

# How The Skin Tans



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Our natural skin colour is determined by skin pigment – melanin – and the presence and amount of melanin in an individual is determined by hereditary factors.

When our skin is exposed to UV, cells deep in our skin – called melanocytes – initiate a process where more melanin is produced. This subsequently 'browns' as it rises to the skin's surface producing a tan. UV also causes the outer layer of the skin to thicken. This is the body's way of building up protection to UV and to help avoid burning.

People will react differently to UV rays – darker skinned people produce melanin more readily. The skin of some very fair people contains very little melanin and, even when exposed to UV, they cannot form melanin, so they will not tan in sunlight or on a sunbed.

If the natural tanning process is rushed, sunburn will result. Our skin has a natural repair mechanism but if this is triggered too frequently, it may become exhausted and result in permanent damage to the skin.

# Skin Typing

## Skin Typing

Our skin type is something we are born with and we cannot change it!

There are six basic categories of skin type. See if you can identify your skin type using the table below. Your TSA sunbed operator will always assist you.

Skin Type	Skin Description	Reaction to Tanning
1	Very fair Usually lots of freckles, red or sandy hair; blue or grey eyes High burn risk; skin turns red and peels. Advised not to tan in sunlight Do NOT use a sunbed	
2	Fair Possibly with freckles; blond to brown hair, green and grey eyes High burn risk. Great care should be taken in tanning. Tanning tends to be light	
3	Fair to light brown No freckles; dark blond or brown hair, grey or green eyes Medium risk of burning. Capable of building up a moderate tan	
4	Light brown Dark brown hair and eyes and deep See additional note below	Burning is rare; tanning is rapid
5	Deep brown skin Dark hair and eyes This type of skin has its own natural protection. See additional note below	Burning is seldom; tanning is rapid and deep.

# UV Light

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The four main elements we rely on for our lives and wellbeing are air, water, earth and sunlight. If we take any of these forces away, then quite simply, we would not exist! There would be no life without the sun – but life with too much sun may not be good either.

Ultraviolet rays – UVC, UVB and UVA – are emitted by the sun. UVC rays, the most dangerous to the human system, are filtered out by the upper atmosphere but some UVB (which can cause sunburn and eye damage) and UVA, reach the earth's surface. The intensity depends on the angle of the sun – ie the geographical position, season and time of day. UV levels can increase by up to 50% between 11am and 1pm!

UV is invisible. People outdoors are exposed to varying levels of UV and they are often unaware of the UV intensity. Unfortunately, warnings of sunburn often come too late. A survey in Denmark revealed that beach sunbathers exposed themselves for an average of three-and-a-half hours a day.

Sunbed lamps simulate the sun and emit UVA and UVB but they go a stage further and control the output with a balance of UV to minimise the risk of burning and maximise the tanning. As we know – no-one controls the sun! Sunbed lamp technology is subject to on-going research and development programmes to keep abreast of researched evidence on the effects of UV.



# UV Facts



## Facts

- 7% of the UK's adult population uses a sunbed = over 3 million people
- 70% of people want to be tanned
- 95% of sunbed users do not exceed the European Standard on maximum number of sessions per annum
- 88% of the UK population has skin types that can tan successfully in a controlled environment
- 38% of sunbed users do so for a pre-holiday tan.
- 83% of sunbed users claim to be quite or very knowledgeable of the possible risks from over-exposure to UV.

Source: Consumer Research on Sun tanning and Sunbeds, The Sunbed Association, UK, 1997, conducted by Taylor Nelson with a sample base of 6143 adults.

The main benefit of being tanned is seen as looking and feeling healthier. The main reason for using a sunbed is for a pre-holiday tan. Whilst the sun protection factor from a sunbed tan does not provide total protection, people having a base tan are less likely to over-expose themselves during the initial days of a holiday.

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# Vitamin D - Facts

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Vitamin D is essential for good health. Medical studies around the world have proven the benefits of Vitamin D in association with:

- Cellular Health: including breast, colon and prostate cancers
- Bone Health: including osteoporosis, hip fractures, osteomalacia and hip fractures
- Organ Health: including high blood pressure, hypertension and heart disease
- Mental Health: including SAD, PMS, depression and general mood
- Auto-immune Diseases: including multiple sclerosis, Type 1 diabetes and rheumatoid arthritis
- Skin Disorders: including psoriasis
- Obesity and exercise programmes
- Sunlight is the most effective way for the body to manufacture Vitamin D. Yet in the UK and Ireland, our bodies can only manufacture Vitamin D from exposure to the sun during the months of May to October. Outside of these months, the sun is simply not strong enough.

Considered by many to be the foremost authority on Vitamin D, Dr Michael Holick (Professor of medicine, physiology and biophysics at the Boston University School of Medicine, one of the USA's top universities), recommends a daily amount of 1,000 IU is necessary to maintain a healthy level. It is very difficult to eat enough Vitamin D rich foods on a daily basis to achieve these levels. Most multi-vitamin supplements only provide 400IU of Vitamin D.

Unprotected UV exposure to 25% of 1 MED, 2-3 times a week is recommended by Dr Holick to ensure sufficient Vitamin D levels. Depending on skin type, this is the equivalent of about 5 minutes of unprotected UV exposure 2-3 times a week.

In natural sunlight the word 'unprotected' is very important, as SPF creams reduce the ability of the body to produce Vitamin D from UV exposure by up to 97%.

# Vitamin D - Facts

## ARE YOU MORE AT RISK FROM VITAMIN D DEFICIENCY?

### Age:

The older you are, the harder it is for your skin to make Vitamin D from sunlight.

### Lifestyle:

The more time you spend indoors during daylight hours, the less opportunity you have to make Vitamin D.

### Geographical Location:

In the UK and Ireland with its relatively long winters, you get less sun over the course of the year because the sunlight isn't strong enough to make Vitamin D in the winter.

### Race:

People with very dark skin, especially those of Asian and Afro-Caribbean descent find it difficult to make Vitamin D from limited sunlight.

### Culture:

Certain cultures require their women to cover themselves entirely in heavy clothing that blocks out the sun.

### Intestinal Diseases:

For people with Crohn's disease, cystic fibrosis and certain other intestinal diseases, as the intestine cannot efficiently absorb Vitamin D from the diet or supplement.

## YOU CAN GET THE REQUIRED AMOUNT OF VITAMIN D THAT YOU NEED FROM DIETARY SUPPLEMENTS ALONE

Most multivitamins only contain 400IU of Vitamin D. Vitamin D experts recommended a daily supplement of 5,000IU per day to obtain and maintain optimum levels. Vitamin D supplements provide the same benefits as sunshine but it taken in too large a dose, can cause Vitamin D toxicity, whereas sun exposure does not.

## YOU PRODUCE VITAMIN D IN THE WINTER TIME

You cannot make Vitamin D in the UK and Ireland or any location above 40 degrees north in the winter months. However, if you get moderate exposure to the sun between May and October, the excess Vitamin D is stored in the body's fat, which can be released during the winter.

## THE ELDERLY DON'T NEED AS MUCH UV EXPOSURE AS THE YOUNG

Your ability to manufacture Vitamin D diminishes fourfold from age twenty to age seventy. Older people are especially receptive to the