

How to protect children from UV exposure

PHOTOPROTECTION

FOCUS

- The understanding of risk from UV exposure is not consistent among all individuals.
- There is a belief by some dark-skinned individuals that photoprotection is not essential.
- More specific guidance and education about photoprotection are needed especially for children under 18 years old.¹

Guidelines for photoprotection and sun exposure recommendations¹

Seeking shade

Wearing sun-protective clothing

Using a sunscreen with a sun-protection factor (SPF) of at least 30



What about children's skin?

Solar radiation has more pronounced biologic effects on the skin of children compared to adults. Children's skin, particularly up to 3 years of age, has a lower concentration of protective melanin and a thinner stratum corneum which allows UV to penetrate deeper, resulting in more photodamage.^{2,3}

However, the minimal erythral dose in children has been shown to be similar to that of adults.⁴

The epidermis of young children is thin

The basal cell layer is relatively rich in stem cells

UV can easily reach dermal papillae and the dermal capillaries, which may promote photoimmunosuppression and induce mutagenesis⁴

- In newborns, the ability to develop pigmentation (tanning) after UV exposure has been demonstrated to occur within the first months (30-45 days) of life.⁵
- The increased vulnerability of the skin of children to exposure indicates that children and their parents need to be properly educated on photoprotection, whatever the skin types.

What about UV exposure?

UV exposure during childhood is a critical period for the increase in skin cancer risk later in life.

Having a sunburn during childhood almost doubles the risk for the development of cutaneous melanoma in adulthood.⁶

CHILDREN AND TEENAGERS SPEND A MEAN OF 1.5 TO 5.1 HOURS OUTDOORS DAILY.⁷

Regular use of sunscreen with an SPF of at least 15 during the first 18 years of life can reduce the incidence of basal and squamous cell carcinomas by 78%.¹

By 18 to 20 years of age, everyone will have received 40% to 50% of their cumulative UV exposure up to 60 years of age.⁸

How to protect children from UV exposure?

The most important strategy for photoprotection for children is behavioral modifications related to sun exposure. Approaches based on physical protection, such as shade, clothing, hats, and sunglasses, represent the best and least expensive photoprotection strategies.¹



WHAT ARE THE IDEAL SUNSCREEN PRODUCTS FOR CHILDREN?⁹

Water resistant, and with a low potential for irritation to the skin and eyes.

Incorporated into the daily routine of children in the same way as adults.

Applied in adequate amounts (2 mg/cm²) covering all exposed skin surfaces, paying special attention to areas such as the ears, neck, and the back of the hands.

Applied 20 minutes before sun exposure, and reapplied approximately every two hours when outdoors.

Have a broad-spectrum UV coverage and good photostability, dispersibility, and aesthetics.

INFANTS AGE < 6 MONTHS OLD

- Keep out of direct sunlight
- Cover with appropriate protective clothing and hats
- Apply sunscreen on small exposed areas only when sun avoidance is impossible

INFANTS AND CHILDREN AGE > 6 MONTHS OLD

- Protect skin by dressing in loose, comfortable clothing that covers the body
- Use a hat
- Avoid sun exposure or limit outside exposition between 10am and 4pm
- Use child-sized sunglasses with UV protection
- Use broad-spectrum sunscreen every 15-30 min before going outside and reapply every 2 h and after swimming, sweating, or drying off with a towel
- For sensitive areas of the body (nose, cheeks, top of ears, shoulders), use a sunscreen containing zinc oxide or titanium oxide
- Supplementation with vitamin D daily

American Academy of Pediatrics sun-protection recommendations for infants and children⁹

What about education on photoprotection?

Different ways to educate can be promoted:¹

- Public health campaigns that educate children and their parents/caregivers;
- School programs are key to improve children's knowledge of photoprotection, modify their perception of the healthiness of a tan and their intentions to seek shade when outdoors. They can also organize activities involving families to encourage sun-safe behaviors at home;
- Age-relevant programs highlighting the deleterious consequences of sun exposure on physical appearance like drama and art that allows active participation, seem to produce better results in terms of changes in attitude and behavior;
- Strategies to educate older children and teenagers may require the use of the Internet and involve specialists trained in youth language with whom children can identify themselves (e.g. My UV Patch app¹²).

General practitioners and pediatricians are in an excellent position to promote sun protection because they see children and families on a regular basis.

- A clear message should be communicated: being attractive and healthy does not mean being tanned, and aesthetic alternatives should be presented.
- Education on the side effects of indoor tanning should be done, and restriction of indoor tanning by minors should be enforced (minors aged under 18 years are already banned from tanning salons in several European countries, including France, Germany, and the United Kingdom).¹

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