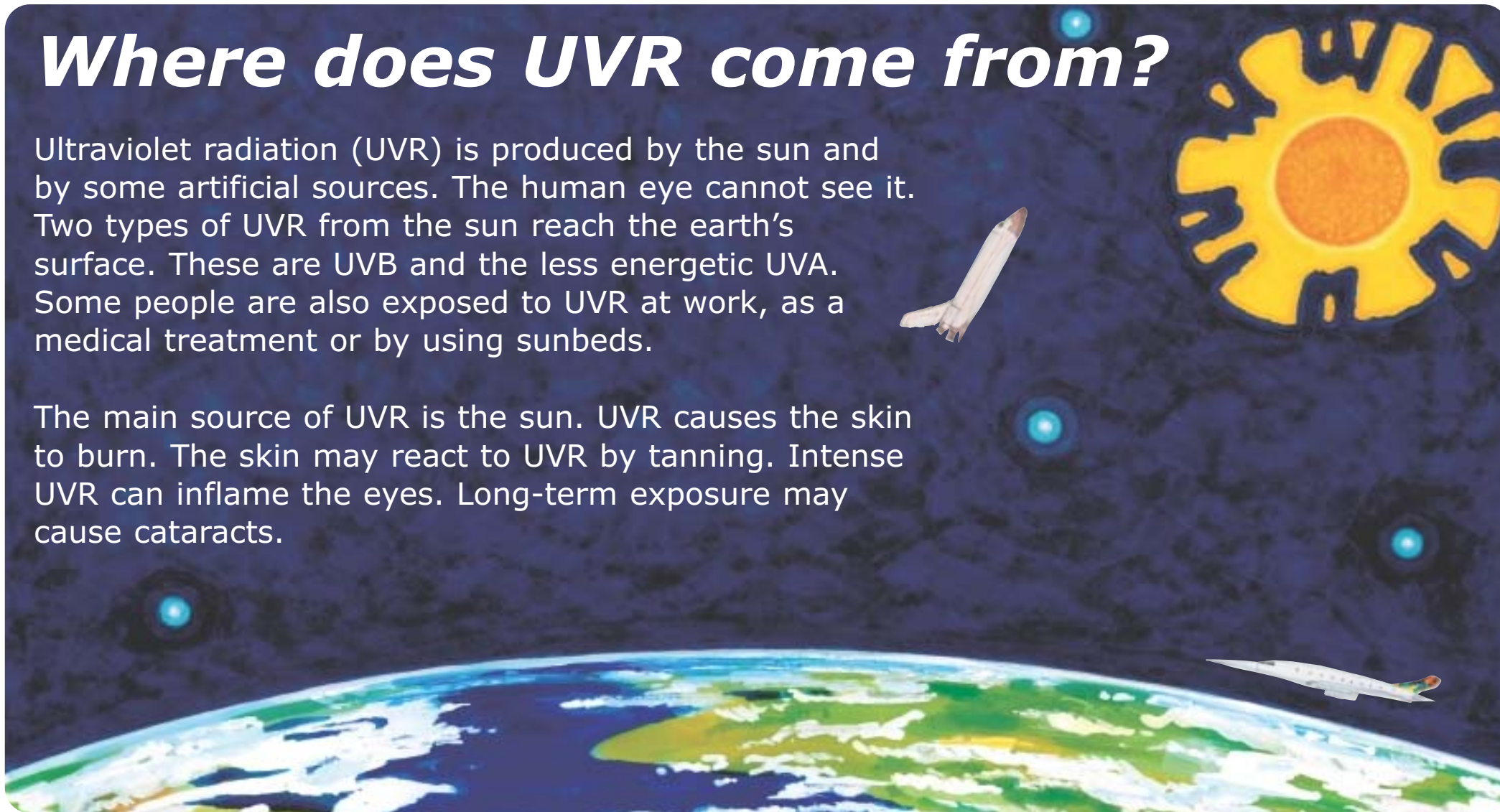


Where does UVR come from?

Ultraviolet radiation (UVR) is produced by the sun and by some artificial sources. The human eye cannot see it. Two types of UVR from the sun reach the earth's surface. These are UVB and the less energetic UVA. Some people are also exposed to UVR at work, as a medical treatment or by using sunbeds.

The main source of UVR is the sun. UVR causes the skin to burn. The skin may react to UVR by tanning. Intense UVR can inflame the eyes. Long-term exposure may cause cataracts.



Sunsense

Protecting Yourself from Ultraviolet Radiation (UVR)

Making Waves

The electromagnetic spectrum

Radiation that can be considered as a wave of electric and magnetic energy. Some examples are given below.



TV sets and VDUs



Microwave ovens



X-rays



High voltage power lines



Electrical appliances



Visible radiation



Some insects can see into the ultraviolet



Gamma rays

Sunsense

Protecting Yourself from
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Gimme Some Skin

Is sunburn dangerous?

Although there is limited evidence whether sunburn directly causes cancer, sunburn is a sign that the skin has been damaged. Your risk of melanoma (the main cause of death from skin cancer) is related, among other things, to the number of times you have had intense exposure to UVR. Such exposures may be particularly damaging in children, although skin cancers usually develop in adult life.



Who is most at risk of UVR damage?

UVR damage occurs most easily in fair-skinned people and others who burn easily in the sun. Even dark-skinned people can get sunburnt. Everyone is at risk from UVR damage to the eyes.



I always burn!

Know your skin type – which of the following best describes your skin's reaction to sun exposure?

Dark brown or black skin that almost never sunburns

Brown skin that rarely sunburns and suntans well

White skin that sunburns minimally and suntans easily to a mid-brown colour

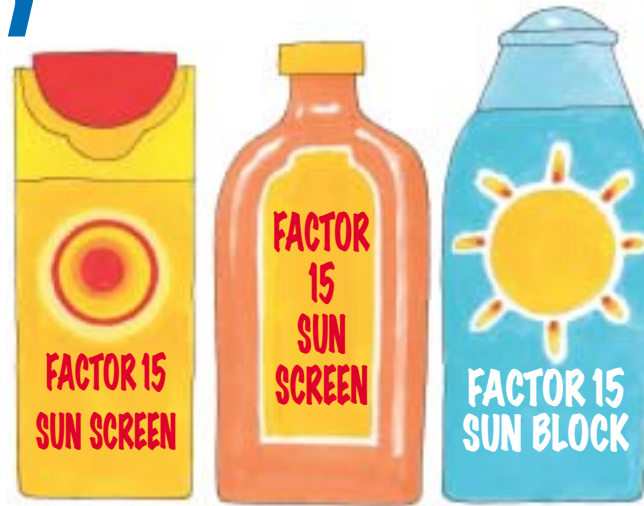
White skin that sunburns and suntans moderately

White skin that always sunburns easily and never or minimally suntans

Sunsense

Protecting Yourself from
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What a Tan



Surely sunlight can be beneficial to health too?

Exposing the skin to UVR produces vitamin D. This benefit only needs the amount of outdoor exposure people get as part of daily life. It may be more important for health in dark-skinned people with diets deficient in vitamin D. Many people feel better out in the sunshine. You can keep these benefits of sunshine without increasing the health risks by following our Sunsense Guide on panel 8.

I already have a suntan, does that protect me?

A suntan is a sign that the skin has already been exposed to UVR and is trying to protect itself from further harm. People with naturally dark or tanned skin can still suffer sunburn. A suntan only offers modest protection against further exposure.

Sunsense

Protecting Yourself from
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Check Your Cells

Is UVR harmful?

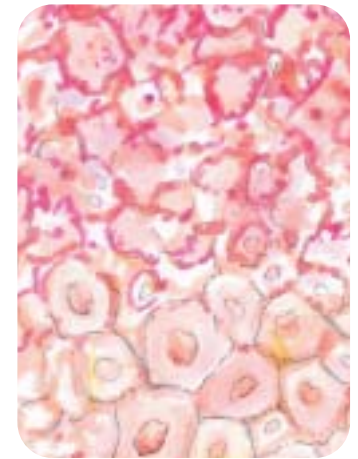
UVR can damage DNA in cells on the surface of the body. It can increase the risk of developing skin cancer (melanoma, squamous cell cancer and basal cell cancer), and cataracts and other eye diseases. These effects can take many years to develop so overexposure now may increase risks in later life. UVR causes skin ageing and, in many people, troublesome photosensitivity rashes. It may also affect the immune system, although the consequences of this are not certain. The incidence of skin cancer is rising. There are now about 40,000 new cases and nearly 2,000 deaths from skin cancer in the UK each year.

Are some types of UVR less harmful?

We do know that UVB is the main cause of sunburn. UVA is thought to cause skin ageing. We do not yet know enough to say which types of UVR cause cancer. The International Agency for Research on Cancer, which is part of the World Health Organisation, classifies all UVR as carcinogenic (cancer-causing) to experimental animals.



Normal skin cells



Cancerous skin cells



Basal cell carcinoma



Malignant melanoma

Sunsense

Protecting Yourself from Ultraviolet Radiation (UVR)

UVR and You

How does UVR damage the eyes?

One-off intense exposure (as in snow blindness) can cause intense inflammation in the eye. High levels of exposure over a long time may increase your risk of a number of eye diseases including cataracts.



Are there any other effects of UVR?

UVR can affect the immune system. The long-term consequences of this are not known. Some people find that cold sores are reactivated after exposure to UVR.

How can I enjoy the sunshine without the risks of UVR?

Know your skin type and keep alert for weather reports predicting that the Global Solar UV Index will be 3 or more which can damage sensitive skin. This will let you plan adequate protection on days out when sunlight could damage your skin or eyes. A Solar Index of 6 or more is considered high.



Why is it so important to protect children?

Children have many years ahead of them. Their skin needs to be protected from damage when they are young. This may help to reduce their risks of cancer and eye disease in adult life. Children cannot be expected to take responsibility for sun protection themselves. Carers of children have a responsibility to protect the skin and eyes of their young charges.

Are sunbeds safe?

Sunbeds work by emitting UVR. Sunbeds cause tanning and can cause sunburn. There is no evidence to suggest that any type of sunbed is less harmful than natural sun exposure. NRPB discourages the use of sunbeds for cosmetic tanning.

Sunsense

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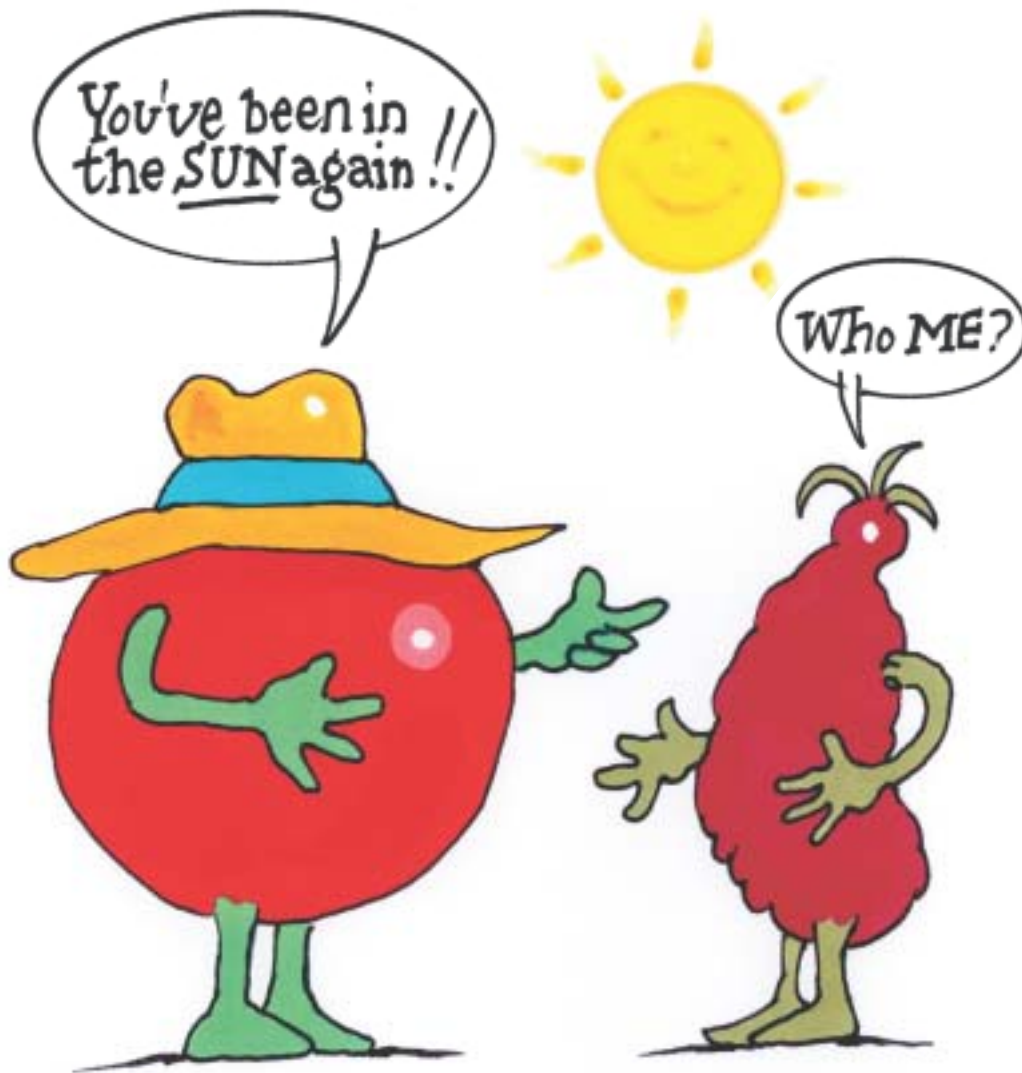
Hats On, Shades On

The first line of defence is to protect the skin and eyes by seeking shade or wearing clothing, wide-brimmed hats and wraparound sunglasses. The best clothing is loose-fitting with a close weave. The second line of defence is sunblock or broadband sunscreen (at least Factor 15). It should be used generously and applied frequently to areas that cannot be shaded from the sun with clothing. If used correctly, sunscreens will prevent sunburn. However, if you use them in order to stay out longer in the sun, you may partially or entirely lose the benefits in terms of protection from UVR exposure. The final line of defence is early detection of skin cancer.



Sunsense

Protecting Yourself from Ultraviolet Radiation (UVR)



Don't end up like a sun-dried tomato

NRPB Sunsense Guide

- 1 Take sensible precautions to avoid sunburn, particularly in children.
- 2 Remember that a suntan offers only modest protection against further exposure. It is not an indication of good health.
- 3 Limit unprotected personal exposure to solar radiation, particularly during the four hours around midday, even in the UK.
- 4 Seek shade, but remember sunburn can occur even when in partial shade or when cloudy.
- 5 Remember that overexposure of skin and eyes can occur while swimming and is more likely when there is a high level of reflected UVR, such as from snow and sand.
- 6 Wear suitable headgear, such as a wide-brimmed hat, to reduce exposure to the face, eyes, head and neck.
- 7 Cover skin with clothing giving good protection - examples are long-sleeved shirts and loose clothing with a close weave.
- 8 Sunglasses should exclude both direct and peripheral exposure of the eye to UVR, i.e. be of a wraparound design.
- 9 Apply sunblocks, or broad-band sunscreens with high sun protection factors (at least Factor 15) to exposed skin. Apply generously and reapply frequently, especially after activities that remove them, such as swimming or towelling.
- 10 Remember that certain individuals have abnormal skin responses to UVR and may need medical help. Certain prescribed drugs, medicines, foods, cosmetics and plant materials can also make people more sensitive to sunlight.