

Get Brown Tanning's Position on AS/NZ 2635:2008 Solaria for Cosmetic Purposes

Version 1.6 to November 2011

Note: the Standard is available to purchase (single-user licence) at [http://www.standards.co.nz/web-shop/?action=viewSearchProduct&mod=catalog&pid=2635:2008\(AS/NZS\)&searchId=727364&searchOrderingIndex=1&searchSessionId=61AFEB6A969DF8044CA37BCDAE2C27AC](http://www.standards.co.nz/web-shop/?action=viewSearchProduct&mod=catalog&pid=2635:2008(AS/NZS)&searchId=727364&searchOrderingIndex=1&searchSessionId=61AFEB6A969DF8044CA37BCDAE2C27AC)

As a leading supplier to the indoor tanning industry since 1988, and a dedicated Auckland retail clinic for the last six years, Get Brown Tanning is uniquely qualified to analyse the documents designed to guide new and existing operators to better client management practices, with the overall aim of improving public health outcomes. We identify these documents as well-intentioned but at times with limited workability due to bias against the industry, and believe there is a strong need to provide some balance for sunbed operators. The following sets out the main points to consider when reviewing the guideline documents.

Contents

- Intent
- Representation
- Preface
 - o Relevant studies excluded
 - o Further criticism of the IARC report
- 1.3 Application
- 1.5.12 Definition
- 2.1.1 Effective Irradiance
- 2.5 Age Limit
- 2.12 Promotion
- 3.1.2 Maximum Repeated Exposure
- 3.1.3 Skin Photo Type Exclusion
- 3.2 Eye Protection
- 3.6.1 Warning Notices
- 3.6.2 Client Consent Form and Skin Assessment

Standard AS/NZ 2635:2008 Solaria for Cosmetic Purposes

Where we consider there are comments, disagreements or omissions to the document these are discussed in detail. If a point does not appear in this discussion document, it is assumed that point is accepted and recommended as a guideline to one's indoor tanning service environment.

Intent.

By the refusal to acknowledge or discuss the benefits of moderate tanning in non-burning fashion, and by the inference that any and all UV exposure is of extreme risk, the guidelines present a misleading and confusing picture to a sunbed operator. If the activity is indeed so dangerous, why is it sanctioned at all? Those who seek to guide the industry occupy the dichotomous position of stated non-tolerance to it. Do they have a real interest in improving the standards of the industry? Or is their intention, more honestly, to frighten operators into quitting so there is no need to regulate at all?

We make this point to question the intentions of most, if not all of the organizations whose business they have made it to seek to guide and control the activities of our industry.

Representation.

The representative committee drawing up the latest revision of AS/NZS 2635:2008 Solaria for Cosmetic Purposes was made up of 12 groups. Of these groups, half (6) were Cancer groups and groups of Dermatologists. A further two (2) were groups concerned with Radiation, three (3) were Consumer representative groups, and one group (1 out of 12) represented the indoor tanning industry (Australasian Solarium Association). The pitiful representation of the very industry it seeks to guide is our first major concern with the validity of the Standard the committee produced. It also goes a long way to explain most of the “unworkable” parts of the document. Drawn up mostly by people who have never set foot in a tanning clinic, let alone managed one, many of the resulting guidelines are practically unrealistic and commercially unreasonable.

A Further Note On the 2008 Revision: Having been formed during the revision process, the New Zealand equivalent of the Australasian Solarium Association- the Indoor Tanning Association NZ Inc (INTANZ)- appealed to the committee for a representative place. (Despite all her details remaining unchanged since the 2002 writing of the original Standard, Gabrielle Brown of the original committee unfathomably failed to be contacted to provide New Zealand representation.) Although the representation was allowed and so INTANZ became privy to the process, unfortunately at that late stage representatives were unable to attend the meetings in Sydney, Australia. As committee members INTANZ were invited to vote on the final version of the revision. The group cast a negative ballot, and outlined three particular points of concern. Soon after, INTANZ was advised that the issues had “been discussed” by the committee, and had “been resolved.” Without consultation with the member group who actually raised the concerns, the points were apparently dismissed, and over-ruled. Subsequently, INTANZ became aware the revision of their industry guideline had gone ahead, with the new Standard published on 31st December 2008. With apparent disregard for the conflict of interest arising from his position as Director of the Cancer Prevention Centre at the Cancer Council Victoria, the Chairperson of the revision committee role was held by Mr. Craig Sinclair. Equally there seemed to be no recognition of any conflict arising from his previous work for the World Health Organisation. As a point of fact Mr. Sinclair single-handedly produced a brochure in 2003 for WHO- “Artificial Tanning Sunbeds: Risks and Guidance”. On March 30th 2009, Craig Sinclair received the ‘Outstanding Committee Award’ on behalf of the AS/NZS 2635:2008 committee from Standards Australia for pushing the revision through in “just 10 months” and subsequently releasing the new edition in record time.¹

Preface comment: “new evidence” since 2002 shows an increased risk between solarium use and skin cancer.

The “new evidence” is referenced as both the International Agency for Research on Cancer (IARC) 2007 systematic review, and a 2005 study²- which is itself contained in the IARC review. No explanation is given for including this twice.

Examination of the IARC Systematic Review 2007.

16 out of 86 included studies referenced were published after 2002. Of the 16 studies, 11 did not attempt to ascertain a relationship between solarium use and skin cancer, and are

¹ Standards NZ, “Solarium Standard committee wins Australia’s Outstanding Committee Award.” Touchstone Jul 2009 <http://www.standards.co.nz/touchstone/Issue+07/Consumer+Safety/Solarium+Standard+committee+wins+Australia+s+outstanding+committee+award.htm>

² 16. (86.) Gallagher RP et al, Tanning beds, sunlamps, and risk of cutaneous malignant melanoma. Cancer Epidemiol Biomarkers Prev 2005.

therefore irrelevant to the preface comment. Of the five remaining studies, only one³ actually used newly acquired data (as opposed to re-examining old data which largely came from a Norwegian-Swedish observational study conducted in the 1990s- several years prior even to the original version of AS/NZS 2635:2008.)

Here we individually examine each of the 16 supposedly relevant new studies.

1. (5.) Paul CL et al. Solaria use by minors in Australia: is there a cause for concern? Aust N Z J Public Health 2004

Did not seek to ascertain a relationship between solarium use and skin cancer.

Conclusion: "...the data suggest that under-age use of solarium may not be an issue at this time."

2. (6.) Paul CL et al. Solarium compliance in an unregulated environment: the Australian experience. Eur J Cancer 2005.

Did not seek to ascertain a relationship between solarium use and skin cancer.

Research funded by Cancer Councils.

3. (12.) Pfeifer GP et al. Mutations induced by ultraviolet light. Mutat Res 2005.

Did not seek to ascertain a relationship between solarium use and skin cancer.

Not an epidemiological study.

4. (15.) Halliday G. Inflammation, gene mutation and photoimmunosuppression in response to UVR-induced oxidative damage contributes to photocarcinogenesis. Mut Res 2005.

Did not seek to ascertain a relationship between solarium use and skin cancer.

Carried out for Dermatology Research Laboratories, Division of Medicine, Melanoma and Skin Cancer Research Institute, Royal Prince Alfred Hospital at the University of Sydney, Sydney, NSW, Australia.

5. (21.) Phan TA et al. Spectral and dose dependence of ultraviolet radiation-induced immunosuppression. Front Biosci 2006.

Did not seek to ascertain a relationship between solarium use and skin cancer.

Carried out for Dermatology Research Laboratories, Division of Medicine, Melanoma and Skin Cancer Research Institute, Royal Prince Alfred Hospital at the University of Sydney, Sydney, NSW, Australia.

6. (22.) Aboutaleb S. et al, Immune protection, natural products, and skin cancer: is there anything new under the sun? J Drugs Dermatol 2006.

Did not seek to ascertain a relationship between solarium use and skin cancer.

Reviews available "agents" (i.e drugs, pharmaceuticals) being currently developed to protect the immune system against suppression caused by UV-radiation.

7. (23.) Ullrich SE et al, Mechanisms underlying UV-induced immune suppression. Mutat Res 2005.

Did not seek to ascertain a relationship between solarium use and skin cancer.

Seeks to review the mechanisms underlying the induction of immune suppression after UV exposure.

3 14. (72.) Bataille V. et al, Exposure to the sun and sunbeds and the risk of cutaneous melanoma in the UK: a case-control study. Eur J Cancer 2004

8. (25.) Autier P. Perspectives in melanoma prevention: the case of sunbeds. Eur J Cancer 2004

This paper reviews a previous study on melanoma risk for Norwegian women conducted between 1991 and 1999.

The concluded risk is “moderate”.

9. (34.) Bataille V. et al, A multicentre epidemiological study on sunbed use and cutaneous melanoma in Europe. Eur J Cancer 2005.

Overall statistical conclusions were insignificant (e.g ‘ever-use’ relative risk 0.90) **“Host factors such as numbers of naevi and skin type were the strongest risk indicators for melanoma.”**

10. (39.) Demko CA et al, Use of indoor tanning facilities by white adolescents in the United States. Arch Pediatr Adolesc med 2003.

Did not seek to ascertain a relationship between solaria use and skin cancer.

11. (47.) Lazovich D. et al, Indoor tanning by adolescents: prevalence, practices and policies. Eur J Cancer 2005.

Did not seek to ascertain a relationship between solaria use and skin cancer.

12. (48.) Hamlet N, Kennedy K. Reconnaissance study of sunbed use by primary school children in Lanarkshire. J Public Health 2004.

Did not seek to ascertain a relationship between solaria use and skin cancer.

This observational ‘study’ involved a group oral interview in a classroom situation of 8-11 year olds. Positive responses were counted by ‘a show of hands’. 7% of the 1405 children questioned claimed to have used a sunbed in the previous 6 months. The authors of the study concluded “a significant number of primary school children may be using tanning devices”.

13. (50.) Veierod MB et al, A prospective study of pigmentation, sun exposure and risk of cutaneous malignant melanoma in women. J Natl Cancer Inst 2003.

Reviewed the aforementioned study of Swedish and Norwegian women carried out between 1991 and 1999.

“Conclusions: Our results confirm previous findings that hair color, number of nevi on the legs, and history of sunburn are risk factors for melanoma and suggest that use of a solarium is also associated with melanoma risk. Adolescence and early adulthood appear to be among the most sensitive age periods for the effects of sunburn and solarium use on melanoma risk. However, it may be too early to see the full effect of adult exposures in this cohort.”

14. (72.) Bataille V. et al, Exposure to the sun and sunbeds and the risk of cutaneous melanoma in the UK: a case-control study. Eur J Cancer 2004

Conclusions to this study were various: “The only significant associations in this study were with 10 or more sunburns and the use of a sunbed in young subjects with fair skin.... **“The magnitude of melanoma risk in association with natural and artificial sun exposure is small compared with phenotypic risk factors such as skin type and naevus counts.”**

15. (82.) Walther U. et al, Risk and protective factors for sporadic basal cell carcinoma: results of a two-centre case-control study in southern Germany. Clinical actinic elastosis may be a protective factor. Br J Dermatol 2004.

Did not seek to ascertain a relationship between solaria use and skin cancer.

Found an increased risk for basal cell carcinoma for people with pre-existing skin diseases, those with fair or red hair, those with a family history of the cancer, those with sunburn episodes 20 years prior to the BCC, and some risk associated for outdoor workers.

The only protective factor against BCC found in this study was ‘clinical actinic elastosis’, or premature aging of the skin and degeneration of the elastic tissue of the dermis due to prolonged exposure to sunlight. Therefore in the case of basal cell carcinoma this study indicates that long-term tanners are in fact more protected than non-tanners.

*n/a (83.) Veirod MB et al, Re: A retrospective study of pigmentation, sun exposure, and risk of malignant melanoma in women. J Natl Cancer Inst 2004.
This study has already been referenced in (50.) and is not applicable as it cannot be counted twice.*

16. (86.) Gallagher RP et al, Tanning beds, sunlamps, and risk of cutaneous malignant melanoma. Cancer Epidemiol Biomarkers Prev 2005.

This study concluded a ‘significant’ increase in risk of cutaneous melanoma subsequent to sunbed exposure, despite the statistical conclusions being fairly weak.

During the same period, studies and reviews of studies were conducted showing only weak associations between sunbed use and skin cancer, but these have all been ignored by the IARC.

Our conclusion is that the Standard’s implication of “new evidence” showing an increased risk between solaria use and skin cancer is incorrect. In fact the only new evidence referred to (a singular study) shows a weak relationship; otherwise the included research had already been reviewed and the scientific community simply re-hashed the same data. This, in a scientific or a commercial way, is not “best available evidence.”

Get Brown Tanning strongly believes that the preface of the Standard guideline effectively sets the tone for the rest of the document. We take objection, and have taken the time to outline the reasons for that objection, in order to encourage reviewers of the document to be circumspect from the outset.

1.3. Application

“The Standard is not applicable to the therapeutic administration of ultraviolet treatment by registered members of the medical profession.”

Medical professionals may be experts in the field of human physiology, but they are not ultraviolet radiation experts. Why should their provision of UV light services be unrestricted and not bound by the same limits as sunbed operators?

We believe setting the medical profession apart sets a dangerous precedent. While gradually squeezing out the indoor tanning operators, it paves the way for doctors to provide ultraviolet light services to patients for a range of different reasons, charging high prices for these elective procedures, which are otherwise currently provided at an affordable rate by sunbed operators.

There is also a glaring omission here in point 1.3. Why are home tanning unit users completely excluded from the Standard? If one of the purposes of this document is to protect people from the harmful effects of misuse of ultraviolet radiation, it fails completely to include and guide the many ‘home operators’ who are legally permitted to run sun-tanning equipment in their homes.

A 2009 report from the Joint Canadian Tanning Association (JCTA) analysed the data used by the IARC to make conclusions on sunbed use and risk of skin cancer. It found that splitting the data out between commercial sun-tanning establishments, medical phototherapy units and home tanning units showed an actual negligible level of risk associated with commercial establishments.⁴

1.5.12 Definition: “Tanning unit user: Any person who wishes to undergo or is undergoing artificial tanning for cosmetic purposes.”

The term “artificial tanning” is incorrectly used. Acquisition of photo-protective facultative pigmentation (a tan) is carried out by the same biological process of melanogenesis (melanin production in the melanocyte cells) whether the skin is exposed to natural or artificial sources of ultraviolet radiation.

We point out that as people do choose to use indoor tanning equipment for reasons other than cosmetic, the definition is too narrow. Many people choose to use indoor tanning equipment on referral by the medical profession to alleviate certain skin conditions. The activity is also engaged in by people wanting to improve their vitamin D status, to acquire sunburn protection of at least 2-3, or for mood enhancement.

Section 2. Installation & Maintenance

2.1.1 Effective Irradiance

THIS POINT WAS OBJECTED TO IN THE INTANZ NEGATIVE BALLOT TO THE 2008 REVISION, FOR THE FOLLOWING REASON:

“Note: a UV Index of 36 can be three times the total effective erythemal irradiance of mid-summer solar UV at noon.”

Outdoors, the sun can only strike one side of the body at one time. In an indoor tanning environment, the ultraviolet light provides 360° coverage to the body.

The explanatory note above is often translated as ‘sunbeds can be three [or, even more incorrectly, five] times stronger than the sun outdoors’. This causes alarm, because people are conditioned to believe that any exposure to outdoor UVR is harmful. (So, three times as harmful is VERY harmful!)

In fact, because light only strikes one side of the body at a time- effectively halving the measurement of any exposure outdoors- effective UVR is much closer when comparing indoors and outdoors than people are ever given to understand.

(Remember, the human body can produce up to 10,000 IUs of vitamin D in 10 minutes of UVR exposure.)

THE OBJECTION WAS IGNORED AND NO CHANGE WAS MADE TO THIS CLAUSE.

2.5 Age Limit

It is imperative to note that we (and the NZ industry) have so far accepted the 18 and under age restriction, and currently do not object in principle to the inclusion of this limit.

⁴ Joint Canadian Tanning Association (JCTA). ‘Home Tanning Units and Medical Devices Were The Real Risk in the WHO-IARC Report: A Closer Look at the Data’. 2009.

However, we point out the work of other national indoor tanning industries (particularly Canada) on this issue showing the evidence to support a restriction of tanning unit usage by minors is not robust. Their argument includes the highlighting of dangers to minors who seek outdoor UVR when indoor tanning is excluded from their permissible behaviours, and a parental rights concern for those who wish their teenagers to acquire photo-protective facultative pigmentation (tan) for various reasons. We agree a restriction on under-15s and a return to parental consent for those aged 15 to 18 is more appropriate for the industry.

Get Brown Tanning, in practice, accepts and enforces the under 18 age restriction. An exception is made, however, for minors who have validated and written medical permission and the support of their parents.

2.12 PROMOTION

THIS POINT WAS OBJECTED TO IN THE INTANZ NEGATIVE BALLOT TO THE 2008 REVISION, FOR THE FOLLOWING REASON:

“Claims of non-cosmetic health benefits may not be made in the promotion of tanning unit use.”

We objected simply to the wording of this clause, and we were ignored.

Yes, it is a complex issue, but importantly (like the whole of the Standard) brooking no discussion with those providing indoor sun-tanning services is no way to begin to make sense of it, and those who sat on this revision committee and chose to ignore all the comments made by the ‘pro-tanning’ lobby are guilty of putting people increasingly at risk by their refusal to give any credence to the valid points made.

It has been proven that:

1. Sunbed exposure does result in the development of photo-protective facultative pigmentation.⁵
2. Sunbed exposure does promote the development of vitamin D (25-OH-D) in the skin.^{6 7 8 9}
3. Acquired photo-protective facultative pigmentation offers an estimated SPF of 2 or 3.

This is generally accepted, and we say further:

- a. Given the equally accepted estimation that the ‘actual’ SPF number is generally half the number on the product used due to inadequate use by the consumer, the SPF of 2 or 3 would be the equivalent of using a chemical sunscreen with SPF of 4 or 6. While lower than the recommended minimum of SPF 15, the advantage in terms of ‘time of exposure before sunburn occurs’ cannot be overlooked.
- b. The sunbed industry- estimating on the basis of reports of personal experience of outdoor UVR skin reaction post the acquisition of a photo-protective tan- argues the SPF offered by a tan can actually be up to 4 or 6.

⁵ Yamaguchi, et al, “Cyclobutane pyrimidine dimmer formation and p53 production in human skin after repeated UV irradiation.” *Experimental Dermatology* 2008 17(11): 916-24.

⁶ Moan, J et al, “Sunbeds as vitamin D sources,” *Photochemistry and photobiology* (2009 Nov-Dec):85(6):1474-9.

⁷ Tangpricha V, et al. “Tanning is associated with optimal vitamin D status (serum 25-hydroxyvitamin D concentration) and higher bone mineral density.” *The American Journal of Clinical Nutrition* 80, 1645-9 (2004)

⁸ Porojnicu, et al. “Sun beds and cod liver oil as vitamin D sources” *Journal of Photochemistry and Photobiology*, 91 (2008) 125-131

⁹ McKenzie, Richard L et al. “Erythema versus vitamin D production from sunlight and solarium.” National Institute of Water and Atmospheric Research (NIWA), UV Workshop 2010. <http://www.niwa.co.nz/our-services/online-services/uv-and-ozone/workshops/2010/papers/papersindex>

Anecdotally, the sunbed industry has evidence that:

1. Tanning unit users are referred to use indoor tanning equipment by their medical professionals for the informal treatment of skin conditions including eczema and psoriasis.
2. Tanning unit users choose to tan in order to acquire photo-protective facultative pigmentation prior to sunny holiday where UV exposure will be increased both in time and in skin area.
3. Tanning unit users choose to tan for a perceived sense of increased well-being, which the World Health Organisation recognizes: "Aside from tanning, many people claim that use of sunbeds helps them to be more relaxed and have a feeling of wellbeing."

Importantly, the wording of clause 2.12 is (again) too narrow. What can be defined as 'promotion'? Does promotion only include purposeful advertising or marketing of indoor tanning services, or may it also include casual conversations over the counter of the facility, or responses to 'Frequently Asked Questions' as listed on a website? It is completely unreasonable to expect commercial indoor tanning providers to be 'muzzled' from any discussion of topical issues relating to UVR exposure either indoors or outside. It is particularly unreasonable that we should not disseminate information from credible sources, such as current and relevant research or scientific data, to our interested clients.

Update August 2011: as the Commerce Commission has now effectively agreed that sunbeds do produce vitamin D, and that there is a minimum SPF 2 or 3 to be gained from an indoor tan, the Standard's provision clause 2.12 is rendered even more complex.

Get Brown Tanning does not accept this clause, and wherever possible we explain to the fullest extent our position on its contents. It is unworkable in its current form, and we will continue to campaign for a revision to it.

THE OBJECTION WAS IGNORED AND NO CHANGE WAS MADE TO THIS CLAUSE.

Section 3. Operation

3.1.2 Maximum repeated exposure

"No exposure in a tanning unit shall exceed 0.9 MED. Repeated exposure shall not exceed 3 MED per week irrespective of exposure schedule. Repeated exposure shall be administered no sooner than 48 hours after the previous exposure including initial exposure."

Both the United States and Canada allow a Maximum Allowable Dose (MAD) of 4.0 MED per session, which for an individual tanning three times per week equals a maximum of 12.0 MED.

In preference NZ/Aus should follow the gradual increase allowable plan like the USA as follows:

	Initial Session	MAD (Max Allowable Dose)
Skin type 2	0.5 MED	3.0 MED
Skin type 3	0.7 MED	4.2 MED
Skin type 4, 5 & 6	0.9 MED	5.4 MED

For higher skin types, the current restriction means they would be highly unlikely to develop a tan with such restriction. It therefore seriously interferes with the rights of the individual to choose to undergo the activity, and with the rights of the business owner to offer those services with a view to fulfilling the client's wish.

In addition, the '48 hours' restriction prior to a subsequent session must be amended to '24-48 hours' or at least 'the day following the day after' the previous exposure. There is no evidence

to suggest tanning past 24 hours, but prior to 48 hours is problematic. In fact, sunscreen efficacy (i.e whether or not the SPF value is true) is measured 24 hours after UVR exposure, proving the ‘fallow period’ of 48 is unnecessary.

3.1.3 Skin Photo Type Exclusion

“Individuals with Skin Photo Type II (people with white skin who burn easily, tan minimally) are not recommended to use a tanning unit.”

It is completely unreasonable to expect operators to discourage indoor tanning for individuals with a ‘qualifying to tan’ skin type. It is important that operators note the elevated risk for skin type II individuals, and the establishment should be equipped to deal with the additional care and more thorough monitoring required of these clients, but to suggest the operator should effectively turn the client away through a discouraging ‘sunbed use is not recommended for you’ comment is ludicrous, and will not be adhered to. This is another unworkable part of the document which should have been revised with a view to actually helping those vulnerable skin types, rather than placing unworkable restrictions on sunbed operators.

3.2 Eye Protection

There is no way for an indoor tanning operator to ‘ensure’ a client will wear the protective eyewear provided. The wording here should be ‘will do everything possible to ensure’ and further, the requirement should be an explanation of the possible risks involved with UVR exposure to eyes during the process of recommending the protective eyewear provided be used.

3.6 CLIENT INFORMATION

3.6.1 Warning notices

Permit us to make a very pedantic, but no less instructional point. While referring you to the Note on the Standard Revision Committee Award 2008 above, we note that if you do follow to the letter the very specific instructions on paper and font size guiding the requirement for warning notices to be in immediate view of clients entering the establishment- the full version of the text required to display will fail to fit on your A4 warning page. (Amazing how some of these very simple points fail to make the grade when you are “rushing things through”.) We recommend revising the Arial fonts to 28 pt for the heading, and 26 pt for the text, in order to fit the warning on the page. (Note: you *will also* have to adjust your margin settings in most cases.)

3.6.2 Client consent and skin type assessment

3.6.2 (d) “A copy of the signed and dated consent form is handed to the client”

This requirement is totally unnecessary, provided the client is given ample time and a reasonable environment to read, digest and discuss the information. It is simply a time-consuming and costly additional compliance measure for the indoor tanning provider.

Get Brown Tanning does not provide a copy of the client consent form to clients as standard practice; rather we provide clients with an opportunity to request a copy.