Testimony of the

Connecticut Dermatology and Dermatologic Surgery Society

Connecticut ENT Society

Connecticut Urology Society

Connecticut Society of Eye Physicians

**On SB 263 an Act Requiring Tanning Facilities to Provide Notification of the Health Risks Associated with the Use of Tanning Devices**

On

March 1, 2010

Good morning Senator Harris, Representative Ritter, and other distinguished members of the Public Health Committee, I am Todd Zachs and I am a board certified otolaryngologist practicing in West Hartford, CT and I am here today to represent more than 1000 physicians in a variety of medical specialties in support of SB 263.

As part of my testimony today I have included a Fact Sheet from the World Health Organization regarding the hazards of sun tanning beds. In general, physicians support any legislation that seeks to provide added transparency and consumer protections for Connecticut citizens. SB 263 is a bill that helps to strengthen both transparency in risks to health and provides protections through warnings.

There is little scientific doubt that a relationship exists between the ultraviolet radiation emitted by commercial tanning beds and the development of skin cancers. Indeed, this past summer the International Agency for Research on Cancer, a subsidiary of the World Health Organization, classified sun tanning devices as "Group 1: carcinogenic to humans." Other notable members of that group include asbestos and cigarette smoke. Their analysis showed a direct link between the use of tanning devices and a significantly increased risk of malignant melanoma Malignant melanoma is the deadliest form of skin cancer and the sixth most common cause of cancer deaths overall in the United States.

At the present time, these commercial tanning parlors and the sale of the devices are not regulated by the State of Connecticut. Furthermore the public is at risk because the State does not require the posting of adequate warning signs to consumers. While we fully support better warnings on the hazards of indoor tanning as would be required under SB 263, we recommend taking it a step further by prohibiting children under the age of 16 from using indoor tanning facilities, and requiring those aged 16 and 17 to have a parent sign a permission slip in person at the facility. Currently, children aged 16 or under need only present a written permission slip from a parent, the validity of which is unknown.

In closing, we feel that the ever-growing body of evidence linking the use of indoor tanning beds and the deadliest form of skin cancer requires us to take a harder look at how these facilities are overseen, especially when our children are involved. Thank you.

World Health Organization

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# Sunbeds, tanning and UV exposure

The desire to acquire a tan for fashion or cosmetic purposes has led to a large increase in the use of artificial tanning sunbeds in, mostly, developed countries. Use of sunbeds for tanning continues to increase in popularity, especially among young women.

Sunbeds used in solariums, and sun tanning lamps, are artificial tanning devices that claim to offer an effective, quick and harmless alternative to natural sunlight. However, there is growing evidence that the ultraviolet (UV) radiation emitted by the lamps used in solariums may damage the skin and increase the risk of developing skin cancer.

Some 132 000 cases of malignant melanoma (the most fatal kind of skin cancer) and over two million cases of other skin cancers occur worldwide each year. One in every three cancers diagnosed worldwide is a skin cancer. Most skin cancers are attributable to over-exposure to natural UV radiation. A fact sheet indicating the adverse health consequences from natural (i.e., sun) UV exposure issued by the World Health Organization (WHO) can be found at the link to the right.

This fact sheet is the complement of the above, providing information on artificial sources of UV. Primary among these artificial sources is sunbeds, and this fact sheet looks at the health consequences of sunbed usage and how they can be managed. Information for this fact sheet comes from WHO sponsored meetings and workshops, recent scientific literature, reviews by WHO Member States and the recommendations of international NGOs.

## Health consequences

### Skin cancers

Exposure to UV, either naturally from the sun or from artificial sources such as sunlamps, is a known risk factor for skin cancer. Short-wavelength UVB (280-315 nm) has been recognized for some time as carcinogenic in experimental animals, and there is increasing evidence that longer-wavelength UVA (315-400 nm) used in sunbeds, which penetrates more deeply into the skin, also contributes to the induction of cancer. A study conducted in Norway and Sweden showed a significant increase in the risk of malignant melanoma among women who had regularly used sunbeds.

Additional exposure to UV from sunbeds is likely to enhance the well-known detrimental consequences of excessive solar UV exposure. There is no evidence to suggest that UV exposure from any type of sunbed is less harmful than UV exposure from the sun. Pre-cancerous actinic keratoses and Bowen's disease have also been found in sunlight-protected but sunbed exposed skin in fair-skinned users after just two to three years of regular sunbed use.

### Skin ageing, eye damage and other adverse health effects

Any excessive exposure to UV, not just from sunbeds, can result in structural damage to human skin. In the short term this damage can be due to burning, fragility and scarring and in the longer-term as photoageing. Photoageing, caused by the breakdown of collagen in the skin by UV, manifests itself as wrinkling and loss of elasticity.

The effects of UV on the eye include cataracts, pterygium (a white coloured growth over the cornea) and inflammation of the eye such as photokeratitis and photoconjunctivitis. Furthermore, excessive UV exposure can suppress the immune system, possibly leading to a greater risk of infectious diseases.

## Some skin types are unsuitable for tanning

Based on their susceptibility to sunburn, skin types are classified into six different classes (I – VI). People with skin type I have the lightest skin and may not have even a light tan after repeated exposure to a sunbed. Instead, their skin generally suffers sunburn reactions. People with skin type I are more likely to use sunbeds than people with darker skin.

The ability of the consumer to recognize their skin type as not suitable for sunbed use is based on either self-diagnosis, or worst, a bad experience of sunburn. For this reason sunbed operator training is needed to ensure correct skin type diagnosis. While skin type II and higher can tan, skin damage can still occur following excessive exposure to UV.

## Dangers associated with childhood UV exposure

Childhood exposure to UV and the number of times a child is burnt by UV, either from the sun or from sunbeds, are known to increase the risk of developing melanoma later in life. For this reason, particular attention is required to ensure children and adolescents do not use sunbeds. The United States Department of Health and Human Services has classified exposure to sunlamps or sunbeds as "known to be carcinogenic to humans" and states that the longer the exposure, the greater the risk, especially to people exposed before the age of 30 years.

## About sunbeds

Sunbeds emit predominantly UVA and some UVB, both of which can damage the DNA in cells of the skin. However, in recent years, lamps of sunbeds have been manufactured that produce higher levels of UVB to mimic the solar spectrum and speed the tanning process. While UVB has well known carcinogenic properties and whose excessive exposure is known to lead to the development of skin cancers, recent scientific studies suggest that high exposures to the longer wavelength UVA could also have an impact on skin cancer occurrence.

As with sun exposure, recent studies indicate a relationship between the use of sunbeds and malignant melanoma as well as non-melanoma skin cancers such as squamous and basal cell carcinomas. Thus, the consequences of regular sunbed use may include disfigurement from removal of skin cancers, early death if the cancer is a malignant melanoma, as well as substantial costs to national health systems for screening, treating and monitoring skin cancer patients.

## Health benefits

Aside from tanning, many people claim that use of sunbeds helps them to be more relaxed and have a feeling of wellbeing. It is difficult to quantify such claims.

While sunbed use may increase vitamin D synthesis, predominantly from the UVB component, for the majority of the population, incidental exposure to the sun, combined with normal dietary intake of vitamin D, provides adequate vitamin D for a healthy body throughout the year. If people require more vitamin D than the sun can provide (for example, because of living in polar regions) this should be supplemented through diet rather than sunbed use.

Only in very rare and specific cases should the medically-supervised use of sunbeds be considered. Medical UV devices successfully treat certain skin conditions such as dermatitis and psoriasis. These treatments should only be conducted under qualified medical supervision in an approved medical clinic and not unsupervised either in commercial tanning premises or at home using a domestic sunbed.

There is a widespread false belief that a tan acquired using a sunbed will offer good skin protection against sunburn for a holiday in a sunny location. In reality, a tan acquired using a sunbed offers only limited protection against sunburn from solar UV. It has been estimated that a sunbed tan offers the same protective effect as using a sunscreen with a sun protection factor (SPF) of only 2-3.

## Strong case for effective regulations governing sunbed use

As long as sunbeds are available to the public, there is a need for guidelines or legislation to reduce the risks associated

with their use. WHO encourages governments to formulate and enforce effective laws governing the use of sunbeds. In countries where voluntary industry codes of practice exist, the sunbed owners have generally not shown significant capacity to self regulate effectively.

Of highest regulatory priority should be the restriction of use by persons under 18 years as well as banning unsupervised trained personel. WHO recommendations are consistent with those of the International Commission on Non-Ionizing Radiation Protection (ICNIRP) and the European Society for Skin Cancer Prevention (EUROSKIN).

## The key reasons why regulations are necessary

- Increase in the number of unsupervised commercial sunbeds - Without trained staff and adequate health care advice, the potential for harm to the uninformed consumer is much greater. This, combined with competitive pricing strategies such as unlimited sessions within a specific time frame, increases the likelihood of skin damage.
- High intensity of UV output - Some machines have the capacity to emit very high levels of UV, many times stronger than the midday summer sun in most countries. In a largely unregulated industry where training of staff is not mandatory, this increases the health risks considerably.
- Exposure time and intervals between tanning sessions - Reasonable sunbed use includes keeping to recommended exposure times (which depends on the type of machine used) and having sufficiently long breaks between tanning sessions. Normally at least 48 hours are needed between tanning sessions for repair of UV-induced DNA damage in skin cells
- Eyewear - UV protective eyewear (such as goggles) must be worn during tanning sessions to protect the eyes.
- Effect of certain drugs and cosmetics - Some drugs, for example anti-depressants, antibiotics, psoralens, antifungals, and antidiabetics as well as some cosmetics make the skin more photosensitive and therefore decrease the time it takes for the skin to burn.
- The size of the skin area exposed - Modern 'clam-type' sunbeds and canopies can expose more skin area to UV than outdoor situations, therefore increasing the health risk. Here young people, , are more sensitive to UV-induced damage from this "all-over" tanning.

## ICNIRP recommendations

In its 2003 publication ICNIRP recommends against the use of UV-emitting appliances for tanning or other non-medical purposes. ICNIRP states that the following groups are at particularly high risk of incurring adverse health effects from UV, and therefore should be particularly counseled against the use of tanning appliances:

- People who have skin phototypes I or II;
- Children (i.e., less than 18 years of age);
- People who have large numbers of nevi (moles);
- Persons who tend to freckle;
- Individuals who have a history of frequent childhood sunburn;
- People who have pre-malignant or malignant skin lesions;
- People who have sun-damaged skin;
- Those who are wearing cosmetics. These may enhance their sensitivity to UV exposure; and
- Persons taking medications. In this case they should seek advice from their physician to determine if the medication will make them UV-sensitive.

## Action of the World Health Organization

INTERSUN, the Global UV project, is a collaborative project between WHO, the United Nations Environment Programme, the World Meteorological Organization, the International Agency on Cancer Research and ICNIRP that aims to reduce the burden of disease resulting from exposure to UV radiation. The project assesses and quantifies health risks, and develops an appropriate response through guidelines, recommendations and information dissemination. Beyond its scientific objectives, INTERSUN provides guidance to national authorities and other agencies about effective sun awareness programmes. These address different audiences such as occupationally exposed people, tourists, school children and the general public.

In 2003 WHO published a brochure entitled "Artificial tanning beds: risks and guidance" providing advice to the public, operators of sunbed facilities and member states on how sunbeds could be managed to protect public health.

## Further information

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