

Information about your Skin

Haywards Heath & District Probus Club



Human Skin

How much do you know about your skin? First and foremost, it is our body's best defence against disease and infection, yet it's often taken for granted. Some of the human skin's features will undoubtedly surprise many people.

Skin is the largest organ of the human body and makes up 15 per cent of body weight. It is a group of tissues that work together to perform functions in your body - others include your brain, heart and lungs.

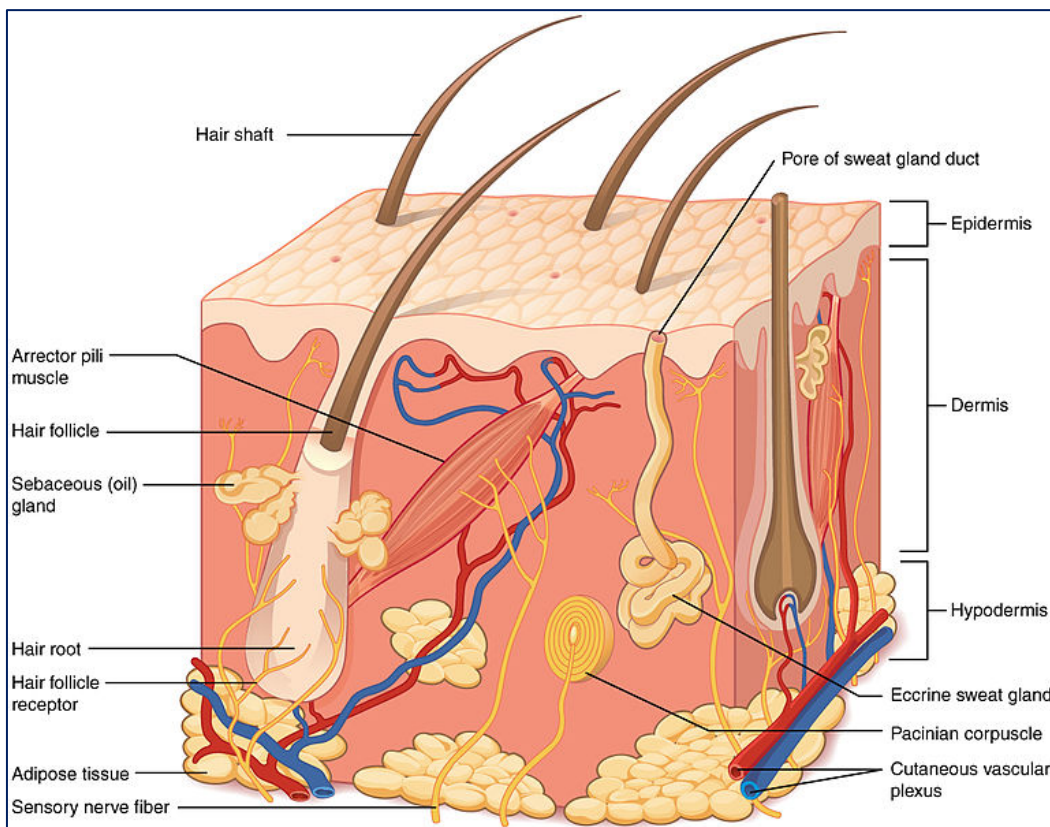


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Skin isn't limited to being the outermost layer of our bodies. Without it, we couldn't do most of the things we take for granted, like breathing, moving, and keeping the body's inner workings in their place.

The skin has three layers: the waterproof top layer (the *epidermis*), a middle layer of tougher connective tissue, hair follicles, and glands (the *dermis*), and the inner layer, which is mostly fat and connective tissue that supports the skin's structure and attaches it to muscles (the *hypodermis*).

The *dermis* beneath the *epidermis* is thicker and carries out a diverse range of roles: collagen and elastin give skin its shape, plumpness and elasticity, over 17 kilometres of blood vessels and millions of sweat glands regulate body temperature by retaining or releasing heat, exquisitely sensitive nerve receptors enable us to feel our way through life, and a standing army of immune cells waits for any foreign and unwanted intruders.

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Dermatologists

The root word for dermatology is *derm* or *dermis*. It comes from the Greek word *derma*, which means skin or hide. A dermatologist is a specialist doctor who diagnoses and treats conditions that affect your hair, skin, and nails. They also treat conditions that affect mucous membranes or the delicate tissue that lines your nose, mouth, and eyelids.

The primary reasons for visits to a dermatologist include identifying and treating:

- skin lesions
- acne
- psoriasis
- Eczema
- skin rashes
- discolouration or pigmentation

Beyond these medical and cosmetic issues, a dermatologist can also help recognise the signs and symptoms of serious underlying health issues. For example, a condition like diabetes can cause symptoms that affect your skin's appearance. A dermatologist may be the first medical professional to recognise the signs.

Skin Conditions

Acne

Acne is a skin condition when hair follicles become plugged with oil and dead skin cells. It causes whiteheads, blackheads (*comedones*) or pus-filled spots (pimples, *pustules*, or *papules*). Sebaceous glands are tiny glands found near the surface of your skin. The glands are attached to hair follicles, which are small holes in your skin out of which an individual hair grows.

Sebaceous glands lubricate the hair and the skin to stop it from drying out. They do this by producing an oily substance called sebum. With acne, the glands begin to produce too much sebum. The excess sebum mixes with dead skin cells, and both substances form a plug in the follicle. If the plugged follicle is close to the skin's surface, it bulges outwards, creating a whitehead. Alternatively, the plugged follicle can be open to the skin, creating a blackhead. Normally harmless bacteria that live on the skin can then contaminate and infect the plugged follicles, causing papules, pustules, nodules or cysts.



Acne can often be treated with creams and gels bought from a chemist, but it can be persistent. If the acne is severe, a GP may prescribe stronger medicines or antibiotics. Acne is often linked to changes in hormone levels during puberty, though it affects people of all ages. It's also known to run in families.

Psoriasis

Psoriasis is a chronic autoimmune condition when the body's immune system mistakenly attacks itself, causing the rapid buildup of skin cells. This buildup of cells causes scaling on the skin's surface. Inflammation and redness around the scales are common. Typical psoriatic scales are whitish-silver and develop in thick, red patches. Sometimes, these patches will crack and bleed. Most people are only affected with small patches. In some cases, the patches can be itchy or sore.

Psoriasis is the result of an accelerated skin production process. Typically, skin cells grow deep in the skin and slowly rise to the surface. Eventually, they fall off. The typical life cycle of a skin cell is one month. In people with psoriasis, this production process may occur in just a few days. Because of this, skin cells don't have time to fall off. This rapid overproduction leads to the buildup of skin cells. Scales typically develop on joints (such as elbows and knees) and on the scalp, and elsewhere on the body.

Psoriasis affects around 2% of people in the UK. It can start at any age but most often develops in adults under 35 years old and affects men and women equally.

Treatment for psoriasis usually helps to keep the condition under control. Most people can be treated by their GP. If your symptoms are particularly severe or not responding well to treatment, your GP may refer you to a skin specialist (dermatologist). Treatment is determined by the type and severity of the patient's psoriasis and the area of skin affected. The GP or dermatologist will probably start with a mild treatment, such as topical creams applied to the skin, and then move on to stronger treatments if necessary.

Treatments fall into three categories, often used in combination with each other:

- topical – creams and ointments applied to your skin
- phototherapy – your skin is exposed to certain types of ultraviolet light
- systemic – oral and injected medications that work throughout the entire body

Eczema

If you have red, itchy and swollen skin, you may have a condition called eczema. Atopic eczema (*atopic dermatitis*) is the most common form of eczema, a condition that causes the skin to become itchy, dry and cracked. "Atopic" means sensitivity to allergens. There are many other types of eczema - see NHS [HERE](#).

Atopic eczema is more common in children, often developing before their first birthday. But it may also develop for the first time in adults. It's usually a long-term (chronic) condition, although it can improve significantly, or even clear completely, in some children as they get older.

The exact cause of atopic eczema is unknown, but it's clear it is not down to one single thing. It often occurs in people who get allergies. Some people only have small patches of dry skin, but others may experience widespread inflamed skin all over the body. Inflamed skin can become red on lighter skin and darker brown, purple or grey on darker skin. Although atopic eczema can affect any part of the body, it most often affects the hands, insides of the elbows, backs of the knees and the face and scalp in children.

People with atopic eczema usually have periods when symptoms are less noticeable and periods when symptoms become more severe (flare-ups). The symptoms of atopic eczema often have 'triggers', such as soaps, detergents, stress and the weather. Sometimes food allergies can play a part. Treatment for atopic eczema can help to relieve the symptoms - and in many instances, improve over time. But there's currently no cure, and severe eczema often has a significant impact on daily life. There's also an increased risk of skin infections. Many different treatments can be used to control symptoms and manage eczema, including:

- self-care techniques, such as reducing scratching and avoiding triggers
- emollients (moisturising treatments) – used daily for dry skin
- topical corticosteroids – used to reduce swelling, redness and itching during flare-ups
- topical pimecrolimus or tacrolimus for eczema in sensitive sites not responding to more straightforward treatment
- antihistamines for severe itching

Other Conditions

There are numerous other skin conditions. Some are inconvenient and of a cosmetic nature, whilst other conditions may be severe and even life-threatening, needing early treatment. For a helpful overview, please visit Healthline [HERE](#).

Skin disease is commonplace, with around 24% of those in England and Wales (12.9 million people a year) visiting their GP with a skin problem. The number of possible dermatological diagnoses has been estimated at over 2000, each of which may emerge in different ways. Many have a significant impact on the quality of life of the people affected by the problem.

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Skin Facts that may surprise you

- Skin accounts for about 15% of your body weight.
- The average adult has approximately 21 square feet of skin, which weighs 9 lbs.
- An adult's skin contains more than 11 miles of blood vessels.
- The average person has about 300 million skin cells.
- A single square inch of skin has about 19 million cells and up to 300 sweat glands.
- Your skin is thickest on your feet (1.4mm) and hands and is thinnest on your eyelids (0.2mm).
- The skin renews itself every 28 days.
- Your skin constantly sheds dead cells, about 30,000 to 40,000 cells a minute - nearly 9 lbs. per year.
- Some sources estimate that more than half of the dust in your home is dead skin.
- Dead skin comprises about a billion tons of dust in the earth's atmosphere.
- Your skin is home to more than 1,000 species of bacteria.
- Skin can form additional thickness and toughness (called a callus) if exposed to repeated friction or pressure.
- Some of the nerves in your skin are connected to muscles instead of the brain, sending signals (through the spinal cord) to react more quickly to heat, pain, etc.
- Your skin has at least five different types of receptors that respond to pain and touch.
- Changes in your skin can sometimes signal changes in your overall health.
- Your skin performs various functions, including physically protecting your bones, muscles, and internal organs, protecting your body from outside diseases, allowing you to feel and respond to heat and cold, and using blood to regulate your body heat.
- The layers of mammal skin include the epidermis, dermis and subcutis.
- The subcutis (or hypodermis) is the deepest layer of your skin and stores fat. It also contains blood vessels, hair follicle roots, and nerves.
- If the skin is severely damaged, then it may try to heal by forming scar tissue. Scar tissue is different to normal skin tissue and often appears discoloured and lacks sweat glands and hair.
- The colour of human skin depends on the amount of pigment melanin that the body produces. Small amounts of melanin result in light skin, while large amounts result in dark skin.
- 60% of British people currently suffer or have suffered from skin disease at some point in their lifetime, 85% of Britons admit to getting sunburnt three or more times, and 70% of British people have visible skin conditions or scars that affect their confidence.

Sources and Further Information

- <https://derm-specialists.com/skin-fun-facts/>
- <https://www.sciencekids.co.nz/sciencefacts/humanbody/skin.html>
- <https://www.mentalfloss.com/article/533889/facts-about-skin>
- <https://www.healthcareers.nhs.uk/explore-roles/doctors/roles-doctors/medicine/dermatology>
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- <https://www.nhs.uk/conditions/non-melanoma-skin-cancer/>
- <https://www.nhs.uk/conditions/itchy-skin/>
- <https://www.britishskinfoundation.org.uk/>

The British Association of Dermatologists (BAD) is the professional body for dermatologists in the UK and abroad. Founded in 1920, the BAD is a registered charity representing over 2400 members, dedicated to medical education, professional practice and standards, and research in dermatology. <https://www.bad.org.uk/>

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