Cigna®

GUIDE TO

SAFETY IN THE SUN

Ultraviolet Radiation

The sun's energy travels here via ultraviolet radiation and comes in three types: UVA, UVB and UVC. UV wavelengths contain high levels of energy that penetrate our flesh and change the structure of skin cells.

UVC has the shortest wavelengths and is extremely dangerous. Fortunately for us though, it is completely absorbed by the Earth's upper atmosphere. On the other hand, both UVA and UVB affect the skin in different ways causing skin cancer and damage to our DNA. They also give us our suntans.

Most of us love the sun. However, how we react to it's rays varies from one individual to another. It's a myth that a tan is a sign of health. In fact, tanning is the result of the skin protecting itself from further damage. As such it's important to take care in the sun and to take sensible precautions to ensure that we are enjoying it safely. You should do everything you can to avoid getting burnt as over time small amounts of sunburn damage can build up, which can lead to the development of skin cancer or melanoma and other sun-related illnesses.

Skin Cancer

Skin cancer is one of the most common cancers in the UK and the number of people who get it is increasing. According to Cancer Research UK there are over 100,000 new cases of skin cancer diagnosed each year in the UK[1].

Tanning is a natural process. Your skin creates the brown-coloured pigment called melanin to protect it against the harmful UV rays in sunlight. This means even the lightest suntan is evidence of skin damage. If the damaged skin cells can't repair themselves, they can become cancerous. Exposure to solar and artificial UV radiation is widely recognised as a leading and preventable cause of skin cancer.

There are different types of skin cancer:

Basal cell carcinoma - accounting for three quarters of all skin cancers, basal cell carcinoma is the most common type of cancer in the UK. It is a cancer at the bottom of the skin's outer layer and whilst it is mostly slow growing and rarely spreads, if left untreated it can erode the skin causing an ulcer known as a rodent ulcer. Basal cell carcinoma is often associated with working outdoors.

Squamous cell carcinoma - the second most common type of cancer in the UK is squamous cell carcinoma. If left untreated this type of cancer can spread to other parts of the body. It usually appears as a lump,

nodule or ulcer that doesn't heal. These carcinomas have a very high cure rate but early treatment is required.

Malignant melanoma - melanoma behaves differently to carcinomas. It starts on the skin usually as a mole.

There are four variations:

- **Superficial spreading melanoma,** the most common type of melanoma, occurs mainly in middle aged people. It starts as a spread across the skin and if removed early is usually cured. However, if left it will grow down deeper into the layers of the skin and can spread to the bloodstream.
- **Nodular melanoma** occurs in the chest or back and grows deep into the skin quickly. It presents itself as a lump and is dark brown/black in colour.
- **Lentigo maligna melanoma** is found on the face. Prevalent in elderly people and slow growing it can take years to develop.
- **Acral melanoma** is found on the palms of the hand and soles of the feet.

Who is at risk?

Everyone is at risk from the effects of the sun, although some are more susceptible than others. You are more at risk if you:

- have fair skin that burns in strong sun
- have red or fair hair
- have lots of moles and freckles
- have a personal or family history of skin cancer
- work or spend a lot of time outdoors
- use tanning machines or sunbeds.

Children are at particular risk. Babies under 6 months old should be kept out of the sun completely as their skin can't produce enough melanin to protect them from UV light.

Many dermatologists believe there is a link between childhood sunburn and malignant melanoma later in life.

Quick fact

There are over 100,000 new cases of skin cancer diagnosed each year in the UK and over 2,700 people die as a result. [1]

Other dangers of sunshine

Blinded by the light

Scientists have found that people who are exposed to high levels of sunlight are up to four times more likely to develop cataracts - the world's leading cause of blindness. It's thought that the ultraviolet component of solar radiation may speed up the clouding of the lens.

Normally the lens is transparent. When an opaque cataract forms over the eye, it stops light from passing through the lens. This prevents the light from reaching the retina, the light-sensitive tissue lining the back of the eye. In severe cases, cataracts can result in blindness.

Allergic reaction

Some people are more sensitive to sunlight than others. The most common reaction of all sun allergies is called 'polymorphic light eruption' (PLE). Often confused with prickly heat, PLE appears as small red, itchy eruptions on the skin. A rash can occur even from exposure to sun through windows.

This allergy is more common in adult women than men, usually appearing from late teens to 40s. It can affect all racial skin types, but is more common in fair-skinned individuals.

Aloe vera skin gel can reduce the heat and soothe the itch and in more extreme cases a low dose of hydrocortisone cream from your doctor will relieve the itch. Antihistamines will also provide some relief.

Quick fact

The sun's UV rays are strongest between the hours of 11 am and 3 pm. [2]

Working outdoors

Outdoor workers are regularly exposed to the sun and receive up to 3-4 times more UV exposure than an individual who works indoors. Therefore they are at greater risk of developing skin cancer. And, this risk is doubled in those who have been burnt by the sun in the past.

This makes it even more important for those working outdoors to be extra cautious:

- Avoid the sun between the hours of 11am-3pm. If possible, tasks should be structured so that they can take place outside these peak radiation times.
- Cover up – be sure to keep your top on even if there is a temptation to remove it to cool down. Clothing blocks out most of the UV.
- Wear a hat – a hanging flap at the back will protect your neck.
- Take rest breaks in the shade.
- Drink plenty of water – keep yourself hydrated.
- Apply sun cream with at least SPF 15+.

Staying safe in the sun

It is important to remember that even when the sun is not shining brightly up to 80% of the sun's ray's can still pass through the cloud cover. Therefore you still need to protect your skin. Here are some dos and don'ts to help you stay safe...

Do...

- ✓ Expose yourself to the sun gradually until a good base tan is developed.
- ✓ Sunbathe for a maximum of 30 minutes on the first day, adding 5 or 10 minutes each day.
- ✓ Try to avoid strenuous outdoor activity when the sun is at it's strongest – between the hours of 11am and 3pm.
- ✓ Use an after-sun lotion. This moisturises the skin and helps keep your tan for longer.
- ✓ Wear clothes that cover your arms and legs after sunbathing to prevent further exposure.
- ✓ Drink plenty of water to avoid dehydration.
- ✓ Inspect moles and freckles monthly, noting any changes. If you notice any, inform your GP.
- ✓ Use Aloe Vera 100% gel – it has a cool and soothing effect on hot skin and sunburn.

Don't...

- × Expose pale skin without a sunscreen of at least SPF 15.
- × Expose your skin further until it has healed if you have sunburn.
- × Use butter or petroleum-based suntan lotions - they encourage sunburn.
- × Go out in the sun without sunglasses that give UVA and UVB protection, or you risk developing cataracts.
- × Expose babies under the age of six months to any amount of UV rays as their skin is more sensitive to the sun.

Which sun cream to use

The sunblock creams on the market work in different ways to protect us against the rays of the sun. They have either a chemical or a physical filter, but may also have a mixture of the two.

The chemical sun filter consists of ingredients that act by penetrating the skin and absorbing the sun's rays so that they don't reach down into the lower layers of skin and cause damage.

The physical filter, on the other hand, lays a thin membrane on top of the skin and reflects the sun's rays back. A physical filter is often slightly coloured, such as zinc oxide, which is white.

Some chemical filters only provide protection against the UVB radiation whilst physical sun filters protect against both UVB and UVA rays and should be used for optimum protection.

For those who have a tendency towards an allergy to the ingredients of sunblock, it is best to choose the physical filter.

- Sunblock has an expiry date and may not work after this has passed. They usually have a shelf life of 2-3 years.
- Apply sunblock 20-30 minutes before going out in the sun as it takes a short time for it to sink into the skin and work.
- Being kept in the sun can affect the active ingredients of sunblock. It should be kept cool and shaded.

Water-proof or water-repellant?

If you like to go for a swim to cool down and at the same time protect yourself against sun damage to the skin, you need to make sure that the sunblock cream is either water-repellant or water-proof.

A water-proof sunblock cream withstands 4 x 20 minutes of swimming without being washed off. If the sunblock cream is water-repellant, you can swim for 2 x 20 minutes without it being washed off.

However, this is only applicable if you let yourself air-dry and do not dry yourself with a towel. It is therefore always a good idea to rub on a good layer of cream after going for a dip.

What factor and what filter should I choose?
The factor number indicates the strength of the sun filter the sunblock cream contains. The higher the factor number a sunblock cream has the more protection it gives. What factor we should choose depends on our skin type.

The vast majority of us can manage with a factor 15.

Quick fact

Children who have been overexposed to the sun have an increase risk of developing some form of skin cancer as adults. [3]

However, exceptions are children and adults who tend to suffer from eczema. In these cases, a factor 30 or even higher is often the recommended level of protection.

It is often a good idea to use a stick applicator with a higher factor number for particularly exposed areas of the body such as the shoulders, nose, lips and ear lobes.

Benefits of the sun

Despite all the dangers associated with the sun, research has shown that sunshine can be good for us.

The sun provides our main source of vitamin D. The main benefit of which is to promote calcium absorption in the gut and calcium transfer across cell membranes, contributing to strong bones and a healthy nervous system. Ten minutes of daily exposure to sunlight will supply us with all the vitamin D that we need.

Low vitamin D is associated with several autoimmune diseases including multiple sclerosis, rheumatoid arthritis, thyroiditis and Crohn's disease. Recent laboratory experiments suggest that vitamin D can also prevent the growth and spread of cancerous tumours.

Quick fact

Sunbeds give out greater doses of UV rays than the midday Mediterranean sun and can cause skin cancer. [4]

Wellbeing

Apart from the obvious positive associations we have with a sunny day, the sun can alter your mood chemically and even prevent depression. The onset of spring gives thousands of people relief from 'seasonal affective disorder' or SAD – a condition caused by a suppression of serotonin experienced by many who are deprived of sunlight during the dreary winter months.

Medication advice

Certain medicines for example anti depressants and blood pressure medication can increase sensitivity to sunlight. Prescription medications usually have instructions that will advise you to stay out of the sun or wear sunblock.

If concerned contact your pharmacist or GP for advice.

Useful Links

You can also obtain more information from the following websites:

www.sunsmart.org.uk

www.cancerbackup.org.uk

www.hse.gov.uk

www.cancerresearchuk.org

www.nhs.uk/livewell/skin/pages/sunsafe.aspx

References

1 http://www.cancerresearchuk.org

2 http://www.sunsmart.org.uk

3 http://www.cancerbackup.org.uk/Cancertype/Skin/Causesdiagnosis/Causes

4 http://www.nhs.uk/chq/Pages/852.aspx?CategoryID=87

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