Skin

The skin forms the largest organ of the body, accounting for about 16% of a person’s weight. It performs many roles, such as controlling internal body temperature (core temperature), preventing harmful bacteria, viruses and chemicals from entering the body, and aiding the manufacture of vitamin D from sunlight. There is great importance attached to the appearance of skin, so medical conditions affecting the skin not only affect our state of well-being, but also the way we interact with each other which, in turn, leads to other far-reaching consequences, such as holding down jobs and maintaining relationships.

Skin structure

The skin is not just a simple flat sheet, but is composed of several skin layers, including:

- Epidermis: the top layer.
- Dermis: the deeper layers.

The epidermis is quite tough and is being constantly worn down and replaced. It prevents excessive loss of moisture from the body and helps to give healthy skin its attractive appearance. The dermis contains all the structures that give skin its strength and elasticity, and contains important structures, such as the hair roots and sweat glands.

Factors affecting skin structure

The most damaging agents regularly affecting the function of skin, particularly the skin on the hands, are water and harsh household detergents. Over-exposure can lead to dry and chapped hands, which, if left untreated, may result in irritant dermatitis.

Other factors affecting skin structure involve medication, cuts and scratches, and general atopy (increased allergies to common items such as dust, pollen and grasses). Once the epidermis is broken, this increases the opportunity for bacteria and viruses to enter the body via the skin, thus causing all kinds of reactions, two of which will be discussed in more detail in this article.

Eczema and contact dermatitis

Eczema

Eczema (more commonly known as dermatitis) is the inflammation of the upper layers of the skin (epidermis), causing itching, blisters, redness, swelling and, often, oozing, scabbing, and scaling. It is a common condition that is not life-threatening or contagious, but can make people feel uncomfortable and self-conscious. Dermatitis is the skin’s way of reacting to severe dryness, or a substance that is causing irritation, or an allergen. In all cases, continuous scratching and rubbing may eventually lead to thickening and hardening of the skin.

Dermatitis may also be a brief reaction to a substance. In these cases, it may produce symptoms, such as itchiness and redness, for just a few hours or a day or two. Chronic dermatitis continues over a period of time. The hands and feet are particularly prone to chronic dermatitis, as the hands are in frequent contact with foreign substances and feet are kept warm by socks and shoes, leading to fungal growth. Chronic dermatitis may arise because of contact, fungal, or other dermatitis that has been left untreated. Because chronic dermatitis produces cracks and blisters in the skin, any type of chronic dermatitis may lead to bacterial infection.

Atopic eczema often occurs with allergies and frequently occurs in families with histories of asthma or hay fever. Although the cause is unknown, it may be triggered by factors such as sweating, extremes of temperature and skin irritants, such as wool, detergents and soap. It is most common in babies and children. It starts in the first years of life and may persist to adulthood. Signs of atopic eczema include:

- Red, dry and scaly skin.
- A small, intensely itchy rash mainly on the face, neck and hands and in the creases of limbs.
- As the child scratches, large weeping areas form that are prone to infection. When they dry, crusts are formed.

Due to defective skin barriers, chronic eczema sufferers are more prone to bacterial skin infections (pimples or carbuncles) and fever blisters. Bacterial infections can be treated with
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products like mupirocin (Bactroban®) and fever blisters with acyclovir (Activir®) or famciclovir (Fenivir®).

Contact dermatitis

Contact dermatitis is skin inflammation caused by direct contact with a particular substance. The rash is very itchy and is confined to a specific area, and often has clearly defined boundaries.

It can be hard to determine the substance that has caused the reaction, as most people are unaware of all the things they touch on a daily basis. Often, one of the most important clues is the location of the rash, particularly if it appears under jewellery, under an item of clothing, or in an area exposed to sunlight. Patch testing is available to a doctor to determine the exact cause of contact dermatitis, if necessary.

Substances can cause skin inflammation by one of two mechanisms: irritation (irritant contact dermatitis) or allergic reaction (allergic contact dermatitis).

- **Irritant contact dermatitis** occurs when a chemical substance causes direct damage to the skin. Typical irritating substances include acids, alkalis (such as drain cleaners), solvents (such as acetone in nail polish remover), and strong soaps. People vary in their sensitivity of the skin to irritants; even very mild soaps and detergents can irritate sensitive skin after prolonged or frequent contact.

- **Allergic contact dermatitis** is a reaction by the body’s immune system to a substance that comes into contact with the skin. After a person is sensitised to a substance, the next exposure will cause itching and dermatitis within four to 24 hours, although some people, particularly the elderly, do not develop a reaction for three to four days. The most common causes of allergic contact dermatitis include substances found in plants such as poison ivy, rubber (latex), antibiotics, perfumes, preservatives, and some metals (nickel, cobalt). People may also develop dermatitis from many of the materials they touch while they are at work.

Diagnosis

Before discussing the products that are available over the counter to treat these conditions, let’s first consider the questions that you should be asking the patients before recommending a course of treatment.

- Is the patient a child, an adult, or elderly? In the elderly, dermatitis can sometimes be an indicator of poor circulation.
- Where is the rash and what does it look like? This should give you some indication as to whether it is an allergic reaction or not.
- How long has it been there? When did they first notice it? Do they know what may have caused it?
- Have they had it before?
- Have they tried any treatments already? If so, what have they tried?

- Are they on any other medication, prescribed by the doctor or over the counter medicines, including herbal and homeopathic medicines or nutritional supplements?
- Have they started using any new creams or lotions that may have caused the itchiness and rash?

The answers you are given to these questions should start to give you an indication as to how the rash has come about and whether or not you could try recommending a cream that may help. If you are in any doubt whatsoever as to the cause of the rash, especially if it is severe and weeping, or you suspect something like poor circulation, refer the patient to a doctor. If the rash appears to be a straightforward case of contact or allergic dermatitis, then the following recommendations could be of use.

Treatment recommendations

- Avoid wearing wool. Cotton clothes are less irritating.
- Avoid contact with cleaning agents; wear gloves.
- Avoid soap when taking a bath. Use an emollient such as aqueous cream or emulsifying ointment with which to wash.
- Use a moisturiser after bathing to prevent the skin from drying out.
- Apply rooibos-, calamine- or chamomile-containing creams that soothe the skin and ease irritation.

Product selection

**Cetaphil® cleansing lotion**: Cetaphil® is a non-soap liquid cleanser. It removes dirt whilst hydrating and soothing dry, sensitive skin. This may help to reduce itching. Cetaphil® has been specially formulated to cleanse the skin without drying and is gentle enough to be used on the entire body as well as the face.

**Cream E45®**: Cream E45® is an intensive moisturiser that is colour-free, non-greasy, and unperfumed. The formulation is easily absorbed and contains medilan, an ultra-pure, hypoallergenic medical grade of lanolin that relieves dry, itchy skin and maintains hydration of the skin for up to 48 hours after application. It also contains white soft paraffin, light liquid paraffin and lanolin.

**Cuticura® antiseptic ointment**: Cuticura® contains phenol, precipitated sulphur, and hydroxy-quinoline. It is used for many skin conditions including rashes, blackheads, pimples, nappy rash, burns, chafing, chapped hands, eczema, brittle nails, dandruff (eczema of the scalp), dryness and minor scalp irritations.

**Dilucort® cream and ointment**: Dilucort® is a steroid-based preparation containing hydro-cortisone acetate 0.5% and can be used for the temporary relief of itching associated with eczema, insect bites, poisonous plants, soaps, detergents, cosmetics, jewellery and seborrhoeic dermatitis, and the relief of external genital and anal itching.
Eurax® cream: Eurax® cream contains crotamiton and is useful for itchy and parasitic skin conditions. It is a soothing cream for insect bites, allergies, scabies, and lice infestation.

Herbaforce PS® cream: Herbaforce PS® contains zinc oxide, coal tar and a selection of herbal oils. It helps relieve itchiness caused by dry and scaly skin associated with psoriasis.

Mylocort® cream and ointment: Mylocort® contains hydrocortisone 1% and is used for the temporary relief of itching associated with minor skin irritations due to eczema, insect bites, poisonous plants, soaps, detergents, cosmetics, jewellery and seborrhoeic dermatitis, and for the relief of genital and anal itching.

Nutraderm® moisturiser for babies: Nutraderm® is specially formulated to be absorbed quickly into the skin and helps to hydrate and restore moisture to the skin, leaving the baby’s skin feeling soothed.

Oilatum Plus: This moisturising bath oil contains benzalkonium chloride (antiseptic), triclosan (antibacterial and antifungal agent) and light liquid paraffin (moisturiser). The first two ingredients help to destroy bacteria and fungi on the surface of the skin, which may otherwise infect and aggravate dry skin conditions such as eczema. The liquid paraffin works by providing a layer of oil on the surface of the skin to prevent water evaporating from the skin surface.

SBR® Lipocream: “SBR” stands for “skin barrier repair”. This product helps to replenish the lipids (or fats) of the skin that are essential to help the skin act as a barrier to bacteria. It is formulated to act as a moisturiser as well as to act as an ointment, yet feels just the same as a cream. It helps control itchiness associated with eczema, as it replenishes the oils on the surface of the skin.

SBR® Repair: SBR® Repair assists in restoring the skin’s barrier function. It is used for symptomatic relief of dry skin conditions in conjunction with topical corticosteroids for patients suffering from eczema, atopic dermatitis and psoriasis. It is not a treatment for these conditions, but reduces the chances of recurrence and the duration of symptoms. It contains no preservatives or perfumes that may worsen the risk of allergy.

Vitaforce Vita-E 1000 Herbal Cream®: This contains vitamins A and E, various herbal extracts, and UVA and UVB filters. The cream combines a sun protection factor with a moisturiser and is suitable for application to wrinkles, scars, stretch marks and dry, ageing, rough skin.

When to refer
- If there has been no improvement in the skin condition after 5-7 days, or if it worsens.
- If the symptoms are severe, or if the skin weeps and has become infected.
- If in doubt, refer!

Always remember, topical therapy (creams, ointments, or lotions) is best given to the patient as a combination of products, including a cleanser, topical medication, and appropriate moisturisers/sunblocks.

References available on request.