

Solariums (sunbeds and tanning beds)

A solarium is any tanning unit that a person might use to tan their skin using ultraviolet (UV) radiation. Other names for solariums include sunbeds, sunlamps or tanning beds.

Solarium tans are not safe tans. UV radiation from solariums can increase your risk of developing skin cancer. Solariums can also cause eye damage and immediate skin damage such as sunburn, irritation, redness and swelling. A solarium tan won't protect your skin from natural UV radiation when you go out in the sun.

Public education campaigns about the dangers of UV radiation from the sun have resulted in a decline in sunburn rates. However, some Australians have turned to solariums to develop a tan under the mistaken belief that these devices are 'safe'.

Solarium use in Australia

There was a 600 per cent increase in the number of solariums in Melbourne over the decade to 2006. However following the introduction of legislation in 2008 and negative publicity about the industry, solarium numbers decreased in Melbourne by 51 per cent between 2006 and 2008–09.

In 2009, the International Agency for Research on Cancer (IARC) moved ultra-violet emitting tanning beds to its highest cancer risk category and labelled them as 'carcinogenic to humans'.

Each year in Australia, 281 melanoma (a type of skin cancer) cases, 43 melanoma-related deaths and 2,572 new cases of squamous cell carcinoma are estimated to be caused by solarium use.

How UV affects your skin

Skin cells in the top layer of skin (epidermis) produce a pigment called melanin, which gives skin its natural colour. When skin is exposed to UV radiation, more melanin is produced and this causes the skin to darken. This is what we call a 'tan'. A tan is a sign that the skin is getting UV radiation damage. It is not a sign of good health.

Tanning without burning can still cause skin damage, premature skin ageing and skin cancer. Each time you expose your skin to UV radiation, in the sun or in a solarium, you increase your risk of developing skin cancer.

Depending on the skin type, a natural tan offers a very limited sunburn protection – usually similar to an SPF3 sunscreen. The melanin produced by fair-skinned people is much less protective – for them, no amount of sunbaking will result in a tan, just sunburn and skin damage. People who sunburn and never tan in the sun will not tan in a solarium.

A solarium tan is not a safe tan

Research shows that using a solarium increases your risk of skin cancer and contributes to the premature ageing of your skin. People who use a solarium before the age of 35 have a 75 per cent greater risk of melanoma than those who don't use solariums.

The findings of a recent Australian study indicate that the risk of melanoma increases with more frequent use, and with an earlier age at first use.

The UV radiation emitted (given out) by solariums is a different type and intensity of radiation to that generated by the sun. According to the Australian Standard, solariums may produce concentrated doses of UV radiation that can be up to three times the strength of the midday summer sun. This is the same as the UV Index being 36 (generally the highest UV Index level in Victoria is 12). However, recent tests have shown that 15 per cent of tanning beds exceed this level, with some emitting up to six times more UVA (see below) than the summer sun.

It is a myth that solariums are a way to 'pre-tan' and protect your skin from burning in the sun. It offers no protection against DNA damage, which occurs without burning. Under the *Trade Practices Act (2001)*, solarium operators are not allowed to advertise their services as 'safe'.

UVA radiation

UVA radiation represents most of the radiation used in a solarium. It penetrates the deepest layer of the skin and causes:

- Deterioration of the skin
- Premature ageing, wrinkling and loss of elasticity
- Reduced collagen levels
- Blotchiness and pigmentation.

High doses of UVA radiation can also cause sunburn, DNA damage in the skin and skin cancer.

Some cosmetics and prescription drugs can increase a person's sensitivity to UVA radiation. These include 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 non-steroidal anti-inflammatory drugs (NSAIDs).

Using 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.

UVB radiation

UVB radiation is the other part of the radiation used in a solarium. UVB radiation is even more dangerous than UVA. It penetrates the uppermost layer of skin and is the main cause of sunburn and skin cancer. Solarium use can also result in minor skin irritations such as rashes, itchiness and dryness.

Skin cancer and other damage

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. Possible damage can include:

- **Skin cancer** – until recently it was believed that UVB was the sole cause of skin cancer. We now know that both UVA and UVB are responsible for causing skin cancer.
- **Eye damage** – when the eyes are exposed to UVA in a solarium, the cornea and the conjunctiva may become inflamed and sight may be damaged. This can lead to cataracts and temporary blindness.
- **Skin irritation** – up to half the people who use solariums develop minor skin irritations such as redness, itchiness and dryness. Solariums can also aggravate existing rashes.
- **Sunburn and skin damage** – short-term effects of using solariums may be burning and blistering. In the long term, skin will age prematurely and skin cancer may develop. Once the skin damage occurs, it is impossible to reverse.
- **The immune system** – 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.

Having two solarium sessions within 48 hours poses an increased risk and it is against the law for solarium owners to allow this in some parts of Australia, including Victoria. This is because of the danger to skin if re-exposed to UV radiation when already damaged from the previous visit.

The Australian Solarium Standard

All solarium facilities must be licensed and follow elements of the Australian/New Zealand standard for the solarium industry (AS/NZS 2635). In January 2009, a new version of this standard was released. While the standard is voluntary, most states and territories in Australia now have legislation and regulations to govern the operation of solariums, using the revised standard as guidance.

The revised standard recommends that the maximum UV intensity for sunbeds is cut by 40 per cent and places greater responsibility on solarium operators to inform their customers and control the health risks to them.

Victorian solarium regulations

The solarium industry in Victoria has been regulated since 2008. In February 2009 the Victorian Government introduced further changes to the management licence for tanning units that are consistent with the new Australian standard. These apply to the operation of all solariums in Victoria. Tanning units must use non-ionising radiation and any person or business that possesses, sells or maintains a tanning unit needs to hold a management licence.

The Victorian licence requires that operators must:

- Ban people under 18 years of age from using their solarium
- Ban people with very fair skin (skin type 1) 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.

In 2010 the licence conditions were further tightened. They stipulate that operators must keep records of proof-of-age documentation for all customers, and make training in conducting skin checks mandatory for all those who operate tanning beds.

For further information on the Victorian regulations, see the Department of Health website. For further information on the national standards, see the Standards Australia website.

Avoid the risk of solariums

Tanned skin is not healthy skin. Be proud of your natural skin colour. Taking care of your skin now will help prevent premature ageing and reduce your risk of skin cancer. If you must tan your body, a fake tanning method that doesn't use UV radiation is preferable.

If you do visit a solarium in Victoria, check that they provide a consent form, display mandatory health warnings, complete a skin assessment and ensure that you wear protective eyewear. This way you will know they are aware of their obligations under the Australian Standard and are following the requirements under their Victorian licence. Avoid combining indoor tanning with outdoor tanning and always wear protective eye goggles. Never tan on your face.

Cancer Council Australia and the Australasian College of Dermatologists do not support tanning in solariums in any circumstances.

Where to get help

- Your doctor
- Cancer Council Helpline Tel. 13 11 20
- SunSmart
- Multilingual Cancer Information Line, Victoria Tel. (03) 9209 0169
- Radiation Safety Hotline, Department of Health Tel. 1300 767 469
- Environmental Health, Department of Health – for further information on Victorian regulations
- Standards Australia.

Things to remember

- A solarium tan is not a safe tan.
- Each time you expose your skin to UV radiation, in the sun or in a solarium, you increase your risk of developing skin cancer.
- UV radiation exposure is the leading cause of premature ageing.
- Tanning in a solarium does not make it safer to tan in the sun.

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SunSmart

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