



SOLAR URTICARIA

What are the aims of this leaflet?

This leaflet has been written to help you understand more about solar urticaria. It tells you what it is, what causes it, what you can do about it and where you can find out more about it.

What is solar urticaria?

The term 'solar urticaria' describes a relatively rare type of [urticaria](#), which is triggered by exposing the skin of susceptible individuals to light (which can be direct sunlight, daylight at any time of year, even on a cloudy day and sometimes artificial light). Urticaria is also known as hives, weals, or nettle rash.

Solar urticaria is found worldwide. Whilst it can start at any age, it typically presents in those aged 20 to 40-years old and is slightly more common in females and those of lighter skin type.

What causes solar urticaria?

Solar urticaria occurs when light causes the release of histamine from cells in the skin called mast cells. The mechanism of the interaction between light and the skin that triggers the urticaria is not fully understood but is thought to involve the triggering of an antibody-mediated immune reaction.

The appearance of solar urticaria can be quite dramatic as it usually develops within just a few minutes after exposure to the causative light. The wavelengths of light that are responsible for triggering solar urticaria are usually long wavelength ultraviolet (UVA) and/or visible light (e.g. daylight not

containing ultraviolet) and short wavelength ultraviolet (UVB) may be a trigger in the minority.

What are the symptoms of solar urticaria?

The main symptoms of solar urticaria are itching, stinging and burning. Rarely the rash is accompanied by symptoms such as headache, nausea, vomiting, breathing difficulties and low blood pressure and this is more likely to occur if large areas of skin are exposed to light.

What does solar urticaria look like?

Solar urticaria looks like flat red marks or raised red/white weals on the skin. The weals may come together with sharp cut off lines at clothing. Sites affected depend on areas exposed to sunlight. Solar urticaria may develop on skin apparently covered by clothing especially if the clothing is thin.

The rash may last a few minutes, or hours, and usually disappears within a day. Rarely, it may last longer than 24 hours. No scarring is left behind.

How is solar urticaria diagnosed?

The diagnosis is usually based on its appearance and/or a history of the rash appearing minutes after sunlight exposure, which then settles down within a few hours. Photographs of the rash taken by the patient or friend/family may help a doctor to make the diagnosis as the rash may not be present when seen at a medical appointment.

Phototesting (trying to reproduce the rash by testing the skin with different wavelengths of ultraviolet and visible light, also known as monochromator light testing) may also be helpful. Phototesting requires referral to a specialised centre. Blood tests are usually needed, and a skin biopsy may be requested in the minority.

Can solar urticaria be cured?

The condition of solar urticaria typically persist often for years, although it can spontaneously resolve. We do not yet have a cure for this condition, but the treatments described below can often be of great help in suppressing the disease and for symptom control.

How can solar urticaria be treated?

Treating solar urticaria can be difficult, especially if visible light is causing the problem. Taking measures to avoid light exposure is important to prevent the triggering of solar urticaria and this may require major adjustments to a person's lifestyle. If medication is needed to help control the condition, this can be taken episodically to prevent/treat flares or regularly, depending on the severity of the condition. Steps to help prevent eruptions include the following:

- **Behavioural modifications.** Spend time in the shade between 10am and 3pm on both sunny and cloudy days.
- **Clothing.** Simple measures include the wearing of clothes made from tightly woven cloth, long sleeves, a hat (with wide brim), shoes rather than sandals and gloves, particularly for driving.
- **Sunscreens.** Solar urticaria is characterised by sensitivity mainly to UVA and visible light, and more rarely to UVB. Individuals may be sensitive to one or all of these wavebands. Phototesting can help to determine which wavelengths are important to protect against for individual patients. Conventional sunscreens are formulated to protect against UVB and UVA light (particularly UVB) and may therefore not be effective in those with solar urticaria triggered by visible light. Reflectant sunscreens* that are based on titanium dioxide or zinc oxide will be more effective in solar urticaria as they have protective effects against UVA, UVB and visible light. The SPF (sun protection factor) number theoretically advises you how effective the sunscreen should be for UVB protection, and the star rating (usually found on the back of the bottle, with a maximum 4 stars) gives a measure of the UVA protection. However, there is no such thing as a total sunblock, and sunscreens are rarely used frequently or thickly enough and can give a false sense of security, when used for both sunburn protection, but also for protection against triggering of solar urticaria. Your doctor will advise on which sunscreens you should use and how these should be used to maximise the amount of protection you can get.
- **Photoprotective window films.** Some people may find it helpful to apply special photoprotective window films to the windows of their car and home so that all UVA and UVB light is blocked. These protective films may stop working and need replacing after about five years. Some car manufacturers offer UV protective glass as standard or as an optional extra, however most car side windows do not block UVA light. Your dermatologist may be able to advise you about suppliers of UV

protective film. The British Photodermatology Group has released a consensus statement on [UV protective films](#).

- **Antihistamines.** Once solar urticaria develops it can be treated with antihistamine tablets, which block the effects of histamine release. Antihistamines can reduce the symptoms and appearance of the urticarial weals and can be an extremely effective treatment for some patients. In solar urticaria it may be necessary to take higher doses of antihistamines and your doctor would advise you about this. The usual precautions should be taken with antihistamines. Even “non-sedating” antihistamines can cause some drowsiness, particularly when taken at higher doses, and care should be taken, for example, with driving or operating machinery.
- **Montelukast.** If antihistamines are ineffective then montelukast, usually used to treat asthma, may be used.
- **Corticosteroids.** Corticosteroid tablets (eg. prednisolone) may occasionally be used to relieve severe flares but would only be used in an acute situation for a few days and are not advised for longer term use.
- **Phototherapy.** Your dermatologist may recommend a course of [phototherapy](#) (where carefully measured artificial doses of light (usually UVB, although UVA may occasionally be used) are delivered to your skin in a phototherapy cabin by specially trained nurses) may be an additional treatment option. You would usually continue your antihistamines during [phototherapy](#) treatment.
- **Other treatments.** If these treatments do not work then your doctor may discuss other possible options with you, which include immunosuppressing or immunomodulating treatments, such as [ciclosporin](#), [methotrexate](#), the anti-IgE antibody ([omalizumab](#)), plasma exchange, photopheresis or intravenous immunoglobulins.

Vitamin D advice

The evidence relating to the health effects of serum Vitamin D levels, sunlight exposure and Vitamin D intake remains inconclusive. Avoiding all sunlight exposure if you suffer from light sensitivity, or to reduce the risk of melanoma and other skin cancers, may be associated with Vitamin D deficiency.

Individuals avoiding all sun exposure should consider having their serum Vitamin D measured. If levels are deficient (less than 50 nmol/L) or reduced

(52.5-72.5 nmol/L) they may wish to consider taking supplementary vitamin D3, 10-25 micrograms per day, and increasing their intake of foods high in Vitamin D such as oily fish, eggs, meat, fortified margarines and cereals. Vitamin D3 supplements are widely available from health food shops.

Where can I get more information about solar urticaria?

Web links to other detailed information:

<http://www.dermnetz.org/reactions/solar-urticaria.html>

<http://emedicine.medscape.com/article/1050485-overview>

Other useful information:

*One option for reflectant sunscreens is the Dundee creams. It may be possible to have these prescribed through your doctor through: NHS Scotland Pharmaceutical 'Specials' Service, Ninewells Hospital and Medical School, Dundee (tay.pssoffice@nhs.scot). Other reflectant sunscreens are also available and may be advised through your doctor.

Please note: The BAD provides links to help people access a range of information about their skin disease. The views expressed in these links may not be those of the BAD or its members.

For details of source materials used please contact the Clinical Standards Unit (clinicalstandards@bad.org.uk).

This leaflet aims to provide accurate information about the subject and is a consensus of the views held by representatives of the British Association of Dermatologists: individual patient circumstances may differ, which might alter both the advice and course of therapy given to you by your doctor.

This leaflet has been assessed for readability by the British Association of Dermatologists' Patient Information Lay Review Panel

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