

Treatments for Psoriasis: *An overview*



A positive approach

to psoriasis and

psoriatic arthritis



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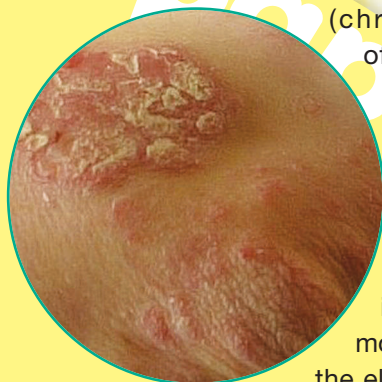
What are the aims of this leaflet?

This leaflet has been written to help you understand the treatments that are currently available to treat psoriasis. The leaflet is not designed as a replacement for your doctor's advice and we aren't recommending any single treatment in preference to any other; the best treatment schedule is the one which you and your doctor have agreed is most suitable for your particular situation.

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About psoriasis and psoriatic arthritis



Psoriasis (sor-i'ah-sis) is a long-term (chronic) scaling disease of the skin, which affects 1% - 3% of the UK population. It usually appears as red, raised, scaly patches known as plaques. Any part of the skin surface may be involved but the plaques most commonly appear on the elbows, knees and scalp.

About 10% to 20% of people with psoriasis may develop an associated psoriatic arthritis, which causes pain and swelling in the joints and tendons, accompanied by stiffness particularly in the mornings. The most commonly affected sites are the hands, feet, lower back, neck and knees, with movement in these areas becoming severely limited. For more detailed information on psoriasis and psoriatic arthritis see our leaflets ***What is psoriasis?*** and ***What is psoriatic arthritis?***

Although there are no cures for psoriasis, it can be controlled and go into remission. Not all people will be affected in the same way and doctors will class the condition as mild, moderate or severe.

Please note:

The treatments are listed alphabetically and not in the order of use or preference. The list is for reference only and you should always follow your healthcare provider's advice. In some cases you may be offered more than one medication in combination.

Antifungal

Antifungal agents in psoriasis care are typically used to treat seborrhoeic dermatitis (a flaky white-yellowish condition) and scalp psoriasis.

They can also be used in areas where psoriasis involves folds in the skin, where there's an increased potential for localised infection.

They are useful in removing the yeast fungus (*pityrosporum ovale*, also known as *malassezia*), which has been linked to conditions such as dandruff and scaly scalp conditions. Some commonly used antidandruff shampoos claim to be effective against these microbes.

Prescribed antifungal treatments can be used alone or in combination with topical corticosteroids, antibacterial



treatments or both. They are sometimes incorporated into a treatment regime to prevent fungal infection on skin which could be prone to it. See our leaflet **Scalp Psoriasis**.

Biologic agents

Biologic agents are made from biological (human or animal-based) proteins rather than artificial chemicals, much in the way that insulin was made from animal sources in the past.

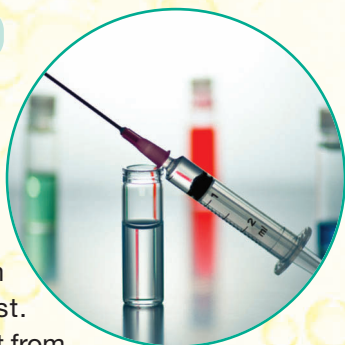
Biologic agents are different from other psoriasis medications in that they are designed to block the condition in the immune system rather than waiting to treat the symptoms of the disease.

It is thought that overactive cells in the immune system set off a series of events in the body, eventually causing psoriasis to develop on the skin surface, with skin cells piling up and inflammation at the base. Biologic agents work by blocking the action of specific immune cells that cause these cells to misbehave, by either reducing the number of these cells in the skin and blood or by blocking the activation of the immune cells or the release of chemicals from them.

Biologic agents target overactive cells in the body. Some target a type of immune cell called a T cell, while others target the chemical messages they release.

In psoriasis, certain T cells are mistakenly activated, producing TNF-alpha (tumour necrosis factor alpha) in excessive amounts, and move into the skin. Once in the skin they begin to act as if they are fighting an infection or healing a wound; the messages the TNF-alpha communicates leads to a rapid growth of skin cells - much faster than normal. This overproduction is what causes cells to pile up at the skin's surface. Some biologic agents act by preventing the activation and/or migration of T cells, by reducing the number of psoriasis-involved T cells in the body, or both.

The long-term safety of biologic agents has not yet been established. As a result they are not considered first-line



therapy. There is a pathway criteria outlined by NICE so that patients can access biologic agents after they have tried phototherapy and other systemic therapies such as treatments taken orally.

Coal tar

Coal tar therapy has been used for more than a century in dermatology.

It is a topical (applied to the skin) treatment mostly used for acute (short-term) scalp psoriasis. It has anti-inflammatory and anti-scaling properties that are useful in treating chronic plaque psoriasis. Crude coal tar (coal tar BP, a standard formulation) is the most effective form, typically in a concentration of 1% to 10% in a soft paraffin base, although few people with psoriasis can tolerate the smell and mess.

Cleaner extracts of coal tar included in brand-named products are more practicable for home use, but they are less effective and improvement takes longer.



Contact of coal tar products with normal skin is not usually harmful and they can be used for widespread small lesions; however, irritation, contact allergy, and sterile folliculitis (pus-filled spots at the base of the hair) can occur. The milder tar extracts can be used on the face and skin folds. Tar baths and tar shampoos are also helpful and some of these products can be purchased over the counter without a prescription.

Coal tar has also been used in combination with ultraviolet B light in hospitals. Formulated by American dermatologist William Goeckerman in 1925, this is called the Goeckerman method. Some hospital day-units still use tar products in the bath prior to treatment.

Combination therapies

Sometimes clinicians will prescribe a product containing

one or more active ingredients with different functions. This may be in order to simplify the number of treatments being applied at any one time or because the active agents are more effective when combined. There are a large number of possible combinations. In some instances these may be referred to as 'specials', referring to the formulation of any medicine judged to be essential to meet the patient's 'special clinical need'. These must be made by a specialist pharmacist, are quality assured with a short lifespan and can be costly.

Dithranol

Dithranol has been used for more than 100 years in the treatment of psoriasis. It is a chemical of plant origin, taken from the bark of a South American araroba tree.

Dithranol in Lassar's paste (a salicylic acid and zinc oxide paste developed by German dermatologist Oskar Lassar) is used most successfully for hospital inpatients. The use of dithranol is not without drawbacks: it can stain both skin and clothing and can burn non-affected skin if its application is not precise.

So, careful application in hospital is far safer, whereas home use is often less effective because of the difficulties in application. There are also a large number of concentrations for doctors to use and the tendency has been for people to be prescribed different concentrations to be used in a step-up fashion, whereby the strength of the product is increased based on the level of benefit or adverse reaction.

Proprietary products containing dithranol are more acceptable. They can be applied to the psoriatic plaques and left for up to one hour, before washing off. This method reduces the risk of dithranol burning and staining but it's still vital that you take great care when applying the product; it's also advisable to sit on an old towel to protect fabrics where necessary.

Emollients

Emollients soothe, smooth and hydrate the skin and are used for all dry or scaling disorders. Their effects are short-

lived and they should be applied frequently, even after improvement occurs. They are useful in dry and eczematous disorders; less so for psoriasis, although they can help with reducing itchiness and removing scale. Light emollients are suitable for many patients with dry skin but a wide range of more greasy preparations are available, including white soft paraffin, emulsifying ointment, and liquid and white soft paraffin ointment. The severity of the condition, patient preference and the location of the psoriasis outbreak will often guide the choice of emollient.

Emollients should be applied in the direction of hair growth. Some ingredients on rare occasions may cause sensitisation, so if an eczematous reaction occurs, it's best to stop using the emollient.

Preparations such as aqueous cream and emulsifying ointment can be used as soap substitutes for hand washing and in the bath; the preparation is rubbed on the skin before being rinsed off completely. The addition of a bath oil product may also be helpful.

Aqueous cream, however, is not recommended for treating atopic eczema as it has been shown that the sodium lauryl sulphate (a caustic detergent), which helps to de-scale the skin, also damages the skin barrier. Preparations containing an antibacterial should be avoided unless infection is present or is a frequent complication.

Urea is employed as a hydrating agent within moisturisers. It is used in scaling conditions and may be useful in elderly patients. It is occasionally used with other topical agents such as corticosteroids to enhance penetration. See our **Emollients and Psoriasis** leaflet.



Immunosuppressants

Methotrexate was discovered to be effective in clearing psoriasis during the 1950s and was eventually approved

for this use in the 1970s. In psoriasis, methotrexate works by preventing the excessive division and multiplication of the skin cells that cause skin scaling and raised plaques. It is used only when the condition is severe and unresponsive to conventional treatments as it has many potential side effects. It is also used in treating arthritis, so can benefit both conditions at the same time. In men considering starting a family there is a three-month wash-out period to become drug-free. Women are advised not to get pregnant on any of these medications.

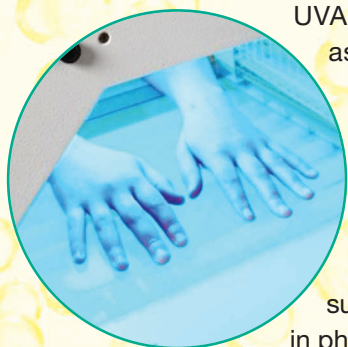
Ciclosporin is another immunosuppressant, originally used to prevent transplant patients from rejecting their new organs. Doctors noticed that transplant patients who had a previous history of psoriasis tended to have fewer plaques post-transplant and so further research was carried out specifically in psoriasis patients. This research revealed ciclosporin to be a quick-acting agent. It is usually taken as a short course, but can be taken continuously for up to one year.

Ciclosporin is highly effective in severe psoriasis resistant to other treatments (refractory). How exactly it works is not fully understood, but it may inhibit epidermal hyperproliferation (high rate of cell division) by suppressing T lymphocyte (white blood cells) activity in the lower (dermis) and upper (epidermis) layers of psoriatic skin.

Phototherapy

People with psoriasis are sometimes referred to a specialist hospital unit for ultraviolet light therapy. UV light is naturally found in sunlight and has three classifications: ultraviolet A, B and C.

UVA penetrates deeper and is associated with skin ageing and wrinkling; UVB reddens skin and causes the skin to brown and burn if unprotected; UVC is absorbed by the ozone layer and doesn't reach the Earth's surface. UVC rays are not used in phototherapy treatment.



UVB is used to treat guttate psoriasis or plaque psoriasis which fails to respond to simple topical treatments. It triggers chemical reactions that reduce the affected cells' ability to reproduce so quickly.

There are two types of UVB treatments: broadband and narrowband. Narrowband UVB is often called TL01 and is the commonest type of UVB treatment in the UK. It works in much the same way as broadband UVB, but is more specific and more intense, which means the plaques clear quicker and with fewer treatments.

PUVA is another form of UV light treatment. It uses UVA light and a plant extract called psoralen. This chemical makes the skin more sensitive to light and increases the effect of the UVA light. Psoralen is normally taken as a tablet or by bathing in a psoralen solution. Like UVB treatment this is usually administered in hospital but in some very rural areas a home service may be available.

Both forms of UV light treatment have an accumulative effect on the skin, which ranges from freckling, epidermal thickening and wrinkling to epidermal dysplasia or skin tumours such as basal cell carcinoma (known as rodent ulcer, as it is localised and rarely spreads). This is why there is a limit to the number of treatments allowed and the skin is rechecked when undergoing treatment. However, levels of prior exposure to sunlight and use of sunbeds can increase the risk of skin cancer and for those with a family history of melanoma phototherapy may be ruled out as a treatment option altogether.

People are skin typed 1-5. Those who are skin type 1 are difficult to treat as they always burn and rarely tan, so this treatment might not be deemed suitable. See our **Psoriasis and Phototherapy** leaflet for more information.

Retinoid

Retinoid is a derivative of vitamin A and can be used both orally and by direct application to the skin. It should not be confused with the vitamin A products bought from chemists or supermarkets as vitamin supplements.

Oral acitretin is an effective vitamin A-based treatment

for psoriasis. It is only prescribed by dermatologists in a hospital setting for severe, extensive, refractory psoriasis. It has a long half-life, which means it remains in the body for a considerable period of time after treatment and it is persistent in tissues. In women this



requires contraceptive measures during the course and for at least three years following therapy, as it can harm the development of unborn children.

The topical retinoid is used to treat mild to moderate plaque psoriasis by reducing the formation of patches of raised skin, helpful in palmar plantar as it reduces the thickening of the skin that can make dexterity difficult for everyday activities.

It also reduces the formation of cytokines and interleukins (two chemicals in the body that are responsible for causing inflammation). In other words, it acts by reducing the inflammation and by reducing the rate at which the skin cells develop plaques. However, if it comes in contact with normal skin it can cause irritation.

Topical retinoid specificity and its low systemic absorption mean that it produces fewer side effects than the earlier retinoid. It has a half-life of only 18 hours and does not accumulate on repeated administration.

Contraceptive measures are only necessary for women during treatment with topical agents. If taken orally, there is a three-year wash-out period, so retinoid is not commonly used in women of childbearing age.

Steroids

Topical corticosteroids are used for the treatment of inflammatory conditions of the skin (other than those arising from an infection) and are safe if used correctly. They are effective in conditions such as eczema and psoriasis.

Topical corticosteroids only suppress the inflammatory reaction during use; they will not cure the condition and

the skin problem may get worse once the use of topical corticosteroids stops. This is called a rebound effect. They are generally used to relieve symptoms and suppress signs of the disorder when other measures such as emollients are ineffective.

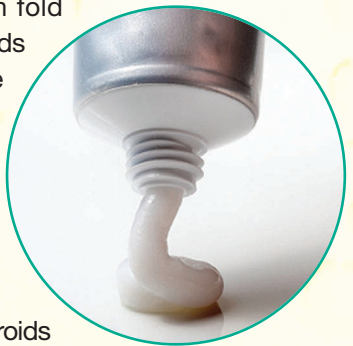
Topical corticosteroids are categorised into four strength categories:

- **mild**
- **moderate**
- **potent**
- **very potent.**

The strength chosen is prescribed by doctors depending upon the patient and the extent and severity of the condition.

The risk of side effects runs parallel with the strength of the steroid and the duration of therapy.

The face, genitals and skin fold areas will absorb more steroids than other areas. If you use a steroid under a bandage (making it occlusive) it will also have the same effect. Side effects on the skin may be apparent within two weeks of use.



Potent and very potent steroids should be carefully monitored and limited to a few weeks of use, after which a milder steroid should be substituted if possible.

Pulsing is a term used when a steroid is used for four weeks, with four weeks' rest or more if the skin is clear. This use of topical steroids allows the skin to recover between courses of treatment and patients should be reviewed every three months. Only mildly and moderately potent steroids should be used in children to avoid potential growth retardation and long-lasting cosmetic disfiguration; if they have severe psoriasis a dermatologist might give different instructions. If allergic contact dermatitis occurs with topical steroids, then patch testing is required and patients should be switched to another steroid in the same potency group. If tachyphylaxis (decrease in the response

to a drug) occurs then it is best to change to another product using a different molecule.

Systemic or very potent topical corticosteroids should be avoided or given only under specialist supervision in psoriasis (such as palmar plantar psoriasis) because, although they may suppress the psoriasis in the short term, relapse or vigorous rebound occurs on withdrawal (sometimes precipitating severe pustular psoriasis). These can be combined with another topical therapy that can be continued on the four weeks' rest, for example a vitamin D preparation.

In the case of scalp psoriasis it is reasonable to use a more potent corticosteroid. Unfortunately there are only potent or very potent corticosteroid products, such as gels, foams, shampoos or lotions. Again, pulsing can be effective once you have control. It should be prescribed as a once-a-day application, although in severe cases a dermatologist may advise a twice-a-day application in the short term. If the scalp is very scaly then your dermatologist will be able to show you how to use a suitable moisturiser.

Antibacterial agents can be combined with steroid preparations with good effect. However, the antibiotic can act as an allergen in some patients. Topical therapies are ideal for localised problems, whereas oral antibiotics will be prescribed for more widespread infection. Topical antibiotic combination preparations should only be used for two weeks, to prevent bacterial resistance and reduce adverse effects.

Vitamin D analogues

Vitamin D analogues, such as calcipotriol, calcitriol and tacalcitol, should not be confused with the vitamin supplements that you may take; they've been modified to have a completely different effect.

They slow down the overproduction of skin cells and stimulate differentiation of keratinocytes, a type of cell in the upper layer of the skin correcting the abnormally fast cell turnover that characterises psoriasis. Unlike naturally occurring vitamin D, they have less effect on calcium metabolism (the mechanism which regulates the calcium

levels in the body), so the risks of high levels of calcium in the blood (hypercalcaemia) or in the urine (hypercalciuria) are reduced. Nevertheless there are limits to how much can be used at any one time (100g per week) to limit the possibility of these side effects happening.

The ease of use and low side effect levels have made these agents popular with medical professionals and people with psoriasis.

One of these agents has been combined with a topical potent corticosteroid to help reduce skin inflammation as well. These products have a time limitation of use of four weeks before stopping and another four weeks before starting again. This allows the skin to recover. This preparation comes in an ointment or a less greasy gel and can be used on body and scalp.

Lifestyle

Maintaining a healthier lifestyle is recommended to anyone with psoriasis but it's easy to lose confidence when you're not happy with your appearance and a lot of people with psoriasis try to avoid exposing their skin. But avoiding exercise can increase the risk of associated conditions such as diabetes and cardiac disease.

Exercise is also a good way to reduce stress, which is a key trigger in psoriasis flare-ups. If you're worried about the effect that exercise may have because of any pre-existing conditions, speak to your doctor for advice, and if you haven't exercised for a while, start off slowly and carefully, and then build up. Regular exercise and a healthier way of life (such as stopping smoking, eating a healthy diet and reducing alcohol intake) can benefit both your psoriasis and your confidence and self-esteem. See our ***Psoriasis and the Heart*** leaflet and our ***Psychological aspects of Psoriasis*** leaflet.



Summary

For any treatment to work it is essential that you follow the guidance given by your healthcare provider. Always read the product labels and the Patient Information Leaflet (PIL) supplied with your medication.

Occasionally treatments suddenly stop working (tachyphylaxis) or feel less therapeutic. Since psoriasis can be a lifelong disease it may be necessary for your doctor to change your medication or treatment regime from time to time.

It may be that a change in treatment will allow your skin to recover from the effects of the treatment or gain extra benefit from a previously tried medication. Whatever treatment you and your healthcare provider decide is an appropriate course, make sure you report the benefits, improvement and any adverse reactions as this will ensure you get the very best level of care.

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About this information

This material was produced by PAPAA. Please be aware that the research and development of treatments is ongoing.

For the latest information or any amendments to this material please contact us or visit our website. The site contains information on treatments and includes patient experiences and case histories.

Original text written/edited by David Chandler and Julie Chandler, June 2007, reviewed and revised 2009. This edition reviewed and revised by Jill Peters, Dermatology Nurse Practitioner and Lead for Intermediate Dermatology Services, Suffolk Community Healthcare Serco and Ipswich Hospital NHS Trust May 2012 and July 2014. A lay and peer review panel has provided key feedback on this leaflet. The panel includes people with or affected by psoriasis and/or psoriatic arthritis.

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The charity for people with psoriasis and psoriatic arthritis

**PAPAA, the single identity of the
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Psoriasis Support Trust.**

**The organisation is independently funded and is a
principal source of information and educational
material for people with psoriasis and psoriatic
arthritis in the UK.**

**PAPAA supports both patients and professionals by
providing material that can be trusted (evidence-
based), which has been approved and contains no
bias or agendas.**

**PAPAA provides positive advice that enables
people to be involved, as they move through
their healthcare journey, in an informed way
which is appropriate for their needs and any
changing circumstances.**

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