
Uncapping the bottle: A proposal to allow full-sized sunscreens in carry-on luggage to promote sun protection and prevent skin cancer



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Key words: keratinocyte carcinoma; melanoma; policy; public health; sunscreen.

Keratinocyte carcinoma, which includes cutaneous basal cell carcinoma and squamous cell carcinoma, is the most common type of cancer in the United States, and incidence is rising. More than 5 million keratinocyte carcinomas were diagnosed in 2012, and treatment costs are more than 4.8 billion dollars annually.¹ The incidence of melanoma, the most deadly skin cancer, has also been rising, and the American Cancer Society predicts that 100,350 cutaneous melanomas will be diagnosed and that 6850 people will die of melanoma in the United States in 2020.² Rising skin cancer rates are likely due to several factors, including an aging population, a shift toward more recreational lifestyles with emphasis on travel, and tanning bed use among youths. Sunscreen has been shown to reduce the risk of squamous cell carcinoma³ and to prevent sunburn, which is associated with higher rates of melanoma, basal cell carcinoma, and squamous cell carcinoma.⁴ Additionally, estimates show that increasing sunscreen use by 5% per year over 10 years would lead to a 10% reduction in melanomas in the United States (230,000 fewer melanomas).⁵ Sunscreens, particularly those that have a sun protection factor of 30+, are water resistant, and are broad spectrum (protect against ultraviolet A and B rays), play an important role in preventing skin cancer. However, barriers to accessing sunscreen may be preventing optimal use, particularly among travelers.

The Transportation Security Administration currently restricts carry-on liquids to 3.4 oz with the exception of medically necessary liquids. Because of checked baggage fees, an increasing number of travelers are using carry-on luggage only, and they are restricted to bringing small amounts of sunscreen with them (≤ 3.4 -oz bottles, all of which must fit in a quart-sized bag). Adequate sunscreen use requires coverage of 2 mg/cm², which for the average adult requires 1.4 oz of sunscreen per application, and reapplication is recommended every 2 hours. Thus, a 3.4-oz bottle would provide enough product for only 2.4 applications and would likely be fully consumed in 1 day of outdoor activities. Additionally, sunscreen is prohibitively expensive in many tropical locations, particularly islands, where it must be imported. Currently, contact lens solution, insulin, baby formula, breast milk, liquid vitamins, and other liquid medications are allowed in carry-on luggage in quantities of greater than 3.4 oz and are tested for explosive-related content by the Transportation Security Administration at security checkpoints. We propose that full-sized sunscreen bottles of greater than 3.4 oz should also be considered medically necessary for all individuals, should be allowed in carry-on baggage, and may be tested in the same manner. This is not only an important public health initiative but also has the potential to lower overall health care costs.

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Funding sources: None.

Conflicts of interest: None disclosed.

IRB approval status: Not applicable.

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J Am Acad Dermatol 2021;84:1206-7.

0190-9622/\$36.00

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<https://doi.org/10.1016/j.jaad.2020.10.066>

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