

# Psoriasis types, causes and treatments



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It's a rainy and perfect day to step outside barefoot. Without thinking about it you run outside and start splashing in the puddles. The last thing in your mind is the fact that the integumentary system is “protecting the body from harmful things in the outside world such as moisture, the cold and sun rays, as well as germs and toxic substances (PubMed Health). The integumentary system is one of the most overlooked organ systems of the body, but it is vital for our survival.

One of the main purposes of the skin is protection. It protects underlying body tissue from abrasion, exposure to harmful chemicals, temperature extremes and bacterial invasion. The skin is described as “a coat that is water proof, stretchable, washable, and air-conditioned, that automatically repairs small cuts, rips, and burns.” (Human Anatomy & Physiology) It covers our whole body and makes up 7% of our body weight.

One of the basic structures of the skin is the epidermis. The epidermis contains four important cells, keratinocytes, melanocytes, dendritic cells, and tactile epithelial cells. The keratinocytes produce keratin fibrils that give the epidermis its durability and protective capabilities. Melanocytes are important because they prevent skin diseases by producing melanin that increase when the skin is exposed to UVR in sunlight. Dendritic cells activate immune responses by ingesting foreign substances. Tactile epithelial cells form sensitive touch receptors that can protect us from hot surfaces. Within the epidermis there are normally 4-5 layers of skin. The deepest layer, Stratum Basale, has a continuous renewing cell population of keratinocytes and melanocytes. The cells travel to the surface of the skin where they die and are flatten out to become part of the outer layer. Normally it would take

about 28 to 30 days for the cells to mature and reach the surface. In some skin diseases the renewing of the cells increases causing the cells to reach the surface much faster without maturing completely.

Psoriasis is an autoimmune disease that causes patches of abnormal skin. The patches vary in size from small to covering the whole body. They appear red, dry, and scaly. Plaque psoriasis triggers skin inflammation and causes for skin cells to produce faster than normal. As mentioned before it would normally take about 28 to 30 days for the cells to mature and reach the surface but with psoriasis this process speeds up drastically. It only takes about 3 to 4 days for the cells to reach the surface. “ Your body can’t shed the new skin cells at that fast of a rate. So, while new skin cells are being produced, the old, dead skin cells pile up on top of each other.” (Psoriasis Speaks)

There are five main types of psoriasis. One of the most severe is erythrodermic psoriasis. This type of psoriasis can be life-threatening. Mild psoriasis is normally not life-threatening, but when it becomes severe a recent study shows a 50% increase in death. It normally affects most of the body surface and is severely red. Shedding occurs in large sheets instead of small scales. Some symptoms include increase in heart rate, and body temperature going up and down. It causes protein and fluid loss that can cause severe illness. On the other hand it also causes Edema, fluid retention, that can lead to an infection. The National Psoriasis Foundation suggest to see a doctor immediately if any of these symptoms appear.

About 7.5 million people in the U. S. are affected by psoriasis. Research shows that 10% of the population may inherit one or more genes but only 2% to 3% will develop the disease. Although not everybody with the disease inherits it, it does increase the chances of obtaining it. Children with one parent that is affected have a 10% chance of developing it. Chances are increased by 50% when both parents have it. One out of three people with the disease report having a relative with psoriasis.

There are environmental factors that play a role in triggering the psoriasis gene. Although the main cause of psoriasis is not known there are 10 main triggers that can be avoided. One the most common and hardest to control is stress. Psoriasis is an autoimmune disease thought to turn the immune system on itself. Because stress can have an impact on the immune system it is linked to psoriasis. Many have reported getting psoriasis for the first time when going through a hard or impactful event. “ Psoriasis is very stress dependent. It flares very easily when patients are under stress, and it tends to improve when they’re relaxed,” says Vesna Petronic-Rosic, MD, a dermatologist in Chicago. Stress management is recommended but it is hard to control because the physical appearance of psoriasis will more than likely continue causing stress for the individual. Since psoriasis can last most of an individual’s life, it is important to find coping mechanisms.

Another environmental factor is infections. Like stress, infections trigger the immune system which is closely related to psoriasis. One of the most common infections that can cause it is strep throat. It is important to treat infections as soon as possible to avoid psoriasis from flaring up. Medications that treat infections can also help with controlling flares.

Other environmental factors included hormonal changes. When misbalanced can cause psoriasis as well as other medical conditions. Consuming alcohol and smoking are usually linked with individual with psoriasis. It is recommended to leave alcohol all together. Smoking is directly linked to how bad psoriasis gets. Experts believe if smoking is stopped it can reduce the number of flares or even end them.

Cold and dry weather can cause dry skin, but for psoriasis it is even worst. It is recommended that the skin is moist, so thick, creamy lotions are needed. Those with psoriasis need to treat the skin with care. Tattoos and piercings can cause major trauma to the skin resulting in infections which is another trigger for psoriasis. Injury to the skin needs to be prevented as well as new lesions can appear where a cut, bruise, or scrape where located. Another trigger is medications that irritate the skin. Those used for high blood pressure, heart disease, arthritis and mental disorders can influence psoriasis.

Psoriasis affects the integumentary system from its normal function, because it causes cells to be produced much more rapidly. It does not allow time for the cells to mature and shed from the skin. Normally cells would take 28 days to mature and move to the top layer of the epidermis. With psoriasis it only takes 3 to 4 days which does not allow enough time for the cells to shed causing the formation of painful and often itching patches of red, raised plaques with silvery white flaking scales.

There are some medications that can be applied directly to the skin and help slow how quickly the skin cells grow. Corticosteroids, Synthetic vitamin D,

and Retinoid for the skin are some examples. Usually they come in ointment or liquid form and are applied to the skin. Since some medications are not safe for everybody other treatments include Phototherapy. Narrowband UVB is a type of phototherapy that can be prescribed to children and women who are pregnant or breastfeeding. Phototherapy is a light treatment that exposes the skin to ultraviolet light and can effectively treat small and large areas of thick plaque psoriasis, nail psoriasis, scalp psoriasis, and psoriasis on the hands and feet. Phototherapy cannot cure psoriasis but, in some cases,, it completely clears the skin. The treatment is administered over the course of many weeks and the UV is gradually increased to prevent burning the skin.

Today's researchers are working hard to find new cures. There are many trials that are completed, pending or recruiting new participants. This disease does not yet have a cure, and researchers are hopeful to find a breakthrough soon. Participation in a clinical trial is recommended as it gives patients access to medications at no cost and extra time with health care providers. The following testimonial can be found at [www. psoriasis. org](http://www.psoriasis.org), “After years of trying lotions and potions, I was thrilled when my dermatologist asked me if I was interested in participating in a clinical trial. I was offered medication at no cost to me and constant monitoring. I am grateful that these types of trials are available – it helped me see past the illness and gave me hope for the first time in a long time.”- Jennifer S. You can find more than a thousand trials on [ClinicalTrials. gov](http://ClinicalTrials.gov).

Many patients are looking for alternative ways to treat psoriasis that include alternative medications and vitamins. The Effect of Riboflavin on Moderate

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and Severe Plaque Type Psoriasis, is an active trial started on Dec 4, 2015 that is currently on its second phase. Previous trials suggest that riboflavin is clinically effective, but they are not conclusive. Riboflavin is known as Vitamin B2 and is a more alternative type of treatment. As of June 13, 2018, this clinical trial continues to recruit patients. Some criteria needed to participate are being 18 or older, good health, and have stable moderate to severe plaque psoriasis involving 8% or greater total body surface area. Up to 50 volunteers will be administered riboflavin by mouth daily. This trial is being administered by The University of Michigan Department of Dermatology.

Raising awareness of this disease is important to improve the self-esteem of those affected. Some patients can struggle with stress because of the appearance of their skin. Team NPF has been dedicated since 2007 to raise awareness and money for clinical trials. Members include those with and without psoriasis. Since 2007 they have raised more than \$10 million. Activities include walking, running, cycling, and Bingo. You can join a fun evening of food, drinks, prizes and Bingo. You can contribute to this cause by requesting a Team NPF Bingo in your area. You can create your very own event to raise funds, “ for a life free of psoriatic disease.” (npf. donordrive.com)

Team NPF DIY also gives you the opportunity to come up with an event to contribute to this cause. Their website suggests hosting a chili cook off, dance-thon, or a crafty evening. Team NPF DIY will help you make it a success by recruiting supporters, promoting your events, and selling tickets.

“ More than skin deep” is another event involved in research and treatments. You can attend this event to receive, research highlights about the development, diagnosis and treatment of psoriatic disease, information about new and emerging treatments for psoriasis, Q&A session with experts, and continental breakfast.

Although there is not a permanent cure for psoriasis there are thousands of clinical trials that give hope to those suffering with this disease. Most of the time it is not a life threatening disease, but it can cause a lot of stress to those suffering from it. Everybody enjoys having clear skin, and not having to worry about when a new flare will appear.

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