



TREATMENTS FOR MODERATE OR SEVERE PSORIASIS

What are the aims of this leaflet?

Patients with psoriasis are usually treated with creams and ointments, which are applied to the skin. These are discussed in a separate leaflet (“Topical treatments for psoriasis”). Sometimes other forms of treatment are needed and this leaflet has been written to help you to understand more about them. It tells you what they are, how they are used, and where you can find out more about them.

What types of treatment are available?

They include:

1. *Phototherapy*. Ultraviolet light can be used in several different ways to treat psoriasis.

2. *Treatments with a variety of tablets*.

The idea of a tablet to treat psoriasis is attractive, but most of the tablets used have potentially severe side effects. Most are likely to be started by a dermatologist, and some can be prescribed only from a hospital.

- They require regular clinical and blood test checks.
- Most have the potential to interfere with other medicines, and so you should always let your doctor know if other medicines are changed whilst you are taking tablets for psoriasis.
- Female patients should not become pregnant while on any of the tablets used to treat psoriasis; in addition, it is important that male patients taking some of these tablets should not father a child. These pregnancy issues may apply for some time after stopping the tablets.

Treatments with tablets tend to be used:

- When psoriasis has failed to respond to topical treatments, or comes back quickly after clearing with them.
- If the psoriasis is severe.
- If its pattern is an awkward one for treatment with creams and ointments.

Which of these treatments is most suitable for my psoriasis?

The various treatments with light and tablets are discussed individually below, and would also be discussed with you in detail by your dermatologist if you were to start on them. All are effective, but the choice will vary from patient to patient for reasons that are outlined below. All of them carry some potential risks, so they are not used for psoriasis that can sensibly be kept under control with simpler measures. Most patients will need to use some topical therapies as well.

Phototherapy

What types of phototherapy are available?

Two types are used, known as **UVB** and **PUVA**. UV stands for ultraviolet - UVA and UVB are different parts of normal sunlight. With both of these treatments it is important that you let the staff know about any tablets that you are taking, as some can make the skin unduly sensitive to sunlight, and particularly about any changes in these tablets during your course of treatment. Tablets for joint problems, water tablets (diuretics), and tablets for diabetes are examples of those that can make the skin sensitive to light. It is also important that you remind staff if you have had a gap in treatment, as this may require the dose of light to be reduced.

1. UVB

What is UVB?

Ultraviolet light occurs naturally in the sun's rays. The shorter wavelengths of ultraviolet light are known as UVB. Treatment with UVB is the simplest of the treatments discussed in this leaflet, as it involves no tablets.

How is treatment with UVB given?

UVB can be given by various machines, most of which have fluorescent tubes that look like those used in strip lighting or sunbeds. However, the type of light produced by the tubes used for UVB treatment differs from these, as it concentrates on the burning part of sunlight. Indeed sun beds, which aim to avoid the burning parts of sunlight, are of limited or even of no value in psoriasis.

There are various different forms of UVB: one type being used more often now is known as 'narrow band' and comes from TL-01 tubes. It focuses on a single wavelength or colour of ultraviolet, picking out the best part of the spectrum for treating psoriasis while avoiding some of the potentially harmful wavelengths.

What sort of psoriasis is treated with UVB?

UVB is one of the first steps on from topical treatment, in patients whose psoriasis has failed to respond. It is particularly useful when there are numerous scattered patches of psoriasis, which can be difficult to treat topically,

and it is particularly useful in guttate psoriasis, which often gets better on its own but which is difficult to treat with creams because it is made up of lots of tiny spots.

UVB is generally not used:

- For very inflamed psoriasis.
- For psoriasis on areas such as the feet because there is a lack of suitable machinery.
- In the treatment of psoriasis on hair-bearing areas such as the scalp.
- For patients who live a long way from a treatment centre, or who find it hard to attend several times a week.

How frequently will I have to attend for UVB treatment?

Treatment is usually given 3 times weekly, sometimes twice weekly, and for 4 - 6 weeks. Each treatment takes only a few minutes, although it may be combined with other treatments such as creams. As with natural sunlight, treatment times are shorter initially and build up - test doses may be performed to see how easily you burn with UVB. Most dermatologists stop UVB treatment when the psoriasis has cleared or improved significantly, and it is seldom continued as an ongoing ('maintenance') form of treatment, although some patients need repeated courses.

Does UVB have any side effects?

The skin may burn - as with any form of sunlight. This can generally be avoided by the use of either test doses or small initial doses, and by building up treatment times gradually. Some redness of the skin and subsequent tanning is likely, but you should let the staff in the dermatology department know if you develop any burning sensations (usually 12 - 24 hours after treatment).

Remember also to tell the staff about any tablets that you are already taking, and about any new ones that you start during your course of treatment. Remind the staff too if you have had a gap in treatment, as this may require the dose of light to be reduced.

As with any form of sunlight, there are at least theoretical risks that UVB might cause skin cancers. However these risks are thought to be low. They are difficult to tell from the effects natural sunlight has on the skin over a period of years, but provide a reason why UVB is not used for every patient with psoriasis in preference to creams and ointments, and why UVB is generally not given long-term without careful consideration. The risk of developing skin cancer may be lower with narrow band UVB than with PUVA (discussed below).

2. PUVA

What is PUVA?

PUVA is the term used for a combined treatment with Psoralen (P) and long wavelength ultraviolet A light (UVA). In the presence of UVA, the psoralen combines with the cells in the skin to slow down their rate of division. In psoriasis, these skin cells are multiplying too quickly. The psoralen may be taken as tablets or applied externally to the skin.

What are psoralens?

Psoralens are a group of naturally occurring chemicals that are found in more than 30 plants (including lemon, celery, parsley, figs and cloves); but the amounts in these are too small to help psoriasis. In PUVA therapy, the psoralen acts by making the skin highly sensitive to sunlight - and in particular to the long wave UVA.

What is UVA?

The longer wavelengths of the ultraviolet light are known as UVA. In most parts of the world, only small amounts of UVA reach the earth's surface. PUVA therapy needs large amounts of UVA, so this has to be provided by special machines.

What is a PUVA cabinet?

This is the machine that produces the UVA for PUVA treatment. The UVA comes from specially coated lamps that look like ordinary fluorescent tubes. These are usually built into a box rather like a shower cabinet into which you step for treatment. Some patients dislike the feeling of being inside these cabinets, but most get used to it quickly. Elderly patients may find it difficult or uncomfortable to stand for the time required. Fans are built into the cabinets to control ventilation and temperature.

How is the psoralen given?

- **PUVA tablets.** The psoralen drug (usually 8-methoxy psoralen, sometimes known as "8 MOP") is taken in capsule form, 2 hours before the treatment with UVA. With some preparations, the time interval may be different. If the capsules make you feel sick, they should be taken with a light meal or a glass of milk, and sometimes the dose or the type of psoralen may have to be altered to an alternative drug "5 MOP". The level of psoralen in the blood reaches a maximum after about 2 hours, so you will need to be accurate about the times you take the tablets and have the UVA light exposure. Tell the nurse or hospital doctor when you need more capsules, as these are only available from the hospital pharmacy.
- **Bath PUVA.** Another option is to use a form of psoralen that is added to bath water. Usually this involves soaking in a bath for about 10 - 15 minutes, followed by the exposure to UVA. As the UVA is given shortly

after the bath, and as the concentration of psoralen needs to be measured accurately, the psoralen bath will be given in the dermatology department.

- **Other forms of PUVA.** For localised areas of psoriasis, especially areas such as the hands or feet, psoralen may be applied as a gel or cream, usually about 30 minutes before the exposure to UVA.

How long will the PUVA treatment take: and how often will I have to attend for it?

- You will attend for PUVA therapy as an outpatient, and so it should not interfere too much with your work or schooling. If you have difficulty in getting time off, your doctor may write to those concerned.
- Treatment times depend mainly on your skin type and how it reacts to sunlight. Fair-skinned people who burn easily will have shorter treatment times than dark-skinned individuals who rarely burn in the sun. Treatment times will often be worked out using the results of an initial light test on the skin.
- Your treatment sessions will gradually increase from a few minutes to a maximum of 20 - 30 minutes if your skin tolerates the treatment. If you notice any burning or irritation, tell the nurse before you start further treatment as the treatment time may have to be reduced, or the affected area may have to be covered up.
- Most doctors prescribe therapy twice a week, and the psoriasis is usually much better after 5 - 8 weeks of treatment. Some people find they can then stop the treatment.
- Continuous PUVA therapy should be avoided to reduce the cumulative effects of the UVA.

Has PUVA any side effects?

It can have: they are divided into short-term and long-term ones.

Short-term side effects:

- Some patients feel sick after they take their psoralen tablets.
- Burning of the skin is sometimes a problem with PUVA, particularly at the start of the treatment course. Test doses may be performed at the start of treatment. Unlike ordinary sunburn, the redness from PUVA can take 2 or 3 days to appear, and can last for more than a week. Remember to let the staff know if you have had a gap in treatment, as this may require the dose of light to be reduced.
- The skin may become itchy and dry, but this usually responds to moisturisers.
- Some patients develop prominent freckles anywhere on the skin.

Long-term side effects:

PUVA treatment, if given in excess, can lead to premature ageing of the skin, and to an increased risk of developing certain forms of skin cancer. The risks from a few courses of treatment (less than 5) are small and should not cause undue concern. The risks are higher for those who receive or request PUVA treatment over several years, and especially for people with fair or freckled skin. For this reason, we prefer to stop PUVA treatment once the psoriasis has cleared.

What precautions should I take during a course of PUVA treatment?

- ***Eye protection***
Psoralen capsules make the eyes as well as the skin more sensitive to sunlight. You will be given goggles to wear during treatment, but the eyes also need to be protected by wearing UVA protective glasses whenever you go outside for 24 hours from the time you take the tablets. You need not wear your sunglasses indoors, except in rooms lit by natural sunlight or unshielded fluorescent tubes. All Polaroid-type sunglasses provide adequate eye protection. Your own sunglasses can be tested at the hospital to make sure that they are suitable. Some non-tinted glasses or specially coated glasses also provide adequate protection but may be expensive: the hospital can give you details about them if you wish.
- ***Genital protection***
Underpants of the same size for each treatment or other suitable covering should be worn during the UVA light treatment to protect the male genital area.
- ***Sunbathing and sunbeds***
Avoid sun exposure on treatment days, and wear suitable clothing to protect your skin from sunlight. Avoid other artificial sun lamps during the course of PUVA treatment.
- ***Other skin treatments***
Your scalp should continue to be treated with prescribed topical applications, as the UVA may not penetrate the hair enough to help it. Moisturisers can be used in the bath or applied to your skin during PUVA and TL-01 phototherapy. Some moisturisers block UV light, so they are best avoided in the few hours before treatment. Other ointments and creams can often be used but it is best to check with the nurses or doctors at the PUVA unit.
Perfumes and aftershaves can cause a skin reaction with the UVA light and should not be used on treatment days.
- ***Other prescribed medications and diet***
Remember to let the staff know about any tablets that you are taking, or any new tablets that start during your course of treatment, as some may make the skin sensitive to light. Some foods, such as celery, contain psoralens and should not be eaten in excess during PUVA treatment.

- **Contraception**
It is very important that women do not become pregnant while having PUVA: efficient contraception should be used throughout.

Tablets used to treat severe psoriasis

1. ACITRETIN

What is acitretin?

Acitretin (trade name Neotigason) is one of a group of drugs known as retinoids, which are related to Vitamin A. Acitretin is the one usually selected for psoriasis. It is prescribed only in hospitals and is hardly ever used in women of childbearing age.

How is acitretin taken?

It is taken daily, as capsules, either on its own or combined with PUVA or topical therapy.

How does acitretin work?

It slows down rapidly dividing skin cells and calms the inflammation of psoriasis. Approximately 40% of patients (i.e. 4 out of every 10 people) derive significant benefit

What are the possible unwanted side effects of acitretin?

The side effects of acitretin are generally mild, and reversible if treatment is stopped. Most depend on the dose that is used.

They include:

- Harmful effects in pregnancy - see below.
- Dryness of the lips, eyes, and face. This can usually be relieved by the use of moisturisers. A lip salve should be used from the start of therapy.
- Nose bleeds.
- Thinning of the scalp hair.
- Muscle aches and pains, especially after vigorous exercise, which can be treated with paracetamol if necessary.
- Headaches, usually relieved with paracetamol. The acitretin should be stopped if they persist.
- Bone changes can occur after long-term use.

What precautions should I take while taking acitretin?

- Because retinoids severely damage an unborn baby, **pregnancy must be avoided whilst on therapy, and for 2 years after the therapy has stopped**. Efficient contraception is essential during this time period.
- For this reason male patients must also avoid sharing their tablets and donating blood for a similar period.
- Some antibiotics (tetracyclines) should be avoided as they can exacerbate headaches.

- The skin becomes more sensitive to sunlight, so that caution is needed to avoid sunburn.

What other tests may be needed?

A pregnancy test will be needed before you start treatment to exclude the possibility of an early pregnancy. At the start, you will be given a blood test to check your lipids, liver and kidney function; and this will be repeated at intervals. An X-ray of certain joints may be taken every 1 or 2 years.

How long will the treatment last?

Until the skin has improved and usually for several months thereafter to keep the psoriasis at bay.

2. CICLOSPORIN

Further information on ciclosporin can be found in the specific leaflet on this drug found on the website <http://www.bad.org.uk/public/leaflets/>. You should read this if you are starting on ciclosporin

What is ciclosporin?

Ciclosporin (previously called cyclosporin: trade name "Neoral") has been used extensively for many years for patients with kidney or other transplants to prevent organ rejection. It is also effective in controlling severe psoriasis. It may take 3-4 weeks before you see benefit from ciclosporin treatment.

How does ciclosporin work?

Ciclosporin is an immunosuppressive drug. It reduces the inflammation seen in psoriasis and subsequently reduces the scaling.

How is ciclosporin taken?

Ciclosporin is taken as capsules, or as a solution by mouth. Your doctor will tell you exactly how much to take and how often you should take it each day. Many tablets can interfere with ciclosporin and reduce its effect. Some increase the risk of side effects. Lists of these 'drug interactions' are readily available for doctors to check if required. It is important that you tell your own doctor, or any other doctor looking after you, that you are on this medication, so that you are not prescribed any therapy that might interfere with it.

Most cases of psoriasis can be cleared or substantially improved with ciclosporin in the short term. With monitoring, it is often used for 2 years or can be used intermittently. However, it is generally not considered safe to take ciclosporin for much longer periods of time, and in most cases, the psoriasis recurs on stopping treatment. Different people respond differently; and some can be treated for much longer periods with careful monitoring.

What are the side effects of ciclosporin?

- The most common side effects are nausea, headaches and indigestion. These rarely necessitate stopping the ciclosporin.
- Serious side effects can occur so blood tests are carefully monitored.
- Long-term treatment may damage the kidneys and may cause high blood pressure. It is very important that you attend regularly for your hospital appointments so that relevant blood and urine tests can be done to check your kidneys, and your blood pressure can be measured.
- Ciclosporin may cause growth retardation in a baby if you become pregnant, so you must not become pregnant while you are taking it. It is important that you discuss contraception, if necessary, with your doctor before you start treatment.

What precautions should I take while on ciclosporin?

Many medicines can interfere with ciclosporin. Always check with your doctor before taking any medicine whilst on this treatment.

3. METHOTREXATE

Further information on methotrexate can be found in the specific leaflet on this drug found on the website <http://www.bad.org.uk/public/leaflets/> . We recommend that you read this if starting on methotrexate.

How does methotrexate work?

Methotrexate has a number of actions that account for its helpful effects in psoriasis. It slows down the skin cells that are dividing so rapidly in psoriasis, and also reduces inflammation by altering the way the immune system works.

Methotrexate is usually effective and most patients find their psoriasis clears completely, or nearly so, within 8 weeks.

How is methotrexate taken?

Methotrexate is usually taken by mouth **as a single weekly dose**. Tablets of different strengths may look very similar – so always check the dose carefully. If it is effective, methotrexate can be taken continuously for many years.

What are the possible side effects of methotrexate?

Although methotrexate has been used safely in the treatment of severe psoriasis for about 30 years, it can occasionally have adverse side effects.

- Nausea may occur in the 24 hours after taking the tablets.
- Methotrexate can affect the bone marrow where blood cells are made. This can lead to anaemia and a risk of infections or excessive bleeding. For these reasons, while taking methotrexate, you will need regular blood checks - usually weekly at first, but perhaps every 8 - 12 weeks once your psoriasis is well under control.
- With long-term use, methotrexate can damage the liver. If liver damage is detected early, it is not likely to get worse and may well recover. This

is looked for using special blood tests, and occasionally it may be necessary to biopsy (sample) your liver.

What precautions should I take while on methotrexate?

- **Avoid pregnancy:** methotrexate affects male and female reproductive function. You must not become pregnant, or father a child, whilst you are on methotrexate or for six months afterwards.
- **Avoid alcohol:** the risk of damaging your liver can be greatly reduced by avoiding alcohol while you are taking methotrexate. The best policy is to drink no alcohol at all except on very rare special occasions.
- Several medicines interfere with methotrexate and increase the risk of side effects. You should be given a list of the ones to avoid. They include aspirin, some painkillers and cold remedies, and some antibiotics.

4. HYDROXYCARBAMIDE (previously called hydroxyurea)

Further information on hydroxycarbamide can be found in the specific leaflet on this drug found on the website <http://www.bad.org.uk/public/leaflets/> . We recommend that you read this if starting on hydroxycarbamide.

How does hydroxycarbamide work?

Hydroxycarbamide (trade name "Hydrea") slows down the rapid division of skin cells that is characteristic of psoriasis, towards their normal rate.

Most patients notice an improvement of their psoriasis within 8 weeks of starting treatment. Sometimes however, the dose of hydroxycarbamide needed to clear psoriasis also affects the bone marrow (see below). When effective, hydroxycarbamide can be used long-term.

What are the possible side effects of hydroxycarbamide?

- As hydroxycarbamide also reduces the growth of bone marrow cells it can occasionally make you anaemic or prone to infections. For this reason, while you are having hydroxycarbamide, you will require regular blood checks (initially weekly, then less often - perhaps every 8 weeks).
- Adequate contraception is essential for women, both while they are taking hydroxycarbamide and for 2 months after it has been stopped. Men must not father a child for this time period.

How is treatment given?

- Hydroxycarbamide is prescribed as capsules and you will usually be asked to take 2 or 3 per day.
- If you have not responded well in 12 weeks, alternative therapies will be discussed with you. If you respond well, treatment will continue for 6 months or more.
- From time to time, your doctor will probably decide to stop the therapy to see if you still need it.

5. ROTATIONAL THERAPY

Most patients with severe psoriasis will be helped by at least one of these therapies, but from time to time your doctor may stop or change the treatment to control the disease better and to minimise the risk of side effects.

6. NEW TREATMENTS

Other new, or less commonly used treatments for psoriasis include other medicines that alter the immune system. Some of these, such as mycophenolate mofetil and azathioprine, have been used for some time, but mainly for other conditions. Some of the newer treatments are still being assessed, and some have to be given through a drip into a vein (infliximab) or as injections into the skin (efalizumab and etanercept). Efalizumab (Raptiva) and Etanercept (Enbrel) are two new injection treatments licensed for use in psoriasis. However, they are currently used only for patients with very severe psoriasis who are unable to take one of the standard treatments listed above or who have failed to respond to them. It is particularly important to know as much as possible about these new treatments, and the British Association of Dermatologists will soon be able to post information about them on its website. Until then the instructions that come with these treatments are good and detailed.

Where can I get more information about psoriasis and its treatment?

- *The Psoriasis Association:*
Milton House
7 Milton Street
Northampton NN2 7JG
Tel: (01604) 711129
Fax: (01604) 792894
Email: mail@psoriasis.demon.co.uk
Web: www.psoriasis-association.org.uk
- *The Psoriatic Arthropathy Alliance:*
P O Box 111
St Albans
Herts. AL2 3JQ
Tel: (0870) 770 3212
Fax: As Above
Business Line: (0870) 770 3213
Email: info@paalliance.org
Web: www.paalliance.org

- The British Association of Dermatologists has several other Patient Information Leaflets on its website that deal with psoriasis:
 1. Psoriasis – an overview.
 2. Topical treatments for psoriasis
 3. Ciclosporin
 4. Methotrexate
 5. Hydroxycarbamide
 6. Etanercept
 7. Efalizumab.
 8. Infliximab

(Whilst every effort has been made to ensure that the information given in this leaflet is accurate, not every treatment will be suitable or effective for every person. Your own doctor will be able to advise in greater detail.)

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