



burning occurs. Second, some sunscreens do reduce the risk of other forms of UVR-related skin damage. Solid data concerning the ability of sunscreens to reduce certain forms of UVR-related damage — specifically carcinogenesis — are lacking, but there is a strong theoretical basis for the use of sunscreens to reduce the combined risks of carcinogenesis and photo-aging in humans.

The advice to delay exposure to the sun until 15 to 30 minutes after application of sunscreen is long outdated. The original sun protection factor (SPF) standards were established on the basis of a 20-minute delay after application, but the investigators later stated that their theoretical reasons for the delay were invalid and that sunscreens achieve full SPF value immediately. By perpetuating the myth of delayed activation we may unnecessarily be reducing compliance with sunscreen use.

In contrast to what was stated in the article, most sunscreens now on the market do not need to be reapplied every 2 hours, keeping their potency for 4 or even 6 hours after application, unless there is heavy sweating, significant friction or exposure to water. The admonition to reapply these expensive compounds every 2 hours may push their cost and convenience beyond the reach of the average consumer.

The statement that physical barriers are preferred over chemical barriers for infants is confusing. If the authors are referring to the distinction in sunscreen ingredients between UVR-absorbing chemicals, called “chemical blockers,” and UVR-reflecting chemicals, called “physical blockers,” there are no compelling data to suggest that the latter are any safer than the former. If the statement is intended to suggest that barriers such as shade, clothing, parasols or hats are preferable to sunscreen, it should instead be intuitively obvious that the most effective protection is

obtained from using both methods simultaneously. For example, at the beach only the combination of a hat plus sunscreen can provide adequate protection against direct UVR exposure from the sun, ultraviolet scatter from the sky and reflection from the sand.

The corrections noted here may improve the utility of this article for busy clinicians, as well as compliance among their patients.

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[One of the authors responds:]

Our article was based on a consensus statement arising from a symposium;¹ the expert panel for that symposium included 4 dermatologists.

At the request of the *CMAJ* editors, we included some information from the Sun Awareness Program of the Canadian Dermatology Association (CDA) on issues that were not addressed in detail by the symposium. This material included the statement about sunscreens preventing sunburn but not other UVR damage, as well as the advice to delay exposure until 15 to 30 minutes after sunscreen application and to reapply every 2 hours. The source, cited in our article, was the CDA's 1997 publication *Sun Facts*.²

The cost of more frequent application is certainly a possible deterrent to the use of sunscreens, but that needs to be weighed against the dangers of giving a false sense of safety if sunscreens are applied in insufficient quantities for true effectiveness. The symposium report suggested that the public “should be informed that current SPF labelling on sunscreens may overstate effectiveness because individuals often use sunscreen more

sparingly than the applications used in the determining of SPF values.”¹

Finally, clarification is also in order concerning the recommendation that physical barriers are preferable to chemical ones for infants. The intended meaning of the word “physical” was the common one (i.e., shade, clothing and hats), not the one that might be used by a chemist. We agree with Dr. Gregory's comment that physical barriers and sunscreen are best used in combination, and that point is reflected in our statement that sunscreens are only 1 component of effective sun protection.

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References

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2. Canadian Dermatology Association. Sun Awareness Program 1997 public education materials. Ottawa: The Association; 1997.

Signing up with ADD

Children and adolescents in whom attention deficit disorder (ADD) has been diagnosed¹ and who have been managed medically, psychologically and behaviourally^{2,3} during their school years are restricted in their choice of careers, particularly in the armed forces.⁴

To be fair to these applicants, all aspects of their medical condition should be considered. This would involve a detailed investigation of the medical history and consultation with the applicant's physician, as well as aptitude and psychological testing. Such a comprehensive review might offer these applicants a better chance of a military career.

The causes, neuroanatomy, physiology and neurobiology of ADD are well understood.⁵⁻⁷ Family studies,⁸