#### **WHAT ABOUT VITAMIN D?**

Vitamin D is essential for many processes in the body. Studies have shown that regular use of sunscreens does not affect the vitamin D levels. In individuals who practice rigorous sun protection, the official recommendation of the American Academy of Dermatology (AAD) is that vitamin D can be easily and adequately obtained through dietary sources and supplementation.

## **HOW TO MANAGE A SUNBURN**

- Try using a cool bath to reduce the heat on the skin.
- Applying moisturizers right after a bath will help reduce dryness associated with a burn.
- Hydrocortisone cream found over the counter can help ease the inflammation associated with a sunburn.
- After consulting with your pediatrician or dermatologist, ibuprofen can help reduce the swelling, redness, and discomfort.
- Any blistering sunburn should be immediately evaluated by your pediatrician.

### **WHAT ABOUT THE CONTROVERSIES REGARDING SUNSCREENS?**

Hats, clothing, and shade are the most reliable forms of sun protection. Few people use enough sunscreen to benefit from the SPF protection listed on the label; studies show that people typically use about a quarter of the recommended amount.

Many have also raised concerns about oxybenzone, which had been shown in animal studies to have effects on the endocrine system. It should be noted that this ingredient has been in use for over 40 years without any reported side effects in humans.

Physical (inorganic) agents, such as zinc oxide or titanium dioxide, are used as tiny particles known as "nanoparticles". Concerns have been raised about their absorption into the skin. However, currently available data indicate that on intact skin, these nanoparticles stay on skin surface and do not penetrate into the deeper layers.



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