



EUROPEAN ACADEMY OF
DERMATOLOGY AND VENEREOLOGY

Information Leaflet for Patients

A VARIETY OF TREATMENTS

The aim of this leaflet

This leaflet is designed to help you understand more about the many types of psoriasis treatments, including non-medical treatments.

A VARIETY OF TREATMENTS

No cure for psoriasis, but many treatments: what are they?

Although we better understand psoriasis more now compared to 50 years ago, a cure has not been found yet. Scientific research, however, does teach us that psoriasis is more than just a skin disease; it is the response of an overactivated immune system. This insight has led to the development of more specific treatments which reduce the symptoms of psoriasis. However, our understanding of psoriasis is complicated by the role of our genetics: the blueprint of who we are. Since multiple genes have been associated with psoriasis, it is difficult to find a cure. You cannot change multiple faulty genes at once. Yet, external factors have been associated with psoriasis as well. This means that psoriasis needs a holistic approach, where a healthy body and healthy mind are crucial. As a result, some people may control their psoriasis simply by changing their lifestyle. However, many others require a treatment.

Treating psoriasis: we've come a long way

Psoriasis was already acknowledged as a skin disease in 460 B.C. with Hippocrates suggesting tar and topical arsenic treatments. Yet, it took another few centuries (150 A.D.) to actually name it psoriasis and to suggest another treatment: snake venom! In the 19th century, ammoniated mercury was added to the anti-psoriasis treatment list. Afterwards, dithranol, sunlight, salicylic acid, and salts from the Dead Sea were found to be helpful for psoriasis. But it wasn't until 1950 that corticosteroids were introduced because of their anti-inflammatory properties. These treatments had limiting side effects, and the quest for a cure continued. Also in the 1950s, folic acid was found to have anti-inflammatory properties as well as it blocked fast-dividing cells and the immune system. Today, it remains well-known as methotrexate (or MTX). Then in 1970, the positive effects of sunlight were exploited in the form of light therapy by using special lamps. Since 1980, this is known as ultraviolet-B (UV-B) and psoralen plus ultraviolet A radiation (PUVA) treatments (see further explanation below in the **Light therapy** section).

Simultaneously, our understanding of psoriasis increased as scientific research showed that psoriasis is associated with an abundance of "attack" signals that stimulate inflammation. By using tools from our own immune system called *antibodies*, we can neutralize or block these signals. *TNF* (or *tumour necrosis factor*) is a very well-known attack signal of the immune system and is the main culprit in diseases such as psoriasis, *rheumatoid arthritis*, and inflammatory bowel diseases (*Crohn's disease*). Treatments that target *TNF* are often termed "anti-*TNF*." Today, we are still identifying other culprits similar to *TNF* in the overactive immune systems of people with psoriasis, and treatments are being designed to specifically target these culprits. Honestly, if one looks at the evolution of anti-psoriasis treatments during the last decades, one can't help but be hopeful that one day we will actually overcome psoriasis!

Anti-psoriasis treatments are categorized into 4 classes: topical therapy, light therapy, conventional and biological systemic therapies. The latter two are systemic treatments, but vary in forms. We call them systemic since the drug spreads throughout the body. Know that your dermatologist will often opt for systemic treatments when topical or light treatments are unsuccessful (meaning not effective enough or too many side effects).

Topical treatments

This class includes all treatments that are applied to your skin and are therefore sometimes referred to as “local” treatments. These medications are available in the form of ointments, creams, lotions, or gels. The main active ingredients are corticosteroids or vitamin D-derivates, or a combination of both. Depending on the location and severity of your lesions, your doctor will determine the “strength” of these treatments. Another topical treatment may contain *calcineurin inhibitors*, usually used for skin folds and facial psoriasis. Sometimes, it is possible to choose the form, so ask your dermatologist for the possibilities in your case. For instance, ointments are greasier than creams, and lotions and gels are more suitable for hairy body parts. When prescribed with topical treatments, ask your dermatologist how many times you need to apply them and make sure to include this in your daily routine.

Light therapy

Light therapy is also known as phototherapy. It uses UV light, which is a very specific part of natural sunlight that we cannot see with the naked eye. Light therapy is distinguished between UV-B treatment (involves exposure to UV-B light) and PUVA treatment (involves an oral medicine [psoralen, a plant-based compound] which makes your skin more sensitive to UV-A light). The psoralen should be ingested before the light treatment. Proper use of light therapy warrants safety measures due to the risk of skin cancer. Especially if you're an outdoor person and you already have a lot of natural sunlight exposure, you should let your dermatologist know as they will monitor the number of sessions you can have.

Light therapy often works very well, but is not popular because it requires organizational efforts. Since this therapy cannot be done at home, you need to schedule this in your weekly routine.

Recently, a mild form of light therapy was developed, called “blue light” (Light-Emitting Diode or LED), which is less harmful than UV light. The devices are designed to be worn on the lesions. For more information, consult your dermatologist (see more information below).

Blue light treatment

Nowadays, it is possible to have a mild version of phototherapy at home. This type of phototherapy relies on blue light, not UV light, and does not require medical supervision. It is a useful and relevant treatment if you have small lesions (mild to moderate psoriasis) or if you are in the maintenance phase (i.e. your psoriasis is under control). Local, temporary hyperpigmentation (excess pigmentation or skin darkening) is possible. As this is a new treatment based on light, regular skin checks are recommended. If you want to use this, discuss this with your dermatologist to get the best practice tips.

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Conventional systemic treatments

All systemic medications in tablets (oral), including methotrexate (which is sometimes also injected), acitretin (also known as retinoids), cyclosporin, and recently added to the list, apremilast, are of synthetic origin. These drugs do not work specifically on the immune system and may cause side effects in the long run (not yet known for apremilast). However, they are very easy to use and are known to be safe and effective. Sometimes, your doctor may opt for a combination of a conventional systemic treatment with either topical or light therapy. It is important to discuss with your clinician if you want to become pregnant, as this may impact your treatment choices.

Biological systemic treatments

This class includes drugs that are of biological origin (also known as immunotherapy) and usually need to be injected. They act specifically on the immune system and are biological due to their forms (*antibodies* [proteins produced by the body in response to and against an *antigen* or foreign substance] or *decoy receptors* [a member of the *TNF* family]), which can also be found in our bodies. Due to their biological forms, they can recognize unique structures (such as *TNF*) and therefore specifically silence signals within our bodies. This class of drugs is one of the most expensive drugs on the market for psoriasis and is therefore reserved as a last treatment option. The costs for one patient vary between 15,000 and 30,000 euros per year, and are only reimbursed if all other treatment options have failed and your psoriasis is considered moderate to severe.

Can you treat psoriasis with food?

Be very careful when treatments promise to take care of your psoriasis through food, especially if the proposed diets are lacking in variety. Your body needs a great variety of nutrients, which may depend on your body type, health status, and physical activity. The only way to provide all the right nutrients is by varying your diet.

It is often suggested that by avoiding one type of food, you can cure your psoriasis. But is your diet really the culprit? When it comes to your diet, the saying “you are what you eat” has truth to it: your diet will determine your *gut microbiome*.

What is a *gut microbiome*? In our intestinal system, bacteria are present to help us digest our food. Some bacteria are good for your health, others less, but they all make up your *microbiome*. Depending on your diet, you may go to the extreme of having more healthy bacteria, or less healthy bacteria. Unfortunately, we still don't completely understand how these bacteria affect your psoriasis, but their role should not be underestimated.

The benefits of a healthy *gut microbiome*, however, are becoming apparent, and are associated with a healthy diet. That's why it's best to stick to a healthy diet for the sake of your *microbiome* and psoriasis. Should you start eliminating certain foods from your diet, make sure to do this under medical supervision. If you do this on your own, you risk developing “intolerance” to that specific food, which in the end is more harmful. If you have specific questions about food, you can ask your clinician or dietitian.

What can you do if you don't want a medical treatment?

Non-medical treatments (i.e. not prescribed by your clinician and not subject to strict regulations like medical treatments) should not be taken lightly. The medical treatments, as described above, rely on scientifically-proven methods and have been subject to strict clinical trials for your safety. Moreover, the production of medical treatments is strictly monitored to avoid impurities and are precisely dosed. These aspects are not always guaranteed for non-medical treatments, which are generally not based on scientific research.

However, this doesn't necessarily mean that they can't work. Be aware that the doses are not precisely determined and side effects are not monitored by official institutions. Furthermore, you should know that side effects are possible as well. Potential cross-interactions with other medications or even

foods are possible and should be monitored. If anything, tell your clinician what type of non-medical treatment you're taking to avoid the possibility of cross-interactions.

Herbal medicine should be considered carefully as well. Although the ingredients may be natural, there's still a possibility for cross-interactions and side effects. For instance, snake venom is natural as well, but may kill you while plums (also very natural) have the tendency to overstimulate your intestinal system and have a laxative effect. You can use non-medical treatments as a supportive way to control psoriasis, as long as you monitor your general health. ■