

Abstract

Clothing provides a protective barrier that reduces the amount of ultraviolet radiation (UVR) reaching the skin. Although swim-shirts have grown in popularity in Australia particularly among children, clothing remains under-utilized as a form of sun-protection in contemporary society. Australia pioneered the relative ranking describing the sun-protective capabilities of clothing based on UVR-transmission through fabric. Ultraviolet Protection Factor (UPF) measurement procedures and associated labelling specifications are documented in the Australian and New Zealand Standard, AS/NZS 4399:1996. This standard was introduced in 1996 with the intention of enabling consumers to make informed choices, and has since been adopted universally by the textile industry. Our RCT showing that fewer new pigmented moles (major risk-factor for melanoma) developed on body-sites routinely covered by “very good” to “excellent-UPF rated clothing” in childhood, suggest that the proportion of the body’s surface covered by a garment should be articulated to consumers, on the standardised swing-tag attached to the garment, in addition to fabric UPF. This would better enable consumers to make informed choices about the sun-protective advantage of certain garments. This translational research project aims at develop a reproducible, practical and cost-effective solution to assessing garment surface area, to make the inclusion of the body surface coverage of garments a feasible proposition for inclusion in future industry standards. Collaboration with the fashion industry is also needed to improve the aesthetic appeal, comfort, durability and affordability of sun-protective clothing which covers a significant body surface area, in order to increase its popularity in skin cancer prone populations.