Information Sheet

Cancer Council ACT

Solariums and Tanning

This information also applies to sunbeds and sunlamps.

The Cancer Council ACT recommends that you avoid tanning by exposure to ultraviolet (UV) radiation from the sun or by exposure to artificial UV radiation from solariums and sunlamps. There is no such thing as a healthy tan!

The more your skin is exposed to UV radiation, the greater your risk of skin cancer.

What is a tan?

Skin cells in the top layer of skin (epidermis) produce a pigment called melanin that gives skin its natural colour. When skin is exposed to UV radiation, more melanin is produced, causing the skin to darken. This is a 'tan'.

A tan is a sign that the skin is attempting to protect itself against UV damage. It is **not** a sign of good health.

Will a solarium tan, or any tan, protect my skin?

Tanning without burning can still cause skin damage, premature skin ageing and skin cancer[1].

A natural tan offers very limited sunburn protection, usually similar to an SPF4 sunscreen, depending on the skin type[2]. The melanin produced by fair-skinned people is much less protective, meaning no amount of sunbaking will result in a tan, just sunburn and skin damage[3]. People who sunburn and never tan in the sun will not tan in a solarium.

Every time skin is exposed to the sun or a solarium, the total lifetime dose of UV radiation is increased. Over time, this damage adds up.

Are solariums safe to use?

The more exposure to UV radiation from any source, the greater the chance of skin cancer and the more quickly skin will age. Compare the skin on the back of your hand with the inside of your thigh to see the damage caused by years of sun.

Under the Trade Practices Act (2001) solarium operators are not allowed to advertise their services as 'safe'. Solarium use is not a safe way to tan, nor does it protect the skin from natural UV radiation.

A recent study by the International Agency for Research on Cancer concluded that using solariums regularly before the age of 35 boosted the risk of melanoma by 75%.

An even more recent report suggested that the increased risk of melanoma could be as much as 98% (QLD Institute of Medical Research, 2007).

What are the responsibilities of the solarium operator?

The current Australian Standard for the solarium industry (AS 2635:2008) has recently been updated to further protect consumers. The standard is voluntary, which means solarium operators can choose whether or not they abide by it! Several states have recently regulated the solarium industry in their jurisdiction with tighter laws and tougher penalties.

Under the current standards:

- under 18 year olds are banned
- people with skin type 1 and 2 are also banned
- sunbeds will be required to reduce their UV intensity by 40 per cent
- unsupervised operations are banned
- ensure staff are trained in using equiptment and assessing skin types
- ensure clients complete a skin assessment and consent forms
- ensure protective eyewear is always worn
- cannot claim non-cosmetic health benefits or solariums are safe
- keep client records for at least two years.

Currently the solarium industry is not regulated in the ACT.

If you would like more information on the Australian Standard (AS/NZS 2635:2008), go to www.standards.com.au

Other health hazards of solariums

Eye goggles should always be worn in a solarium. If the eyes are exposed to UVA radiation from a solarium, the cornea and the conjunctiva may be briefly inflamed, and sight can sometimes be permanently damaged.

Up to half the people who use solariums develop minor skin irritations such as redness, itchiness and dryness.

Solariums can also aggravate existing rashes. If solarium use is excessive, short-term effects may be burning and blistering. In the long term, skin will age prematurely and skin cancer may develop.

Some cosmetics and prescription drugs, including some antibiotics, drugs for high blood pressure, antidepressants, some medicines for skin conditions, drugs that suppress the immune system (as used after organ transplants) and nonsteroidal anti-inflammatory drugs, can increase a person's sensitivity to UVA radiation[4]. Use of a solarium under these conditions may result in severe sunburn; it can also cause an itchy and painful rash followed by blotchy darker patches on the skin and damage the eyes.

The UV radiation from solariums has been shown to cause changes in the body's immune system. It is not yet known how important these changes are.

Fake tans

Lotions – skin dyes

Fake tanning lotions, sprays and creams contain synthetic or vegetable dyes that temporarily stain the skin, giving a tanned appearance. The dye binds to the skin and comes off when the dead skin cells flake off. The fake tan usually lasts up to a week, depending on the product.

Generally fake tans offer little protection from UV radiation. Some brands advertise that they include a high SPF sunscreen. As with other sunscreens, these provide only short-term protection for about two hours after it is applied.

Tablets

There are tablets available which contain betacarotene, a vitamin A related chemical that gives the orange colour to a number of fruit and vegetables. These tablets produce an orange skin colour that may remain on the palms and soles for several weeks after use of the tablets has

The protection does not last for the length of the tan and hence a comination of the 5 national sun protection measures are still very much neccessary.

If using a fake tan product, it is important to remember that the product will not protect you from the sun. You must still use a combination of sun protection measures.

Vitamin D

Some UV radiation exposure is needed for vitamin D production. Vitamin D is needed for bone, joint, muscle and brain function. It is produced in the skin by exposure to UV radiation. Low levels are also present in some foods.

A balance is required between avoiding an increase in the risk of skin cancer and getting enough UV radiation for vitamin D.

Most Australians will make enough vitamin D through sun exposure during their day-to-day activities, even while being SunSmart[5].

Further information and resources

Please also refer to the information sheet *Being SunSmart in Australia*.

For further information and advice contact the Cancer Council Helpline on 13 11 20 or The Cancer Council ACT on 6257 9999.

UV protective clothing and accessories can be purchased at The Cancer Council ACT's Fairbairn shop or online at www.actcancer.org, click on 'Shop'.

This information can be photocopied for distribution.

References

1 Raab WP. Photodamaged skin: a medical or a cosmetic concern? *J Int Med Res* 1990;18(Suppl 3): 2c–7c.

2 Gange RW et al. Comparative protection efficiency of UVA- and UVB-induced tans against erythema and formation of endonuclease-sensitive sites in DNA by UVB in human skin. *J Invest Dermatol* 1985;85(4): 362–4.

3 Wu C. Unravelling the mystery of melanin: Does a tan protect skin from sun damage or contribute to it? *Science News* 1999;156: 190–1.

4 Dubakienò R, Kuprienò M. Scientific problems of photosensitivity. *Medicina* (Kaunas) 2006;42: 619–24.

5 Samanek, Amanda J, et al. Estimates of beneficial and harmful sun exposure times during the year for major Australian population centres. *Med J Aust* 2006;184(7): 338-41.

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