



## Sunscreens and Your Infant

**Question: Should I be putting sunscreen on my four-month-old? If so, what is the best kind for babies? I have read something about sun exposure and vitamin D – does sunscreen block vitamin D?**

I have recently received many questions regarding sunscreen and infants. Our inborn attraction to and dependence on the sun's light (visible radiation) and warmth (infrared radiation) can result in too much of a good thing, due to the parts of the solar spectrum that we can't see or feel (ultraviolet radiation or UVR). Sunburn is acute radiation damage to the skin. Chronic UVR damage shows up in adulthood in the form of saggy, wrinkling, blotchy skin, melanomas, cataracts, a variety of disruptions to our immune systems, and susceptibility to cancers. Radiation risk has increased greatly over the last twenty years through worldwide measurable ozone depletion. This decrease in stratospheric ozone is a result of manmade chlorofluorocarbons used in numerous commercial products, including, ironically, coolants.

Infants' skin is much thinner and more sensitive to the sun than adults' skin, even in infants who have darker complexions. For the first few weeks of life, an infant's skin changes almost hourly, in response to temperature changes, friction, new exposures. Many parents do not want to apply any chemical to their early infant's skin and even avoid soaps and shampoos. I think this is a fine idea. Infant skin (and adult skin too, for that matter) is a self-regulating organ - over-washing removes protective natural emollients. Except for the very limited and special case of jaundice treatment in the first few days of life, early infants should be protected from direct sun. What about a four-month-old, or older?

Prior to 1999, the American Academy of Pediatrics advised against using sunscreen on infants under six months of age. The AAP revised this policy statement, however, suggesting that the dangers of sunburn outweigh the risk of sensitivity to sunscreens. Currently, the AAP recommends applying small amounts of sunscreen to exposed skin surfaces, such as baby's neck, face, and back of hands. However, the AAP's first-line recommendation regarding sun exposure remains the same: avoidance of direct sun – especially between 10am and 2pm – and dressing your baby in wide-brimmed hats, long-sleeved shirts, and lightweight long pants. Sunglasses that block 99%-100% of UV radiation are also recommended. Those baby bonnets and baby shades are not just for their cute or cool factor!

As your child gets older, you will be less and less in control of his or her sun exposure – children love being outdoors and have a hard time projecting 20 years into the future, so we need to figure out how to protect them. More than half a lifetime's sun exposure usually happens in childhood. The lighter your child's complexion, the greater the risk of UVR damage. Vacationing to Florida or any decreased latitude increases exposure. Higher altitude also increases the risk – for every 1000 feet above sea level, there is a 4% compound increase in UVR exposure. Even on cloudy days, most of the UV radiation still reaches earth. UVR reflects off snow, sand, water, and concrete. The lens of the eye cannot repair itself, and UVR damage accumulates over a lifetime, leading to cataracts and irreversible macular degeneration. Teaching your child to wear effective sunglasses in bright, reflective environments, according to Dr. Alan Greene, “may be more important than giving them a college fund.”

Getting into the habit of applying sunscreen or putting on glasses before going out in the sun can be like getting into the habit of teeth-brushing. It is best role-modeled by you, because your child will want to do what you do (in the beginning at least), without understanding all the reasons for it. What kind of sunscreen and sunglasses? The AAP suggests using products that contain only the active ingredients – meaning titanium dioxide or micronized zinc oxide particles – and no other chemicals. There are numerous sun blocks on the market for children today, some of the most natural ones are carried by the co-op. SPF stands for Sun Protective Factor and is measured in increments of 15. An SPF of 15 means it would take 15 times longer to get sunburned than if you did not use that product. Usually an SPF of 15 is enough, but the SPF you choose should be individualized to age, location, season, etc. For a child under one, many parents choose a higher SPF. Sunglasses should specify that they block both UVA and UVB radiation, because both types of ultraviolet wavelengths reach earth. All glasses will block UVB radiation, but many do not give UVA protection and actually make exposure worse! This is because the dark glasses cause our pupils to dilate, allowing more UVA radiation into the eye lens.

There are some aspects to consider when you apply sunscreen. UV radiation can penetrate loosely knit clothing, so applying sunscreen before dressing your child may be a good idea. (A typical cotton t-shirt has an SPF of only 7.) Sunscreen is most effective if applied 20-30 minutes before exposure. Always use sunscreen if you're going to be in the sun for thirty minutes or more and reapply throughout the day. Reapply sunscreen after being in the water, because even “waterproof” or “water resistant” screens become less effective after swimming.

Regarding vitamin D synthesis: the World Health Organization states, “Some UV radiation is essential to the body as it stimulates the production of Vitamin D. There is no doubt that a little sunlight is good for you! But 5-15 minutes of casual sun exposure of hands, face, and arms 2-3 times a week during the summer months is sufficient to keep your Vitamin D levels high.” The WHO asserts that this is true for breastfeeding babies as well. Darker babies need a little more outdoor time without sunscreen.

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