

Never Too Early! Protecting Children from Skin Cancer



Young children play under the sun. The bright sky and the shimmering light draw them in. Sun...light...heat...energy...warmth. Without sun people could not survive. Yet too much exposure to the sun's rays can cause serious damage to the skin. Protecting children from sun exposure when they are young can protect them from developing skin cancer as adults.

North Carolina has the fourth highest incidence rate for melanoma in the nation. Melanoma is the deadliest form of skin cancer.

Children with a tendency to develop moles, and especially those who are fair-skinned, are the most at risk for long-term effects of sun exposure. William Kaufmann, PhD, leads a research project at UNC-Chapel Hill that seeks to understand what influences the growth of melanoma. The goal is to learn how to prevent the development of melanoma in tomorrow's adults. The UNC researchers are exploring the connection between:

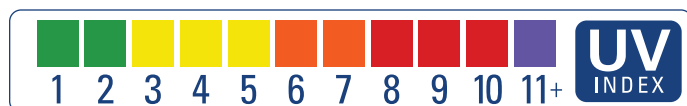
- a gene called BRAF,
- mutations in human melanoma cells caused by sunlight exposure, and
- the development of moles in children.

Mutation of the BRAF gene causes a pigment cell to develop into a mole. Sunburns damage chromosomes in developing moles. This can increase the likelihood that the mole will progress into melanoma. Researchers are using DNA sequencing to measure sunlight-induced mutations in the BRAF gene. Findings show that cells with the mutated BRAF gene are susceptible to DNA damage from sun exposure. This highlights the need to take extra precautions to protect children who are developing moles from sunburns.



Start early! Promote a healthy attitude about sun safety. Protect young children from exposure to the harmful rays of the sun. Follow these easy steps for planning sun-safe activities.

- ✓ **Check the UV index** at www.epa.gov/sunwise/uvindex.html each day. It predicts the next day's UV radiation levels on a 1–11+ scale.



- ✓ **Seek shade** during peak sun hours (10 AM to 4 PM). Locate popular play equipment and loose parts in the shade to encourage children to play out of the sun. Keep infants less than six months of age in the shade.
- ✓ **Cover children's skin** when outdoors with long-sleeve shirts and pants. Add a wide-brimmed hat to shade the ears, face, neck and eyes. Clothing manufactured with a UPF (ultraviolet protection factor) of at least 15 adds more protection.
- ✓ **Apply a sunscreen** with a sun protection factor (SPF) of 30 or higher. Reapply at least every 2 hours and after swimming and sweating.
- ✓ **Use sunglasses.** Wraparound sunglasses that block out 100% UVA and UVB rays will help prevent the onset of eye diseases such as cataracts and macular degeneration.



Dr. Kaufmann recently partnered with UNC pediatric dermatologist Diana McShane and UNC, Community Outreach and Engagement Core (COEC). They share research findings and helpful practices

for sun safety. The group developed *Childhood Sun Damage and Melanoma Risk: Understanding the Environmental Health Research and Clinical Application*. This one hour webinar is available at: <http://sph.unc.edu/cehs>. According to McShane, "Our family has made sun safety second nature, so that my own children understand the simple ways to protect themselves as a lifelong practice. We strive for this same practice among our patients and their families."

The COEC has information on melanoma risk as well as activities early educators and families can do with children. To request materials contact Neasha Graves.

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