

POSITION STATEMENT

Fake tans and UV radiation



* Endorsed by the Australasian College of Dermatologists

'Fake tan stains the skin a darker colour, but this colour does not provide protection against UV radiation'

Key messages

Individuals who choose to use fake tan should be aware of the following:

- Fake tan stains the skin a darker colour, but this colour does not provide protection against UV radiation;
- Fake tan products that contain sunscreen will provide protection for only a few hours after application – not for the duration of the 'tan'; and
- There is no fake tanning product available that has been scientifically proven to stimulate the production of melanin.

Recommendations

1. Cancer Council does not promote the perception that tanned skin is more desirable than pale skin;
2. People who have a strong desire to change their skin colour would be safer using a fake tanning product in preference to UV radiation (direct sunlight or solarium);
3. Users of fake tanning products should continue to protect their skin by:
 - Always protecting their skin when the UV Index is 3 and above;
 - Staying in the shade where possible;
 - Wearing a broad brimmed hat, sun protective clothing and sunglasses; and
 - Using a broad spectrum SPF 30+, water-resistant sunscreen and reapplying every two hours.

Background

Cancer Council Australia is concerned that individuals who use fake tan may assume they are protected from UV radiation. A survey conducted by Cancer Council South Australia in 2001 showed fake tan users were more likely to report having been sunburnt more than once over the summer compared with non-users.¹

A telephone survey conducted in NSW in 2003 to assess community attitudes and practices in relation to fake tanning lotions suggests that fake tanning products are not likely to be used as a safer alternative to sun tanning.²

A further study conducted in NSW in 2006 explored the potential for 'fake' tanning products as a substitute for 'real' tanning from ultraviolet radiation. The study involved 11 focus groups with female tan seekers and solarium users. This qualitative data confirmed that participants were unlikely to substitute fake tanning products as a safer alternative to either sun or solarium tanning.³

Fake tanning products

There is a wide range of fake tanning products available commercially.

Lotions – skin dyes

Tanning lotions, sprays, creams, mousses and combined moisturiser and fake tan products contain dihydroxyacetone (DHA), a chemical or vegetable dye that temporarily stains the skin, giving a tanned appearance. The dye interacts and binds with the dead skin cells located in the upper layer of the skin. The colour comes off when the dead skin cells flake off - approximately 1 week after application.

Fake tan products usually contain 3 to 5% DHA⁴ (professional products can range up to 15%) with lower concentrations producing a light tan and higher concentrations resulting in a darker colour.⁵ Other ingredients can include additional cosmetic agents such as antioxidants,⁴ fragrance and preservatives. Some brands may include a sunscreen, however the protection provided lasts for only a few hours – not for the length of time that the ‘tan’ remains.

DHA is considered safe for topical application on the skin^{5,6} however there is currently no research available regarding safety of exposure to DHA “to the area of the eye, the lips, mucous membranes, or internal organs via ingestion or inhalation”.⁴

‘Bronzers’

Bronzers are cosmetic products such as tinted moisturisers, foundation and powders. Bronzers provide the skin with temporary colour which unlike products containing DHA, wash off with soap and water.

Tinted sunscreen

Sunscreen containing tint is also available which provides colour to all parts of the body where it is applied. The colour is not permanent, washing off with soap and water. Tinted sunscreen may be useful in identifying parts of the body that have been missed in the initial application of sunscreen however users should be aware:

- No sunscreen provides 100% protection and other sun protection measures should also be used;
- Sunscreen should be SPF30+ and broad spectrum. It needs to be applied liberally 20 minutes before going outside and reapplied every two hours;
- Sunscreen should not be used to extend time spent in the sun or to achieve a suntan; and
- The tinted colour in the sunscreen darkens the skin but in itself does not provide any protection from UV radiation.

Tanning tablets and ‘accelerators’

Tablets

Tanning tablets are available in Australia and usually contain low doses of beta-carotene, a vitamin A related chemical responsible for the colour of a number of orange fruit and vegetables. These tablets give the skin an orange colour that may remain for several weeks on the palms and soles, even after use of the tablets has stopped. The tablets offer no protection from UV radiation.

In some countries outside Australia, tanning pills that contain high amounts of beta-carotene and/or a chemical called canthaxanthin are available. These products have been linked with dangerous side effects including damage to the eyes and the liver.

Accelerators

Tanning accelerators are lotions or pills that claim to speed up the natural tanning process by stimulating melanin production in the body. At this stage there is no evidence to suggest that tablets or lotions will stimulate melanin production in the skin.

Spray tanning booths

Spray tanning is now available at beauty salons, hairdressers and some gymnasiums. Spray tanning uses misters to apply an even coat of fake tan solution to all, or parts, of the body.⁴

There are 2 types of spray techniques in use:

1. Operator controlled spray
2. Self operated by client.

In the USA, the Food and Drug Administration (FDA) has recently cautioned consumers of spray tans against potential exposure to DHA, advising that measures should be taken to protect the eyes, lips and mucous membranes and to prevent against inadvertent ingestion and/or inhalation of DHA-containing products.^{4,6}

Cancer Council strongly recommends that people using a fake tanning product take the following measures to protect their skin when outdoors:

- Seek shade
- Wear protective clothing, a broad brimmed hat and sunglasses
- Apply SPF30+ broad spectrum sunscreen

Further information

- Cancer Council Australia – www.cancer.org.au
- Cancer Council's Cancer Helpline – 13 11 20
- Your state/territory cancer organisation
- The Australasian College of Dermatologists – www.dermcoll.asn.au

See also Cancer Council Australia's position statement on solarium use.

References

1. Beckmann KR et al, Use of fake tanning lotions in the South Australian population. *Medical Journal of Australia* 2001; Vol 174: 75-78.
2. Girgis A. et al, Australians' use of fake tanning lotions: another piece of the puzzle. *Australian New Zealand Journal of Public Health* 2003; Vol 27(5):529-532.
3. Paul, Paras & Girgis, Fake Tanning Qualitative Study, The Cancer Council NSW, November 2006.
4. Fu JM et al, Sunless Tanning. *Journal of the American Academy of Dermatology* 2004; Vol 50(5): 706-713.
5. Draelos ZD, Self-Tanning Lotions: Are They a Healthy Way to Achieve a Tan? *American Journal of Clinical Dermatology* 2002; 3(5): 317-318.
6. USA Food and Drug Administration – Sunless Tanners and Bronzers – October 2006.

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