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Psoriasis

Psoriasis is a skin condition which tends to flare up from time to time. Treatment with various creams or ointments can often clear or reduce patches (plaques) of psoriasis. Special light therapy and/or powerful medication are treatment options for severe cases where creams and ointments have not worked very well.

What is psoriasis?

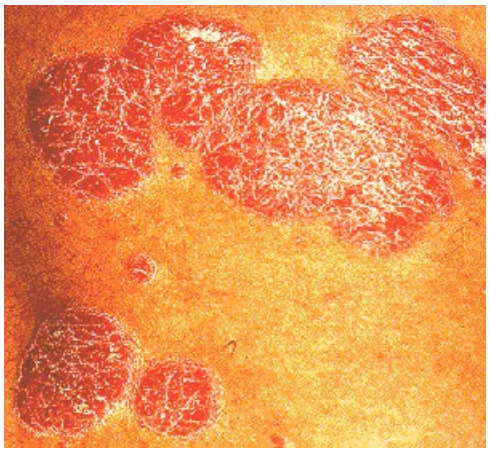
Psoriasis is a common condition where there is inflammation of the skin. It typically develops as patches (plaques) of red, scaly skin. Once you develop psoriasis it tends to come and go throughout life. A flare-up can occur at any time. The frequency of flare-ups varies. There may be times when psoriasis clears for long spells. However, in some people the flare-ups occur often. Psoriasis is not due to an infection. You cannot pass it on to other people and it does not turn into cancer.

The severity of psoriasis varies greatly. In some people it is mild with a few small patches that develop and are barely noticeable. In others, there are many patches of varying size. In many people the severity is somewhere between these two extremes.

What are the different types of psoriasis?

There are different types of psoriasis. However, chronic plaque psoriasis (described below) is by far the most common and typical type.

Chronic plaque psoriasis



Between 8 and 9 out of 10 people with psoriasis have chronic plaque psoriasis. The rash is made up of patches (plaques) on the skin. The picture shows typical plaques of psoriasis next to some normal skin.

Each plaque usually looks pink or red with overlying flaky, silvery-white scales that feel rough. There is usually a sharp border between the edge of a plaque and normal skin.

The most common areas affected are over elbows and knees, the scalp and the lower back. Plaques may appear anywhere on the skin but they do not usually occur on the face.

The extent of the rash varies between different people and can also vary from time to time in the same person. Many people have just a few small plaques of a centimetre or so when their psoriasis flares up. Others have a more widespread rash with large plaques of several centimetres across. Sometimes, small plaques that are near to each other merge to form large plaques. Chronic plaque psoriasis can be itchy but it does not usually cause too much discomfort.

There are two variations of chronic plaque psoriasis:

- Scalp psoriasis: about half of people with chronic plaque psoriasis affecting the skin of their body will also have psoriasis affecting their scalp. However, scalp psoriasis may occur alone in some people. Scalp psoriasis is usually a form of chronic plaque psoriasis. It looks like severe dandruff. The whole scalp may be affected, or there may just be a few patches. If severe, it can lead to hair loss in some people.
- Flexural psoriasis: this is also a type of chronic plaque psoriasis. It occurs in the creases of the skin (flexures) such as in the armpit, groin, under breasts and in skin folds. The affected skin looks slightly different to the typical plaque psoriasis. It is red and inflamed but the skin is smooth and does not have the rough scaling.

Pustular psoriasis

This type of psoriasis usually just affects the palms of the hands and soles of the feet. In this situation it is sometimes called palmoplantar pustulosis. Affected skin develops crops of pustules, which are small fluid-filled spots. The pustules do not contain germs (bacteria) and are not infectious. The skin under and around the pustules is usually red and tender. Pustular psoriasis which just affects the palms and soles is the second most common type of psoriasis.

Rarely, a form of pustular psoriasis can affect skin apart from the palms and soles. This more widespread form is a more serious form of psoriasis and needs urgent treatment under the care of a skin specialist (a dermatologist).

Nail psoriasis

About half of people with any type of psoriasis can have fingernail psoriasis. In some people toenails are also affected. Nail psoriasis may also occur alone without the skin rash. There are pinhead-sized pits (small indentations) in the nails. Sometimes, the nail becomes loose on the the nail bed. Nails may also change colour and the area around the bed of the nail can become orange/yellow. See separate leaflet called Psoriatic Nail Disease for more details.

Guttate (drop) psoriasis

This typically occurs following a sore throat which is caused by a germ (bacterium). Round/oval plaques of psoriasis are small (less than 1 cm - drop size) but occur over many areas of the body. Guttate psoriasis normally lasts a few weeks and then fades away. However, it may last for three to four months in some people. In many people, once it goes it never returns.

Erythrodermic psoriasis

This type of psoriasis causes a widespread redness (erythema) of much of the skin surface, which is painful. Individual plaques of psoriasis cannot be seen because they have merged together. There is still redness and scaling of the skin and the skin feels warm to touch. A person with erythrodermic psoriasis may also have a high temperature (fever). This type of psoriasis is rare but it is serious and needs urgent treatment and admission to hospital. This is because it can interfere with the body's ability to control temperature and it can cause excessive protein and fluid loss, leading to lack of fluid in the body (dehydration), heart failure and severe illness.

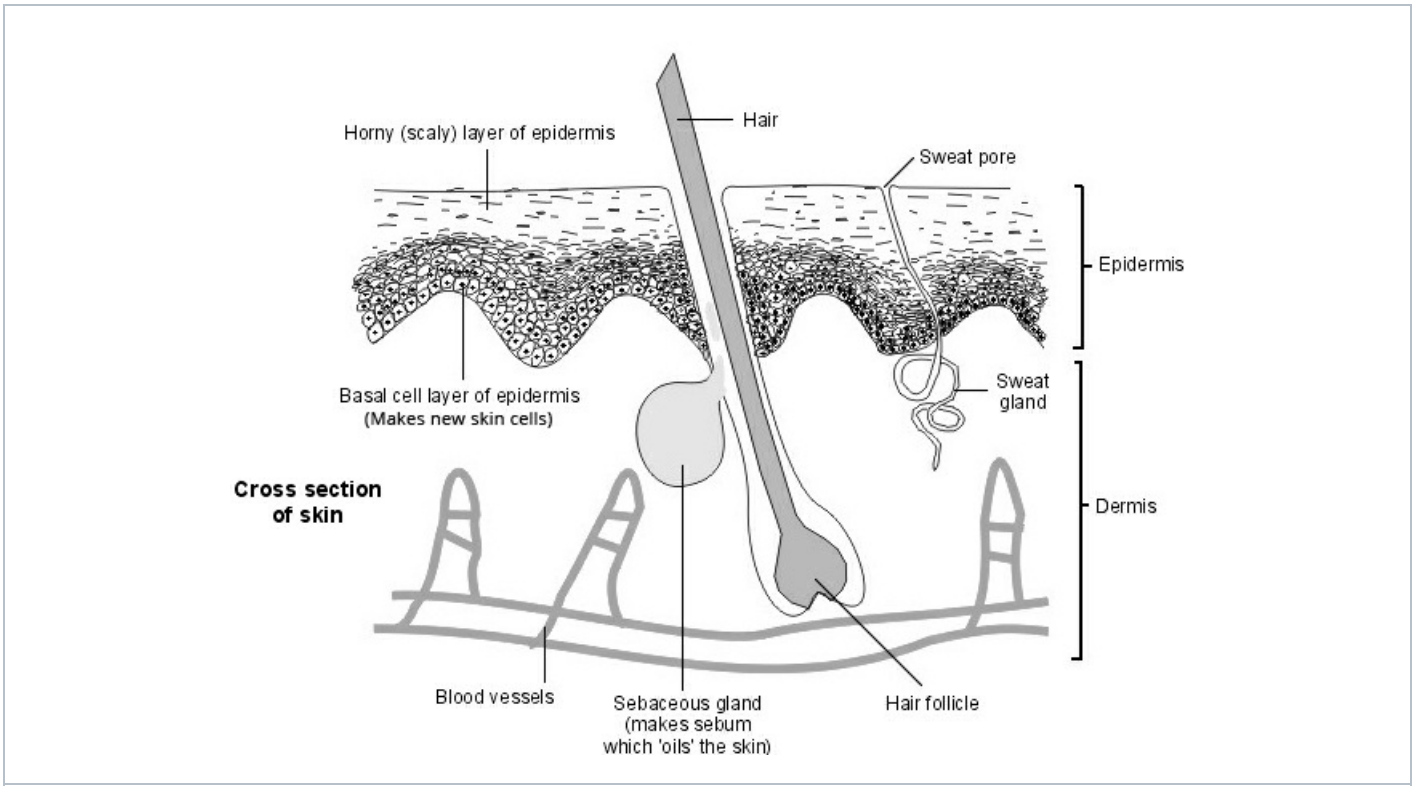
How common is psoriasis and who gets it?

About 1 in 50 people develop psoriasis at some stage of their life. Psoriasis is more common in white people. It can first develop at any age but it most commonly starts between the ages of 15 and 30 years.

Someone with psoriasis may have other family members with the same problem. Also, one large study found that smokers (and ex-smokers for up to 20 years after giving up) have an increased risk of developing psoriasis compared with non-smokers. One theory for this is that poisons (toxins) in cigarette smoke may affect parts of the immune system involved with psoriasis.

What causes psoriasis?

Normal skin is made up of layers of skin cells. The top layer of cells (horny layer of the epidermis) is flattened and gradually sheds (they fall off). New cells are constantly being made underneath (in the basal layer of the epidermis) to replace the shed top layer. Cells gradually move from the basal layer to the top horny layer. It normally takes about 28 days for a cell in the basal layer to reach the top layer of skin and to be shed. The diagram shows a cross-section of normal skin.



People with psoriasis have a faster turnover of skin cells. It is not clear why this occurs. More skin cells are made which leads to a build-up of cells on the top layer. These form the flaky patches (plaques) on the skin, or severe dandruff of the scalp seen in scalp psoriasis.

There are also some changes in the blood vessels that supply the skin in people with psoriasis. Small blood vessels can widen (dilate) and increase in number. This is why the skin underneath a patch of psoriasis is usually red. Cells involved in inflammation also increase in number in the skin of people with psoriasis.

The cause of the increased cell turnover and skin inflammation of psoriasis is not known. Inherited (genetic) factors seem to play a part, as about 3 in 10 people with psoriasis have a close relative also affected. It may be that some factor in the environment (perhaps a virus) may trigger the condition to start in someone who is genetically prone to develop it. Another theory is that the immune system may be overreacting in some way to cause the inflammation. Research continues to try to find the exact cause.

Aggravating factors for psoriasis

In most people who have psoriasis, there is no apparent reason why a flare-up develops at any given time. However, in some people, psoriasis is more likely to flare up in certain situations. These include the following:

- **Stress**. It is difficult to measure stress and to prove the relationship between stress and psoriasis. However, it is thought that stress can contribute to a flare-up of psoriasis in some people. There is some evidence to suggest that the treatment of stress in some people with psoriasis may be of benefit.
- **Infections**. Certain types of infections may cause a flare-up of psoriasis. In particular, a sore throat caused by a certain type of germ (bacterium) called *Streptococcus* spp. can cause a flare-up of guttate psoriasis or chronic plaque psoriasis.
- **Medication**. Some medicines may possibly trigger or worsen psoriasis in some cases. Medicines that have been suspected of doing this include: beta-blockers (propranolol, atenolol, etc), antimalarial medication, lithium, anti-inflammatory painkillers (ibuprofen, naproxen, diclofenac, etc), angiotensin-converting enzyme (ACE) inhibitor medicines, and some antibiotics. In some cases the psoriasis may not flare up until the medication has been taken for weeks or months.
- **Smoking**. As mentioned, smoking may help to trigger psoriasis initially to develop in some cases. Toxins from cigarette smoke may also aggravate existing psoriasis.
- **Trauma**. Injury to the skin, including excessive scratching, may trigger a patch of psoriasis to develop. The development of psoriatic plaques at a site of injury is known as Köbner's reaction.
- **Sunlight**. Most people with psoriasis say that sunlight seems to help ease their psoriasis. Many people find that their psoriasis is less troublesome in the summer months. However, some people notice the opposite with strong sunlight seeming to make their psoriasis worse. A severe sunburn (which is a skin injury) can also lead to a flare-up of psoriasis.
- **Hormonal changes**. Psoriasis in women tends to be worst during puberty and during the menopause. These are times when there are some major changes in female hormone levels. Some pregnant women with psoriasis find that their symptoms improve when they are pregnant, but it may flare up in the months just after having a baby. Again, this is thought to be related to changes in hormone levels.
- **Alcohol**. Drinking a lot of alcohol may also cause a flare-up in some people.

Are there any other problems related to psoriasis?

People with psoriasis are more likely to have or develop some other problems. However, just because you have psoriasis does not mean that you will definitely develop these. The problems include the following:

- **Joint problems**. Around 1 or 2 in 10 people with chronic plaque psoriasis also develop inflammation and pains in some joints (arthritis). This is called psoriatic arthritis. Any joint can be affected, but it most commonly affects the joints of the fingers and toes. The cause of this is not clear. See separate leaflet called Psoriatic Arthritis for more details. You should see a doctor if you have psoriasis and you develop joint pains or swelling.
- **Risk factors for cardiovascular disease**. People with psoriasis are more likely to have some of the risk factors for developing cardiovascular disease (heart disease and stroke) such as high levels of cholesterol and other fats in the blood (hyperlipidaemia), high blood pressure (hypertension) and diabetes. You are more likely to have these risk factors if you have severe psoriasis rather than mild psoriasis. If you have psoriasis you may wish to see your GP or practice nurse to discuss risk factors for cardiovascular disease, and ways of tackling them. See separate leaflet called Preventing Cardiovascular Diseases for more details.
- **Obesity**. Psoriasis also seems to be more common in obese people.

Some people with psoriasis may feel embarrassed about their skin problem and develop a negative body image. They may avoid certain activities such as swimming because of fear of uncovering their skin and of other people seeing it. Personal relationships may be affected. Some people with psoriasis develop anxiety and depression.

How is psoriasis diagnosed?

Psoriasis is usually diagnosed by the typical appearance of the rash. No tests are usually needed. Occasionally, a small sample (biopsy) of skin is taken to be looked at under the microscope if there is doubt about the diagnosis.

Clinical Editor's comment (September 2017)
Dr Hayley Willacy recommends the Primary Care Dermatology Society's recently released 'Treatment pathway' - see Further Reading below. This has several pictures that may be useful when diagnosing psoriasis, as well as a clear plan for treatment of the different areas and types of psoriasis. This includes often difficult to treat areas such as the face and hands.

What are the common treatments for chronic plaque psoriasis?

There is no once-and-for-all cure for psoriasis. Treatment aims to clear the rash as much as possible. However, as psoriasis tends to flare up from time to time, you may need courses of treatment on and off throughout your life. There are various treatments options. There is no 'best buy' that suits everybody. The treatment advised by your doctor may depend on the severity, site and type of psoriasis. Also, one treatment may work well in one person but not in another. It is not unusual to try a different treatment if the first one does not work so well.

Many of the treatments are creams or ointments. As a rule, you have to apply creams or ointments correctly for best results. It usually takes several weeks of treatment to clear plaques of psoriasis. Make sure you know exactly how to use whatever treatment is prescribed. For example, some preparations should not be used on the skin creases (flexures), on the face or on broken skin, and some should not be used if you are pregnant. Do ask a doctor, nurse or pharmacist if you are unsure as to how to use your treatment, or for how long you should use it.

The following is a brief overview of the more commonly used treatments for chronic plaque psoriasis. Unless psoriasis is very severe, treatment tends to start with topical treatments. This means treatments that can be applied directly to the skin, such as creams or ointments. If these treatments are not successful, you will usually be referred to a skin specialist for advice about other treatments such as medicines and light treatments.

If you have psoriasis, you may also get some benefit from quitting smoking and also limiting your alcohol intake. See separate leaflets called Tips to Help You Stop Smoking and Recommended Safe Limits of Alcohol for details. Regular exercise and a healthy diet may also be helpful. This is because, as explained above, people with psoriasis may have an increased risk of developing heart disease and stroke. Regular exercise and a healthy diet can help to prevent these conditions.

Note: treatments of the less common forms of psoriasis are similar but are not dealt with here. Your doctor will advise.

Not treating may be an option

Many people have a few patches (plaques) of psoriasis that are not too bad or not in a noticeable place. In this situation, some people do not want any treatment. If you opt for no treatment, you can always change your mind at a later time if the psoriasis changes or worsens.

Moisturisers (emollients)

These help to soften hard skin and plaques. They may reduce scaling and itch. There are many different brands of moisturising creams and ointments. A moisturiser may be all that you need for mild psoriasis. You should also use one in addition to any other treatment, as often as needed, to keep your skin supple and moist. They can also help to prevent itching, reduce cracking of the skin and can help to remove scales. Using a moisturiser may also mean that other treatments can be more effective. However, apply the emollient first and allow plenty of time for it to be absorbed into your skin before applying any other treatment.

Moisturisers can also be used in place of soap. Be careful when using an emollient in the bath or the shower as they can make the surface slippery.

Vitamin D-based treatments

Calcipotriol, calcitriol and tacalcitol are commonly used and often work well. They seem to work by slowing the rate at which skin cells divide. They are creams, ointments or lotions that are easy to use, are less messy and have less of a smell than coal tar or dithranol creams and ointments (below). However, they can cause skin irritation in some people. There is also a scalp preparation of calcipotriol that can be used to treat scalp psoriasis.

A vitamin D-based treatment is sometimes used in combination with other treatments for psoriasis if either treatment is not sufficient. For example, an ointment that contains calcipotriol and a steroid is sometimes used.

If you are trying for a baby, are pregnant or are breast-feeding, vitamin D-based treatments are only prescribed if the benefits outweigh the risks. You should discuss with your doctor whether you should use vitamin D-based treatment if you are trying for a baby, are pregnant, or are breast-feeding.

Calcipotriol may cause skin irritation which can lead to redness, soreness or itch in around 1 in 5 users. Any skin irritation that does develop usually settles but sometimes a break in treatment is needed. Occasionally, treatment needs to be stopped because of skin irritation. Because of the risk of skin irritation, you should not use calcipotriol on your face and flexures such as the front of elbows, behind knees, armpits, groins, etc.

Generally, calcipotriol is thought to be safe, provided that you follow the manufacturer's instructions. The instructions include that you should not exceed the maximum dose. This is:

- 100 g of cream or ointment per week for adults.
- 75 g per week for children aged over 12 years.
- 50 g per week for children aged between 6 and 12 years.
- For a scalp preparation, no more than 60 ml of scalp lotion weekly.

Note: if you are using calcipotriol as a cream or ointment for your body and you are using a scalp lotion that contains calcipotriol, you need to consider both of these. In this situation, the maximum amount of each is less than stated above. You should follow the instructions given by your doctor.

If you are also using an emollient for your skin, you should make sure that you use this first. Then, wait for 30 minutes before you apply calcipotriol or one of the other vitamin D analogues.

You should wash your hands after applying calcipotriol. This prevents you from inadvertently transferring the cream or ointment to other areas of your body.

Calcitriol and tacalcitol ointments contain different vitamin D analogues to calcipotriol. An advantage of calcitriol and tacalcitol is that they are less irritating than calcipotriol. Therefore, one or other may be suitable for use on the face and flexures if advised by your doctor. You should not use more than 30 g of calcitriol ointment per day and it should not be applied to more than a third of your body surface each day. You should not use more than 10 g of tacalcitol ointment per day.

Steroid creams or ointments

Topical steroids are other commonly used treatments. They work by reducing inflammation. They are easy to use and may be a good treatment for difficult areas such as the scalp and face. However, one problem with steroids is that in some cases, once you stop using the cream or ointment, the psoriasis may rebound back worse than it was in the first place. Also, side-effects may occur with long-term use, especially with the stronger (more potent) preparations.

Therefore, if a steroid is used, a doctor may prescribe it for a limited period only (a few weeks or so, and less for a strong steroid), or on an intermittent basis. As a rule, a steroid cream or ointment should not be used regularly for more than four weeks without a review by a doctor. Steroid lotions are useful for flare-ups of scalp psoriasis. Only milder steroid creams or ointments should be used on your face or for psoriasis affecting flexures.

Coal tar preparations

These have been used to treat psoriasis for many years. It is not clear how they work. They may reduce the turnover of the skin cells. They also seem to reduce inflammation and have anti-scaling properties. Traditional tar preparations are messy to use but modern formulas are more pleasant. Creams, ointments, lotions, pastes, scalp treatments, bath additives and shampoos that contain coal tar are available to treat psoriasis.

As a rule, do not use coal tar creams or other coal tar treatments on flexures such as the front of elbows, behind knees, groins, armpits, etc. Also, avoid using them on your face, as you need to be careful not to get them into your eyes. However, some of the milder creams can be used on your face and flexures - your doctor will advise. Your doctor will also advise you on whether it is safe for you to use coal tar treatments on your genital areas.

Coal tar preparations can have an unpleasant smell and can stain clothes. They may cause skin irritation in some people and skin can become sensitive to sunlight whilst using them. Coal tar preparations should not be used during the first three months of pregnancy. However, they can be used later in the pregnancy and during breast-feeding.

Dithranol

Dithranol has been used for many years for psoriasis. In most cases a daily application of dithranol to a psoriasis plaque will eventually cause the plaque to go. However, dithranol irritates healthy skin. Therefore, you need to apply it carefully to the psoriasis plaques only. To reduce the chance of skin irritation, it is usual to start with a low strength and move on to stronger ones gradually over a few weeks.

Short-contact dithranol therapy is popular. This involves putting a high-strength dithranol preparation on the plaques of psoriasis for 5-60 minutes each day and then washing it off. Dithranol may stain skin, hair, clothes, bedding, baths, etc. You should not use dithranol on your face unless suggested by a skin specialist.

When using dithranol, you should follow the instructions given by your doctor carefully, and those that come with the packet of the preparation that you are prescribed. Also, persevere with the treatment, as success often takes several weeks. The instructions may include the following:

- Wear plastic disposable gloves when applying dithranol cream or ointment. Wash hands thoroughly after applying dithranol.
- Apply only to the plaques of psoriasis. Avoid putting it on normal skin. For creams, apply sparingly, rub in well and wipe off any excess. For ointments, apply sparingly.
- Avoid getting any in or near your eyes. If eye irritation occurs, wash thoroughly with water and, if it persists, see your doctor.
- Leave the cream or ointment on for as long as directed by your doctor. For short-contact treatment, this may be anything from 5-60 minutes. Then wash it off. **Note**: creams containing dithranol may wash off more easily than ointments.
- When washing off, just use cool water (below 30°C) without soap or detergent. Hot water or soap may cause increased staining of the skin by the dithranol. You can use hot water and soap to wash yourself after the cream or ointment has been rinsed off.

Salicylic acid

Salicylic acid is often combined with other treatments such as coal tar or steroid creams. It tends to loosen and lift the scales of psoriasis on the body or the scalp. Other treatments tend to work better if the scale is lifted off first by salicylic acid. Salicylic acid can be used as a long-term treatment. However, it can cause skin irritation in some people. You should not use this treatment if you are allergic to aspirin.

Tazarotene

Tazarotene is another cream that is sometimes used. It is a vitamin A-based preparation. Irritation of the normal surrounding skin is a common side-effect. This can be minimised by applying tazarotene sparingly to the plaques and avoiding normal skin. Tazarotene treatment must not be used if you are pregnant, because of potential risks of harm to the developing baby. It should also not be used during breast-feeding.

For scalp psoriasis

A coal tar-based shampoo is often tried first and often works well. Some preparations combine a tar shampoo with either a salicylic acid preparation, a coconut oil/salicylic acid combination ointment, a steroid preparation, calcipotriol scalp application, or more than one of these.

If you have scalp psoriasis, you may also find it helpful to wear lighter-coloured clothes so that scales falling from your scalp may be seen less easily. You may also wish to talk to your hairdresser about changing your hairstyle to cover up the psoriasis as much as possible. Be careful to brush your hair gently. Scalp treatments can also stain your pillow/pillowcase. So you may wish to cover your pillow with an old pillowcase.

Combinations

Some preparations use a combination of ingredients. For example, calcipotriol combined with a steroid may be used when calcipotriol alone has not worked very well. As mentioned, it is not usually wise to use a steroid long-term. Therefore, one treatment strategy that is sometimes used is calcipotriol combined with a steroid for four weeks, alternating with calcipotriol alone for four weeks.

Other combinations such as a coal tar preparation and a steroid are sometimes used. Using both a vitamin D preparation and a steroid preparation at the same time can also be more effective than using either one by itself in some people. Other rotating treatment strategies are sometimes used. For example, a steroid for a few weeks followed by a course of dithranol treatment.

Scalp treatments often contain a combination of ingredients such as a steroid, coal tar, and salicylic acid.

Other treatments for psoriasis

If you have severe psoriasis then you may need hospital-based treatment. Light therapy (phototherapy) is one type of treatment that can be used. This may involve treatment with ultraviolet B (UVB) light. Another type of phototherapy is called PUVA - psoralen and ultraviolet light in the A band. This involves taking tablets (psoralen) which enhance the effects of UV light on the skin. You then attend hospital for regular sessions under a special light which emits ultraviolet A (UVA).

Sometimes people with severe psoriasis are given intense courses of treatment, using the creams or ointments described above, but in stronger strengths and with special dressings.

If psoriasis is severe and is not helped by the treatments listed above then a powerful medicine which can suppress inflammation is sometimes used. For example, methotrexate, ciclosporin, acitretin, etanercept, infliximab, efalizumab, ustekinumab and adalimumab. There is some risk of serious side-effects with these medicines, so they are only used on the advice of a specialist.

What is the outlook (prognosis) for psoriasis?

Psoriasis affects different people in different ways. In general, plaque psoriasis is a persistent (chronic) condition with flare-ups that come and go. However, some studies have shown that, over time, plaque psoriasis may go away completely at some point in around 1 in 3 people. Some people have a number of years where they are free from psoriasis and then it may flare up again.

As mentioned above, the less common guttate psoriasis usually goes away completely after a few months. But, if you have an episode of guttate psoriasis, you have a higher than usual chance of developing chronic plaque psoriasis at a later time.

Further reading & references

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