

Solariums and tanning



This information also applies to sunbeds and sunlamps

Solariums use ultraviolet (UV) radiation to give people a tan. The major cause of skin cancer is exposure to UV radiation from the sun or artificial UV radiation from solariums and sunlamps.

Are solariums safe to use?

Solariums emit harmful levels of UV radiation that can be up to six times as strong as the midday summer sun.

Research shows that people who use a solarium before the age of 35 have a 75% greater risk of melanoma than those who do not use solariums.¹ A recent study estimated that one in six melanomas in Australians aged 18 to 29 years would be prevented if solariums were shut down.² Research also indicates that solariums contribute to skin ageing and wrinkles.

There is no such thing as a safe 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 getting UV damage. Sunburn or a tan is a sign of your skin cells in trauma.

Your skin remembers everything – all the sunburns, tans, solarium visits and just simple day-to-day time spent outdoors without sun protection. It all adds up to increase the risk of skin cancer, even when no sunburn is experienced.³ Tanning without burning can still cause skin damage, premature skin ageing and skin cancer.⁴ A tan offers very limited sunburn protection, usually similar to an SPF3 sunscreen, depending on the skin type. However, a tan offers no protection against further DNA damage from UV radiation.⁵ People who sunburn and are not able to get a tan in the sun will also not tan in a solarium. For fair-skinned people, no amount of sun baking will protect from sunburn and skin damage.⁶

Responsibilities of solarium operators

From 2010 the Radiation Amendment (Tanning Units and Fees) Regulations requires that operators must:

- ban people under 18 years of age from using their solarium
- sight evidence of age documents for all clients
- ban people with very fair skin (skin type I) from using their solarium
- display mandatory health warnings
- provide a consent form outlining the risks of solarium use for customers to read and sign
- complete a skin assessment of all clients
- ensure all staff have completed training in carrying out skin assessments and determining exposure times
- ensure clients wear protective eyewear.

The Australian Standard AS/NZS 2635:2008 *Solaria for cosmetic purposes* recommends that people with very fair skin (skin type I) and people with white skin who burn easily and tan minimally (skin type II) should not use a tanning unit.

Cancer Council Victoria is calling on the Victorian government to follow the lead of New South Wales and ban solariums outright by 2014.

Other health hazards of solariums

Eye protection should always be worn in a solarium. If the eyes are exposed to UV 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 aggravate existing rashes; with excessive use, short term effects may include burning and blistering. In the long term, skin will age prematurely and skin cancer may develop.

Some cosmetics and antibiotics, drugs for high blood pressure, antidepressants, some medicines for skin conditions, drugs that suppress the immune system (as used after organ transplants) and non-steroidal anti-inflammatory drugs can increase a person's sensitivity to UVA radiation.⁷ 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 to the eyes.

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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

Fake tanning lotions, sprays and creams offer little protection from UV radiation. Some brands advertise that they include a high SPF sunscreen. As with other sunscreens, these provide protection for about two hours after application. Protection does not last for the length of the tan.

Fake tan tablets contain betacarotene, a vitamin A-related chemical that gives the orange colour to some fruits 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 stopped. The tablets offer no protection from UV radiation.

Remember, a fake tan product will not protect you from the sun. You must still use a combination of sun protection measures.

Vitamin D

Solariums should never be used to boost vitamin D levels as they emit dangerous levels of UV which increase your risk of skin cancer.

In Victoria, average UV levels are 3 and above from September through to April. Most Victorians require only a few minutes of mid-morning or mid-afternoon sun exposure to the face, arms and hands (or equivalent area of skin). Be extra cautious in the middle of the day when UV levels are most intense. People with naturally very dark skin may need three to six times this amount.⁸

In Victoria, the average UV is below 3 from May until August, making it a great time to roll up your sleeves and get some winter sun. Most people need between two to three hours of midday winter sun exposure spread over a week, to the face, arms and hands (or equivalent area of skin) to help with their vitamin D levels. People with naturally very dark skin may need three to six times this amount of exposure.

If you are worried about your vitamin D levels, speak to your doctor.

Further information and resources

Being SunSmart in Victoria information sheet and other information is available at sunsmart.com.au or contact the Cancer Council Helpline on 13 11 20.

UV-protective clothing and accessories can be purchased at the Cancer Council Victoria's shop or online at cancervic.org.au/store

References

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- ⁶ 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.
- ⁷ Dubakienò R, Kuprienò M. Scientific problems of photosensitivity. *Medicina (Kaunas)* 2006; 42: 619–24.
- ⁸ Cancer Council Australia, Australian and New Zealand Bone and Mineral Society, Osteoporosis Australia and the Australasian College of Dermatologists (2012) *How much sun is enough? Getting the balance right – vitamin D and sun protection* (brochure).

This information is based on current available evidence at the time of review. It can be photocopied for distribution.

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