FIVE THINGS TO KNOW ABOUT ...

Sunscreens

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1 All sunscreens are not created equal

The sun protection factor (SPF) measures protection mainly from ultraviolet (UV) B. However, increasing evidence incriminates UVA in the pathogenesis of skin cancer.[1] The World Health Organization classifies both UVA and UVB as Group 1 carcinogens.[1] In addition to looking for sunscreens with an SPF of at least 30 (for UVB), patients should look for products that are labelled as "broad spectrum" and have the UVA logo circled, which means they meet Health Canada's requirements for UVA protection.

2 Most sunscreen users do not apply enough

A trial that examined application of sunscreen by 56 participants over a period of 4.5 years found that the median amount applied was less than half of the amount used for SPF determination.[2] This would provide about one-quarter to one-half of the labelled SPF (Box 1).[3,4]

Box 1: Follow the teaspoon rule[4]

- 1 teaspoon (5 mL) of sunscreen for the face, head and neck
- 1 teaspoon each to the upper extremities
- 1 teaspoon each to the front torso and the back torso
- 2 teaspoons each to the lower extremities
- Total: 9 teaspoons (45 mL) for the whole body

3 Reapplication of sunscreen within the first hour of exposure provides better protection than the traditional reapplication every two to three hours

Application before going outside, followed by a full reapplication within the first hour of exposure, helps patients achieve even coverage with the necessary amount of product.[3] Reapplication throughout the day is still necessary after heavy perspiration, swimming or towelling-off, even with "water-resistant" sunscreens.

4 Particle-based sunscreens (including nanoparticles) appear to be safe when applied to healthy skin

Studies show that zinc oxide and titanium dioxide nanoparticles in sunscreens do not penetrate past the level of the stratum corneum (the outermost "dead" layer of skin cells) after topical application to intact skin.[5]

5 Both chemical and physical sunscreens are considered safe

Health Canada has approved multiple chemical sunscreens and the physical agents zinc oxide and titanium dioxide.[6] A highly publicized study of rats fed large doses of oxybenzone (a chemical sunscreen) created controversy over its safety; however, a mathematical model showed that it would be essentially impossible for humans to attain the systemic levels in the study from topical application of oxybenzone.[7] Patients with concerns about chemical sunscreens can use physical sunscreens; avoidance of sun exposure and wearing sun-protective clothing are considered first-line protection strategies for prevention of skin cancer.

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