

Solar Radiation

Toolbox Talk

Solar Radiation

What is it?

Solar radiation is the radiant energy emitted by the sun. The sun emits different kinds of light, some of which we can see and others that are invisible: -

- ❖ the visible light you see
- ❖ the infrared radiation you feel as heat
- ❖ the ultraviolet (UV) radiation that produces tanned skin

Who is at risk?

Anyone working outside in the sun can be affected and outdoor work doesn't have to be full-time to pose a problem. Typically, those working outdoors in the construction sector are amongst those who face the highest level of risk.

The Challenges

There is a cultural challenge in the construction sector too – one of the reasons is the 'machoism' associated with taking protection against the sun's UV rays. Many think a tan looks good, but in reality, tanned skin is damaged skin.

What is the risk?

Some also believe that if it's safe to spend a couple of weeks on holiday in the sun, it's safe to work without protection, but the reality is that the risks to ordinary holiday-makers targeted by sun product advertising campaigns aren't comparable to the risks faced by millions of outdoor workers, who for significant periods of the year are typically exposed to solar radiation for hours at a time, day in, day out. We also need to bear in mind that outdoor workers may have long term, chronic solar radiation exposure to their head, neck and hands – but with their arms, legs and trunk exposed intermittently too.

Skin Cancer Cases are Rising Faster in the UK Than in the Rest of Europe

There are both long-term and short-term health effects associated with exposure to solar radiation.

Short-term excessive exposure to UV radiation causes sunburn, reddening of the skin, pain and, in severe cases, blistering and even second degree burns.

Over time UV radiation exposure, whether or not associated with sunburn, accelerates skin ageing making it look dry, wrinkled, loose and dull and causing pigment changes commonly known as 'age spots'.

It can also cause changes in the skin cells, which may lead to skin cancer.

[Cancer Research UK](#) suggests that outdoor workers are at higher risk from non-melanoma skin cancer (43 per cent higher risk of basal cell carcinoma and 77 per cent higher risk of squamous cell carcinoma).



Sun Exposure Causes 99% of Non-Melanoma Cancer & up to 65 of Malignant Melanoma Skin Cancer

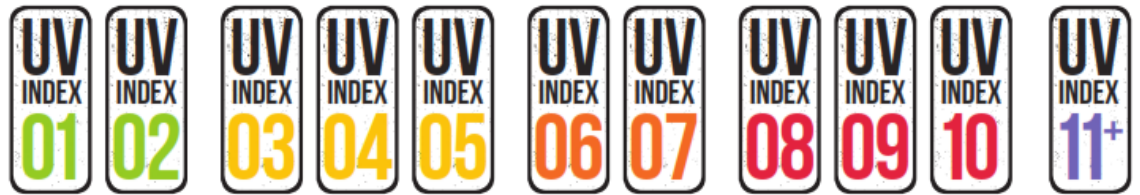
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What can be done?

Skin cancer is an avoidable disease. Tackling solar radiation exposure is relatively easy to achieve, and doesn't have to be costly. The following simple steps can greatly reduce the risk of getting skin cancer:

- ❖ Checking the UV index (Shown above, to the right) from the weather forecast and avoiding work outdoors when the sun is at its strongest
- ❖ Job rotation – swapping activities to minimise time spent working in direct sunlight
- ❖ using heavy duty cover or shade when working outdoors in the sun
- ❖ making sure rest breaks are taken in shaded areas or indoors
- ❖ wearing long-sleeved, loose-fitting tops and trousers when working outdoors
- ❖ Wearing UV filtering eye protection
- ❖ As a very last resort when the above measures aren't possible, you could use sunscreen with an SPF (sun protection factor) of at least 30 – but remember, avoiding sunlight altogether is the best option.



LOW
(1,2)
You can safely stay outside

MODERATE
(3,4,5)
Take care during midday hours and don't spend too much time in the sun unprotected

HIGH
(6,7)
Seek shade during midday hours, cover up and wear sunscreen

VERY HIGH
(8,9,10)
Spend time in the shade between 10am and 3pm. Covering up and sunscreen essential

EXTREME
(11+)
Avoid being outside in midday hours. Covering up and sunscreen essential

- ❖ Check your skin regularly for unusual moles or changes in their size and shape

Getting Sunburn Just Once Every Two Years can Triple the Risk of Melanoma

The Law

The Health and Safety at Work Act 1974, requires employers to assess and control health and safety risks. Regulation 3 of the Management of Health and Safety at Work Regulations 1999, requires that employers undertake a risk assessment, can be interpreted in the context of sun exposure.

While health surveillance isn't compulsory for workers exposed to solar radiation in the UK, the Health and Safety Executive's guidance says that health surveillance is required if the following three criteria are met:

- ❖ There is an identifiable disease/adverse health effect and evidence of a link with workplace exposure
- ❖ It is likely the disease/health effect may occur
- ❖ There are valid techniques for detecting early signs of the disease/health effect.

Further Reading

[HSE Sun Exposure Microsite](#)
[IOSH No Time to Lose Campaign](#)
[Sunsmart](#) – the UK's National Skin Cancer Prevention Campaign

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Feedback:

Briefing Acknowledgement

Name	Date	Signed