

Literature review: are
sunbeds safer than
natural sunlight?



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The unanswered debate on whether sunbeds are safer than natural sunlight is an ongoing brawl amongst Dermatologists and cancer researches. This topic also raised many other unanswered questions as to how we sunburn, how we can prevent it and what are the repercussions of sunburn.

According to Heather Brannon, MD in Dermatology expert (2014), it is the result of the UVB rays that affects the top layer of your skin which causes you to burn red. UVA rays penetrate deeper into the scaffolding of the skin which causes it to age. However both UVA and UVB rays can cause cancerous mutations as they both damage the DNA of the skin cells. Both the UVA and the UVB rays can be found in natural sunlight as well as in a tanning bed. Over exposure to these rays could result in aging, wrinkles, sunspots and in extreme cases cancer. Unfortunately as stated by Brannon, you won't know the damage that the UV rays have done to your skin until it is already done. Turning a shade of red is an indicator of how much UVB rays have harmed your skin and tells you very little on how many harmful UVA rays have penetrated your skin.

Tanning is the result of your body producing the pigmentation melanin which causes the skin to go darker. According to Dr Sam Shuster a research dermatologist at the Newcastle university in Norton England, a tan is your body's natural way in protecting itself from the harmful rays if the sun. In addition to this the " UV advantage" written by Dr Michael Holick a professor in medicine and physiology biophysics at the Boston University(2004), The golden rule to tanning is to never burn. Smart tanning has become a must in controlling the amount of UV rays that is absorbed by your body in the tanning process. By reducing the amount of times that you burn it minimizes

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the risks associated with too much sun or too little sun. Dr Holick believes that this amount of control is far easier on a sunbeds as the amount of UV rays remain the same during the duration of the session. It is also easier to protect your eyes with FDA goggles and lips with an SPF lip balm. Holick's research has shown that indoor tanners are less likely to burn outdoors than non-tanners as a result of their base tan. Holick is desperate to set right the misleading exaggerated claims that state that sun exposure is bad for you. Holick argues that moderate exposure to artificial or natural UV had powerful benefits in obtaining the amount of vitamin D levels that your body's needs. Robert P. Heaney, MD, professor of medicine at John Creighton University (2004) supports Holicks outcry. Heaney agrees with Holick as vitamin D is the best way for the body to control abnormal cell growth, therefore aiding in the fight against different types of cancer. Holick is against the misleading information from the American Academy of Dermatology (AADA) that sunbeds are dangerous for one's health. When in actual fact sunlight whether artificial or natural is the body's main source of vitamin D that we are so dependent on. Holick states that it is virtually impossible to obtain the amount of vitamin D needed by the body in dietary supplements or pills as it is not enough and will only damage the liver. However after adhering to all that has been stated Holick believes that consumers still need to be aware of the dangers of UV rays and the potential risk of skin cancer. Holick confirms that a few minutes of natural or artificial sunlight several times a week is more than enough to satisfy the right amount of vitamin D that is required by the body. Professor Tim Oliver a medical Oncologist at Barts the London hospital states that fair skinned people will receive maximum vitamin D levels will be met with exposing just your forearms and face for 5-10 minutes

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in sunlight, three times a week. This is a perfect dosage of sunlight that the sunbed would be able to give you as it is timed and you will not over expose yourself.

The amount of exposure time and intensity of UV rays varies according to the different skin types as the different skin types have a different reaction to the exposure of sunlight. Thomas Fitzpatrick, MD of Harvard medical school (1975) developed the classification of skin colour and characteristic scale. He has rated the skin types from a one to six. One being very pale, blue eyes and red or blonde hair with a few freckles, this skin type always burns and never tans. Type two usually in very fair with blonde or red hair, blue or hazel green eyes. This skin type usually burns and tans with difficulty. Type three has a skin undertone of a cream white or olive skin tone; they are fair with any eye and hair colour. This skin type burns mildly but is capable of obtaining a tan by tanning gradually. Type four has a brownish skin typical of a Caucasian or Mediterranean skin type. These people rarely burn and tan with ease. Type five has a dark brown mid-eastern skin type and it burns rarely. Lastly type six skin tone is a black skin which never burns.

Dr Joseph Mercola a recognised osteopathic physician (2013) states that the human life is dependent on sun exposure. According to Mercola, medical literature fails to recognise the benefits of UV exposure as it could prevent deadly diseases such as rickets and osteoporosis. With the insufficient use of sunblock also has an impact of the vitamin D deficient people, especially women. Mercola has done research that proves that women are more likely to have a vitamin D deficiency as a result of cosmetics and makeup that <https://assignbuster.com/literature-review-are-sunbeds-safer-than-natural-sunlight/>

contain an SPF factor. This therefore blocks out 90% of vitamin that would have been absorbed by just wearing makeup. Mercola goes on to say that wearing sunblock every day is not necessary on the days that do not need it. The misuse of this product will do more harm than good in the long run.

In contrast to this, the Harvard medical school argues that tanning beds are extremely dangerous as the sunbeds emits the same amount of UVB rays as natural sunlight but three times the amount of UVA rays than natural sunlight. Harvard states that the concentrated bursts of UV rays emitted from sunbeds are more dangerous, as they increase the amount of mutations forming and the damage to the configuration on the human DNA. Studies done by Harvard have shown that tanning has become addictive and the people who tan have shown the same sign of dependence on the sunbed as with other addictive substances. Harvard states that the protection of the base tan, which is your body's natural way in protecting your skin from the UV rays, has the equivalent amount of protection as a sunblock of SPF4. According to Harvard's research a tan is the skins reaction to internal mutations, which is a silent shout out from your body, to get out of the sun. Harvard is concerned of the indoor tanning studios promoting bronzers with coconut oil and no SPF factor. This is exceptionally dangerous as people are exposing their bodies to concentrated UV rays with no protection.

Similarly the American Academy of Dermatology (AADA) agrees with Harvard and states that an alarming number of 419000 cases of skin cancer a year are reported to being linked to sunbeds. According to the AADA one sunbed session increases the client's risk of squamous carcinoma by 67% and basal carcinoma by 29%. In addition to this the AADA have had many reports of <https://assignbuster.com/literature-review-are-sunbeds-safer-than-natural-sunlight/>

clients that have suffered from premature skin aging, eye injuries and various skin cancers as a result of making use of indoor tanning. It has also come to the attention of the academy that the use of sunblock amongst the youth is decreasing while the amount of sunburns is increasing.

According to the International agency for research on cancer (IARC) (2009) sunbed aids malignant melanoma, the most dangerous form of skin cancer which could be fatal. The IARC states that you cannot see the damage that the UV rays are capable of straight away as it builds up over time. Using sunbeds before the age of 35 increases your risk of melanoma skin cancer. The IARC makes it very clear that no matter how much UV rays you expose yourself to, there comes a point where your skin cannot go any darker. It will just cause your skin to appear leathery, coarse and wrinkled. Therefore the more sunbed sessions you do the more harmful it is to your skin. According to the IARC sunbeds are no safer than Natural sunlight, as both contain UVA and UVB which causes cancer. As a result of this the agency does not believe that sunbeds are a " safe" alternative way to tan.

In addition to this Tabasum Mir , MD, Manhattan cosmetic dermatologist and oculoplastic surgeon (2003) states that more and more people in their late 20's are requesting Botox and other chemical peels to address the aging or damage done to their skin as a result of careless exposure to the sun. Mir believes that 80% of sun exposure in a person's life happens before the age of 18. According to Mir, teenagers are aware of the damage that the sun can do to their skin but it has had little effect to how they make use of sunblock products to protect their skin. " They seem to believe that they are immune

to skin cancer” says Mir. As a result of this more teens are reported to have melanoma skin cancer.

This is confirmed by research done by Nancy Silverberg, MD, Dermatologist in California (2003). “ A lot of what is called aging is a result of skin damage” states Silverberg. The unexposed area is smooth and firm, whereas the part of the skin that is exposed to the harmful UV rays is usually wrinkled and saggy. More teens are willing to suffer from sunburn in order to obtain a tan.

Brian Diffey an Emeritus professor of photobiology (2013) adds that exposing your skin to UV rays will make your skin more susceptible to age at an alarming rate. This includes photoaging. Diffey suggests that regular use of sunblock should be used early in life as it is the largest contribution toward the overall amount of UV rays penetrating your skin over a life time. Diffey is in favour of using a product that has a broad protection spectrum and the production should also contain a sensory as well as a tactile profile to encourage regular usage. Exposure to UV radiation is believed to increase photoaging and daily application of a sunscreen is thought to mitigate this process.

In order to be healthy you need to have a good balance of vitamin D, too much can be toxic and too little could course some life threatening diseases. This is why it is important to realize how sunscreens work. According to the skin cancer foundation (2007) SPF is short for sun protection factor. There are different rating of sunblock that keeps out the majority of the UVB rays SPF 15-93%, SPF30-97%, SPF50-98%. These may seem like negligible differences but it will make a difference if your skin is sun sensitive or if you

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have a family history of skin cancer. The skin cancer foundation states that sunscreen will only stay effective for 2 hours without reapplication and ensure to apply the sunscreen 30 minutes before exposure. Everyone over the age of 6 months needs to use sunscreen. It is a good idea according to the foundation that if you do sport or swim in the sea that you should use a water resistance sunscreen.

According to the Melanoma Skin Cancer Care (2013), as a result of exposing your skin for long periods of time sunspots can develop, as the melanin pigment begins to produce concentrated amounts. Sunspots are a kind of hyperpigmentation, they do not fade in winter and they persist for long periods of time these are often referred to as age spots. People often don't know the difference states the Melanoma Skin Cancer Care. Freckles on the other hand are completely genetic and they fade during winter. Both freckles and sunspots become visible as the result of the sun therefore it is important that we take precautions to protect yourself according to Cleveland clinic (2011). Too much sun causes damage to your cells and blood vessels. Cleveland clinic want to bring to the attention of sunscreen uses that a combination of sunscreen, shade and clothing needs to be used in order to have maximum protection from the sun.

Sunburn can be very painful as it is the body's way of repairing the damage. Cleveland clinic further explains that the reason why sunburn is so hot and sore is the result of the blood vessels in the local area of the sunburn swelling up, allowing for more blood that is hot from your body's natural temperature to flow to the area in order for the body's immune system to repair the damage. Cleveland also states that the reason why your body <https://assignbuster.com/literature-review-are-sunbeds-safer-than-natural-sunlight/>

peels is the result of your skin cells being so severely damaged by the sun that they are destroyed and disposed of by your body's immune system. Cleveland states further that taking care of your skin and applying a generous amount of sunblock when exposed to the sun is vital to your skin's health.

A new exciting harmless method of obtaining a tan has been accessible to the public and is completely harmless. According to Daniel Annese the vice president of marketing the North American Estee Lauder products (2003) states that a tan is highly fashionable and the only methods of obtaining a tan without the use of natural sunlight or sunbeds is by using a self-tanner containing dihydroxyacetone. (DHA) The DHA reacts with the proteins in the stratum corneum of the epidermis. This gives the client a natural looking tan with their own individual skin undertone to make it look as natural as possible.

In conclusion, sunbeds as well as natural sunlight have many advantages as well as disadvantages. Although it is unclear on which one is safest as there has been a lot of misleading information sent out by different organisations and dermatologists that have taken things to the extreme. According to dermatologists UV rays have both negative and positive attributes to them when exposed to them in moderation. As a result of the dangerous UV rays we need to take precautions to protect our skin to avoid sunspots, and cancer.