



## PHOTOTHERAPY

### What are the aims of this leaflet?

This leaflet has been written to help you understand more about phototherapy. It tells you what it is, what is involved, what the potential side effects are, and where to find out more about it.

### What is phototherapy?

The term *phototherapy* is a form of treatment where fluorescent light bulbs are used to treat skin conditions. Natural sunlight has been known to be beneficial in certain skin disorders for thousands of years, and it is the ultraviolet part of the radiation produced by the sun that is used in phototherapy, in particular the ultraviolet A (UVA) and ultraviolet B (UVB) wavelengths of light.

### Types of phototherapy

The choice of the type of phototherapy to use is dependent on the type of skin condition, previous responses to treatment among other factors. The type of phototherapy will be discussed and recommended by your treating Dermatologist.

There are 3 main types of phototherapy:

1. **Broadband UVB (BBUVB)** in which a skin condition is treated with the full UVB spectrum. Examples of skin conditions treated by BBUVB are psoriasis and eczema.
2. **Narrowband UVB (NBUVB)** in which just a small part of the UVB spectrum is used to treat skin conditions such as psoriasis and eczema. NBUVB is considered more effective, especially for severe psoriasis, eczema, polymorphic light eruption.
3. **PUVA (Psoralen + UVA)**, in which UVA radiation is combined with a sensitiser (a chemical that increases the effect of UVA on the skin) called a psoralen. PUVA is used to treat psoriasis, vitiligo, cutaneous T-cell lymphoma

## **How does phototherapy work?**

Ultraviolet light reduces inflammation of the skin and can help in various inflammatory skin disorders. However, although it can cause skin conditions to clear, this is usually temporary and not a cure. PUVA is a more potent form of treatment, so is usually reserved for people with certain skin conditions who do not respond to one or more courses of UVB. Because PUVA is more potent, reaches the deeper skin layers, it can have more short- and long-term side effects. These should be discussed with you prior starting the treatment.

## **What conditions can be treated with phototherapy?**

UVB is used to treat common skin conditions such as psoriasis, atopic eczema, polymorphic light eruption, generalised itching, pityriasis lichenoides, cutaneous T cell lymphoma, lichen planus, vitiligo and other less common conditions.

PUVA is recommended for chronic plaque psoriasis if UVB has not been effective. It is also used for vitiligo, polymorphic light eruption and cutaneous T-cell lymphoma. Your skin condition may not improve with UVB treatment, but you may find PUVA more effective. PUVA is favoured over UVB for some indications, such as mycosis fungoides beyond patch stage, adult pityriasis rubra pilaris, hand and foot eczema.

## **What does phototherapy involve?**

Both UVA and UVB treatments are given in a hospital outpatient department in a walk-in light box containing fluorescent light bulbs. The treatment schedule varies from two to three times a week and an average course lasts between 15 and 30 treatments. There are no limits to the numbers of treatments patients may have over their lifetime. Having more than 200 PUVA or over 500 UVB treatments means that you will need annual skin checks to look for skin cancer.

The starting UVA or UVB dose is worked out either by asking how well you tan in sunlight or by performing a test dose of ultraviolet light on an area of an unaffected area of skin. The first few treatments will often last less than one minute, and the duration of exposure to ultraviolet light will gradually increase, up to a couple of minutes.

The amount of skin exposed to the ultraviolet light will depend primarily on the extent of your condition; for most patients all of the skin is exposed to ultraviolet light, except the eyes (which will be protected by goggles) and male genitalia (which should be covered). Female genitalia are not exposed and therefore do not need to be covered. If you only have the skin condition on your limbs, your trunk can be covered. A visor, face shield may be worn if your face is not affected by your skin condition. Goggles should always be worn to protect your eyes.

In some parts of Scotland there is a home UVB phototherapy service which involves the use of portable whole body phototherapy units to treat selected and patients that have been adequately trained at home. Phototherapy nurses can monitor your progress and advise about treatment. Home phototherapy is not routinely available in other parts of the United Kingdom.

PUVA treatment involves making your skin extra sensitive to UVA by means of a psoralen, which is either taken orally as tablets, 2 hours prior to each treatment session, or by the application of a solution, lotion or gel directly onto your skin (sometimes in a bath – *bath PUVA*). You will be required to wear sunglasses that will prevent the exposure of your eyes to natural ultraviolet light for 24 hours from the time of psoralen tablets being taken. Some patients requiring treatment to small areas only may be treated using a smaller hand and foot unit which looks like a box. In this case the hands and/or feet are soaked in water containing psoralen, then immediately exposed to UVA. Pregnancy should be avoided during PUVA treatment because the safety of psoralen has not been assessed.

### **What reasons might prevent you having phototherapy?**

- If you are unable to attend regularly for treatment.
- If you are unable to stand unaided for up to ten minutes.
- If your skin condition is caused or made worse by natural sunlight.
- If you have xeroderma pigmentosum.
- If you are taking a medicine which suppresses your immune system, such as ciclosporin or methotrexate.
- PUVA treatment may not be used if you have severe liver or kidney disease.
- If you are taking medicines that make you more sensitive to sunlight.
- If you are pregnant (only for PUVA).

### **Do I need to avoid anything whilst having phototherapy?**

- Medicines that make you more sensitive to ultraviolet light. You should inform the phototherapy staff of any new medicines prescribed or purchased, including herbal preparations.
- Additional sun exposure or the use of sunbeds.
- Excessive quantities of foods such as celery, carrots, figs, citrus fruits, parsnips and parsley; these can make you more sensitive to ultraviolet light.
- Perfumed skin products.
- Creams, ointments and lotions on treatment days other than moisturisers, unless directed by the phototherapy staff.
- Short haircuts, as they may result in burning of previously covered skin. Do not grow a beard or moustache if you don't already have one.

## What are the potential side effects of phototherapy?

The common, short-term side effects of phototherapy include:

- Redness and discomfort (sunburn).
- Dry and itchy skin.
- Folliculitis – inflammation of the hair roots may occur. This is usually mild, and it does not cause significant discomfort and usually require no treatment or interruption of the UV therapy.
- A sunlight-induced rash called polymorphic light eruption may develop whilst receiving ultraviolet light.
- Cold sores – if you are prone to these it is advisable to cover the area usually affected with sun block when having ultraviolet treatment.
- Blisters in areas of psoriasis.
- Worsening of skin disease.
- Using PUVA treatment with psoralen tablets may cause nausea.

Potential long-term side effects of phototherapy include:

- Premature skin ageing.
- Skin cancer.

Although follow-up of patients treated with narrowband UVB has not as yet detected a skin cancer risk, it is possible that with long enough follow up of those who have had many exposures, a risk will be identified.

The increased risk is related to overall number of treatments and ultraviolet doses administered, and also to pre-existing risk factors for skin cancer in patients.

## Where can I get more information about phototherapy?

You can find more information about phototherapy on the following websites:

<http://www.dermnetnz.org/procedures/narrowband-uvb.html>

<http://www.dermnetnz.org/procedures/puva.html>

<https://www.psoriasis.org/about-psoriasis/treatments/phototherapy>

<https://nationaleczema.org/eczema/treatment/phototherapy/>

<https://www.clfoundation.org/phototherapy-nutshell>

[https://www.vitiligosupport.org/treatments\\_and\\_research/phototherapy.cfm](https://www.vitiligosupport.org/treatments_and_research/phototherapy.cfm)

<http://www.bad.org.uk/library-media/documents/BPG%20UV%20films.pdf>

The British Photodermatology Group has released a consensus statement on [UV protective films \(see link above\)](#).

For details of source materials used please contact the Clinical Standards Unit ([clinicalstandards@bad.org.uk](mailto: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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