CONDITION

Sunburn

Sunburn is skin damage caused by too much ultraviolet radiation from sunlight or artificial tanning.

WHAT IT IS
Skin injury from ultraviolet radiation

BODY SYSTEM
Skin

MAIN SYMPTOMS
Redness, pain, warmth, swelling

WHAT CAUSES IT
Excess ultraviolet radiation

HOW IT IS DIAGNOSED
Exposure history and skin examination

MAIN TREATMENT
Cooling, moisturising, pain relief, and sun avoidance

CAN IT BE CURED?
Yes - usually heals with time

IS IT AN EMERGENCY?
Sometimes - confusion, fainting, or severe dehydration

LONG-TERM OUTLOOK
Most burns heal, but skin damage accumulates

Overview

Sunburn is an injury caused by too much ultraviolet, or UV, radiation. Sunlight is the main source, but tanning beds and sunlamps can also cause it. UV radiation damages DNA and triggers inflammation in the skin.

Sunburn can affect any skin tone. Red or pink colour changes may be less obvious on brown or black skin, but the skin may still feel hot, sore, tight, or unusually sensitive. Peeling or blistering can also occur.

The discomfort is temporary for most people, but the underlying damage matters. Each sunburn adds to a person's lifetime UV exposure. Repeated exposure speeds up skin ageing and increases the risk of skin cancers, including melanoma.

A sunburn is not always obvious while you are outside. Symptoms often begin several hours after the damage has happened and may become worse during the first day.

Symptoms

Mild sunburn usually causes:

The affected area often matches the skin that was exposed. Clothing, watch straps, or swimwear may leave clear lines.

More intense burns can cause blisters. Blistering means the injury extends deeper into the skin. Large areas of blistering can lead to fluid loss and may need medical assessment.

As healing begins, the skin may itch and peel. Peeling is the body's way of shedding badly damaged surface cells. It does not undo the deeper UV damage.

A severe sunburn may occur alongside headache, nausea, dizziness, weakness, fever, or chills. These symptoms can also be signs of dehydration or heat-related illness rather than the skin injury alone.

- Warm, tender, or painful skin
- Red, pink, or darker-looking skin
- Mild swelling
- Tightness, itching, or sensitivity

Causes and risk factors

Sunburn is caused by UV radiation. UVB rays are the main cause of sunburn, while both UVB and UVA contribute to long-term skin damage. UVA can pass through some window glass, although ordinary glass blocks most UVB.

You are more likely to burn when the UV level is high. This can happen even on cool, windy, or cloudy days. Snow, sand, concrete, and water can reflect UV radiation and increase exposure.

Risk is also affected by:

Some antibiotics like amoxicillin or doxycycline , acne treatments, water tablets like furosemide or hydrochlorothiazide , anti-inflammatory medicines, and other medicines can make the skin more sensitive to UV. This is called photosensitivity. Do not stop a prescribed medicine without advice. A pharmacist or prescriber can explain whether sun sensitivity is a known effect.

Young children can burn quickly because their skin is sensitive and they may not notice or describe early discomfort.

- Spending a long time outside without enough protection
- Having skin that burns easily, although every skin tone can burn
- Living, working, or exercising at high altitude
- Being near the equator or outside around midday
- Using tanning beds or sunlamps
- Having previously sun-damaged skin
- Taking medicines that increase sensitivity to sunlight

Diagnosis

Sunburn is usually diagnosed from the skin's appearance, symptoms, and recent UV exposure. There is no routine blood test or scan that confirms it.

A healthcare professional may ask when the exposure happened, how long you were outside, whether sunscreen was used, and whether you take medicines that increase sun sensitivity. They may examine how much skin is affected and whether there are blisters, dehydration, infection, or signs of heat illness.

Medical assessment can also help when the cause is uncertain. Some medicine reactions, rashes, and inflammatory skin conditions can resemble sunburn, especially if the reaction is unusual or keeps returning after limited exposure.

Treatment and management

Most mild sunburn can be managed at home. The main goals are to cool the skin, ease discomfort, protect it from further injury, and prevent dehydration.

Move indoors or into shade as soon as you notice a burn. Keep the area covered from direct sunlight while it heals.

A cool shower, bath, or damp compress may soothe the skin. Do not apply ice directly. Extreme cold can further damage injured skin.

After cooling, gently apply an unperfumed moisturiser. Aloe vera or soy-containing moisturisers may feel soothing. Avoid products that sting or contain ingredients to which you are sensitive. Topical numbing products can sometimes irritate the skin or cause an allergic

reaction.

Drink fluids, particularly if a large area is burned or you have been sweating. Alcohol may worsen dehydration.

Non-prescription pain medicines may help with pain and inflammation. Follow the product label and ask a pharmacist if you are unsure whether a medicine is suitable for you. Children and adults may need different products.

Do not deliberately break blisters. The blister roof helps protect the healing skin from infection. If a blister opens, wash the area gently, leave any attached skin in place, and cover it with a clean, non-stick dressing.

Avoid tight or rough clothing over the burn. Do not scrub peeling skin or try to remove it early.

Severe burns may need professional wound care, treatment for dehydration, or assessment for heat-related illness. Antibiotics are not routinely used for sunburn, but they may be needed if damaged skin becomes infected.

Complications

The most immediate complications are dehydration, extensive blistering, and skin infection.

Possible signs of infection include increasing pain, swelling, warmth, pus, red streaks, or a fever that begins after the burn. An open blister is more likely to become infected than intact skin.

Heat exhaustion or heatstroke can occur at the same time as sunburn after prolonged heat exposure. Heatstroke is an emergency because the body can no longer control its temperature. Confusion, fainting, seizures, or reduced responsiveness are important warning signs.

Repeated sunburn causes lasting changes that may not be visible right away. Over years, UV damage can lead to wrinkles, uneven pigmentation, rough sun-damaged patches, and a higher risk of skin cancer. Sunburn during childhood is especially important because UV damage builds throughout life.

Eye exposure can also cause painful inflammation known as photokeratitis, sometimes described as sunburn of the eye. Eye pain, marked light sensitivity, or vision changes need prompt assessment.

Prevention

Sunburn can usually be prevented by reducing UV exposure. Sunscreen is useful, but it works

best as one part of sun protection rather than as permission to stay outside longer.

Check the local UV index and take extra care when it is high. Seek shade, especially around the middle of the day when UV is often strongest.

Wear tightly woven clothing that covers the skin, along with a broad-brimmed hat and UV-protective sunglasses. Some clothing is labelled with an ultraviolet protection factor, or UPF.

Use a broad-spectrum, water-resistant sunscreen with an SPF of at least 30 on exposed skin. "Broad-spectrum" means it protects against both UVA and UVB. Apply it generously before exposure and reapply at least every two hours, as well as after swimming, sweating, or towel drying. Follow the product instructions.

No sunscreen blocks all UV radiation. Areas commonly missed include the ears, scalp, lips, tops of the feet, and the edges of clothing.

Keep babies out of direct sunlight as much as possible, using shade and protective clothing. Ask a healthcare professional or pharmacist about suitable sun protection for a young baby.

Avoid tanning beds and sunlamps. A tan from artificial UV is still a sign of skin damage and does not provide reliable protection against burning.

Living with it and what to expect

A mild sunburn often becomes most uncomfortable within the first day and then slowly improves. Tenderness and redness usually settle over several days. Peeling may continue for about a week or longer after a deeper burn.

Blistered skin can take longer to heal. The new skin underneath may remain pink, darker, lighter, or more sensitive for a while. Protect it from further sun exposure because recently healed skin can burn easily.

Most people recover without ongoing symptoms. However, the UV damage from a burn is permanent at a cellular level, even when the skin looks normal again. Future protection can prevent additional damage but cannot erase past exposure.

If you burn after very limited sunlight, develop repeated unusual reactions, or notice that a new medicine has changed your sun sensitivity, arrange a routine appointment. This may help identify a photosensitive medicine or another skin condition.

Continue checking your skin over the months and years. A new or changing mole, a sore that does not heal, or a patch that repeatedly crusts or bleeds should be assessed. These changes are not usually caused by one recent burn, but they can be linked to cumulative UV damage.

When to get medical help

Arrange prompt medical advice if:

Routine follow-up is appropriate if the burn is healing but you are concerned about persistent colour changes, repeated photosensitivity, or long-term skin cancer risk.

Seek emergency help for confusion, fainting, seizures, severe breathing difficulty, or reduced responsiveness. These can indicate heatstroke, a serious allergic reaction, or another urgent condition rather than uncomplicated sunburn.

- The burn covers a large area or has widespread blistering
- Pain remains difficult to control
- You have worsening headache, nausea, dizziness, or weakness
- You cannot drink enough or are passing very little urine
- A baby or young child has significant sunburn
- The skin develops pus, spreading redness, or increasing swelling
- Eye pain, severe light sensitivity, or vision changes occur
- A suspected medicine-related reaction is severe or unusual

Common questions

How long does sunburn last?

A mild burn often improves within several days and may peel for about a week. Blistered or extensive burns can take longer. Increasing pain or swelling after initial improvement may suggest infection.

Should I pop sunburn blisters?

No. An intact blister protects the skin underneath. If one breaks on its own, clean it gently and cover it with a non-stick dressing. Seek advice for extensive, infected, or very painful blisters.

Can sunburn turn into a tan?

The skin may become darker as it heals, but a tan is also a response to UV injury. It does not mean the damage has healed, and it gives little protection against another burn.

Does one sunburn cause skin cancer?

One sunburn does not mean you will develop skin cancer. However, each burn adds to accumulated UV damage, and repeated sunburn increases risk. Protecting your skin from

future exposure remains worthwhile.

Can I get sunburned through clouds or windows?

Yes. UV radiation can pass through clouds, so overcast weather does not prevent burning. Most window glass blocks UVB, but some UVA can pass through and contribute to skin damage.

What does "sun poisoning" mean?

"Sun poisoning" is not a precise medical diagnosis. People often use the term for severe sunburn with blistering or symptoms such as fever, nausea, headache, and dizziness. These symptoms need medical advice because dehydration or heat illness may also be present.

Sources

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