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## Eczema (atopic dermatitis)

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### Summary

- Atopic dermatitis (eczema) is a chronic, inherited, inflammatory skin condition with symptoms including areas of dry, itching and reddened skin.
  - Eczema is not contagious.
  - Avoid triggers such as environmental irritants, heat and (in rare cases) particular foods.
  - Skin affected by eczema is more vulnerable to infections such as impetigo, cold sores and warts.
  - Treatment options include moisturisers, corticosteroids, pimecrolimus cream, coal tar, ultraviolet radiation therapy (phototherapy) and oral anti-inflammatory medication.
  - If your eczema becomes worse, see your doctor.
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Atopic dermatitis (commonly known as eczema) is an inherited, chronic inflammatory skin condition that usually appears in early childhood. Patches of skin become red, scaly and itchy. Sometimes, tiny blisters containing clear fluid can form and the affected areas of skin can weep. Weeping is a sign that the dermatitis has become infected, usually with the bacterium *Staphylococcus aureus* ('golden staph'). Eczema is not contagious.

Eczema can vary in severity and symptoms may flare up or subside from day to day. If your eczema becomes worse, disrupts sleep or becomes infected, see your doctor.

Using moisturisers and cortisone-based ointments can help ease the symptoms. It is also important to avoid skin irritants, such as soap, hot water and synthetic fabrics.

Children with eczema have a higher risk of developing food allergies, asthma and hay fever later in childhood.

### Causes of eczema

Eczema is caused by a person's inability to repair damage to the skin barrier. This is due to a mutation in the gene called filaggrin. Filaggrin is important for formation of the skin barrier. Normally, every cell in the skin has two copies of the filaggrin gene. However, people who are susceptible to eczema only have one copy of this gene.

Although you only need only one copy of the gene to form a normal skin barrier, two copies are important for skin barrier repair. If a person's skin is exposed to irritants and their skin barrier is affected, a person with only one copy of the gene may find that their ability to repair the skin barrier is limited.

Once the skin barrier is disrupted, moisture leaves the skin and the skin will become dry and scaly. Environmental allergens (irritants from the person's surrounds) can also enter the skin and activate the immune system, producing inflammation that makes the skin red and itchy.

You are more likely to get eczema if your family has a history of eczema or allergic conditions, including hay fever and asthma.

In most cases, eczema is not caused or aggravated by diet. If you feel a food is to blame, see your doctor or a dietitian for proper allergy testing and dietary advice.

While eczema causes stress, and stress may increase the energy with which you scratch, stress does not in itself cause eczema.

### Triggers of eczema

Some things make eczema more likely to appear. These include:

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- contact with irritants in the environment
- heat, which can aggravate the itch and make affected people more likely to scratch
- allergic reaction to particular foods – this is rare. Food allergy appears as redness and swelling around the lips within minutes of eating the offending food.

### **Symptoms of eczema**

The physical effects of eczema can include:

- skin dryness
- red and scaly areas on the front of the elbows and the back of the knees
- watery fluid weeping from affected skin
- itchiness
- lesions (sores) that may become infected by bacteria or viruses.

### **Management of eczema**

Most people with eczema find that their symptoms are made worse by common aspects of daily living, such as hot weather, frequent showering, soap, ducted central heating and overheating in bed at night. There are things you can do that may help you to better manage your eczema and reduce the frequency of flare-ups. Always see your doctor or dermatologist for further information and advice.

#### **Eczema coping tips – good hygiene**

Skin affected by eczema is more vulnerable to a range of infections, including impetigo, cold sores and warts. The bacterium *Staphylococcus aureus* may cause a secondary infection of impetigo, and possibly contribute to the symptoms of eczema.

Suggestions for washing include:

- Take lukewarm baths or showers, and avoid really hot showers.
- Don't use ordinary soap, as the ingredients may aggravate your eczema. Wash your body with warm water alone. For armpits and groin, use soap-free products, such as sorbolene cream.
- Bath oils can help to moisturise your skin while bathing.
- When towelling dry, pat rather than rub your skin.

#### **Eczema coping tips – reducing skin irritation**

People with eczema have sensitive skin. Irritants such as heat or detergents can easily trigger a bout of eczema.

Suggestions for reducing skin irritation include:

- Avoid overheating your skin. Wear several layers of clothing that you can remove, as required, instead of one heavy layer. Don't put too many blankets on your bed and avoid doonas.
- Don't use perfumed bubble bath or bath products labelled 'medicated'.
- Wear soft, smooth materials next to your skin, preferably 100 per cent cotton. Avoid scratchy materials, such as pure wool, polyester or acrylic. You could try a cotton and synthetic mix material – this is fine for some people with eczema. Remove labels from clothing.
- Always wear protective gloves when using any type of chemical or detergent. You may want to wear cotton gloves inside rubber or PVC gloves.
- Avoid chlorinated pools. If you have to swim in a chlorinated pool, moisturise your skin well when you get out.

#### **Eczema coping tips – beauty products**

Suggestions for the use of beauty products include:

- Remember that even hypoallergenic cosmetics can irritate your skin. Whenever possible, keep your face free of make-up.
- Avoid perfumes, fragranced skin lotions and strongly scented shampoos.
- When using a new cosmetic, try testing it first on a small, inconspicuous area of skin such as your forearm. If

you experience a reaction, don't use the product again.

### **Eczema coping tips – allergies**

In some cases, eczema may be an allergic reaction to environmental triggers. Some people with resistant eczema may find it helpful to have allergy testing (for example, prick testing for common environmental allergens such as house-dust mites, moulds and grass pollens).

### **Eczema coping tips – avoid changes in temperature**

Abrupt temperature and humidity changes can sometimes irritate the skin – for example, going in and out of air-conditioned buildings on hot days or heated buildings on cold days.

Hard physical activity or exercise that makes you sweat heavily can also trigger the itch of eczema.

Suggestions include:

- In winter, don't overheat your house. Dress warmly when going outdoors and remove the extra layers as soon as you return.
- In summer, don't over cool your house. Air conditioners can dry out the air and irritate your skin.
- Avoid hard physical activity in hot weather. For example, do your gardening first thing in the morning, or in the evening when the sun is lower in the sky.

### **Eczema coping tips – diet**

In most cases, eczema isn't caused or made worse by diet. If you notice that your eczema seems to get worse after eating a particular food, you may be an exception to this. See your doctor or dietitian for proper allergy testing and dietary advice.

Never self-diagnose or you risk depriving yourself of enjoyable and nutritious foods for no good reason. Unnecessarily avoiding certain foods (such as dairy products) can lead to nutritional deficiencies.

### **General tips for coping with eczema**

Other tips to manage your eczema include:

- Keep your fingernails short – longer nails are more likely to injure your skin when you scratch.
- If the water in your area is 'hard' (full of minerals) or alkaline, consider installing a water-softening device.
- Swim in the sea in warm weather whenever you can – seawater is known to reduce the symptoms of eczema.
- Use sun exposure for limited periods – for example, when swimming at the beach. This can help relieve eczema symptoms. But be aware that ultraviolet radiation is a risk factor for skin cancer and premature ageing of the skin. Also, if sun exposure causes overheating, this can also aggravate eczema.

### **Treatments for eczema**

Treatment options for eczema include:

- moisturisers (emollients)
- anti-inflammatory ointments – either topical corticosteroids or non-steroidal anti-inflammatory ointments such as pimecrolimus
- coal tar – to reduce the itch
- dietary changes – seek professional advice before changing your diet
- ultraviolet radiation therapy (phototherapy)
- oral medication (tablets).

### **Emollients (moisturisers) for treating eczema**

Emollient creams add moisture to the skin. Apply moisturisers each day to clean, dry skin. It is especially important to moisturise after showering and bathing, and when living or working in an air-conditioned or heated environment. You may need to try several different brands until you find the emollient that works best for you. Ask your doctor, dermatologist or pharmacist for advice.

### **Anti-inflammatory ointments for treating eczema**

Eczema responds well to anti-inflammatory creams. Topical steroids (corticosteroids) come in various strengths and are available by prescription from your doctor. Generally, it is better to use the lowest strength that works adequately.

Using high-strength topical steroids for extended periods, especially on delicate areas like the face, can cause side effects, including thinning of the skin. It is best to apply the cream to reddened areas after bathing, but make sure the skin is thoroughly dry.

In severe cases of eczema, a short course of oral corticosteroids may be necessary. This must be done under careful medical supervision because symptoms may become worse once you have finished taking the tablets.

Pimecrolimus cream is a non-steroid anti-inflammatory cream that can help reduce flare-ups of eczema if applied at the first signs of eczema.

### **Coal tar for treating eczema**

Applying coal tar to affected areas is another way to reduce the itch from eczema. Coal tar has a strong smell and tends to stain any fabric it touches. It can also irritate some people's skin. Only use it under supervision of a doctor who is experienced in managing eczema.

### **Ultraviolet radiation therapy (phototherapy) for eczema**

Exposure to ultraviolet radiation can help reduce the symptoms of chronic eczema. Exposure under medical supervision can be carefully monitored with the use of specially designed 'cabinets' – the person stands naked in the cabinet and fluorescent tubes emit ultraviolet radiation.

A person with stubborn eczema may need up to 30 sessions. The risks of unsupervised ultraviolet radiation therapy can be the same as for sunbathing – faster ageing of the skin and greater risk of skin cancer.

### **Oral anti-inflammatory medication**

Most people affected by eczema can manage the condition with creams and ointments alone. While oral medication can help people whose eczema is resistant to treatment, their side effects can include high blood pressure, increased susceptibility to all types of infections, and mood and behavioural changes.

Because of these risks, and the need for close and regular monitoring, oral anti-inflammatory treatment is only considered in severe cases of eczema that are difficult to control with other therapies.

### **Emerging treatment**

A new class of treatments called biologic therapy is currently undergoing clinical trials in Australia and overseas for the management of severe eczema. This treatment is generally administered by an injection into the fat tissue once a month. While not yet generally available, early results are promising.

### **The importance of eczema treatment**

There is growing evidence that allergens introduced into the body through the skin can lead to the later development of food allergy, asthma and hay fever. Aggressively treating eczema in children and taking steps to restore normal skin barrier function may lower the risk of these conditions.

### **Complications of eczema**

An intact skin surface is our best defence against skin infections. This is why a person with eczema is prone to bacterial and viral infections including:

- *Staphylococcus aureus* – causes impetigo. This thrives on skin affected by eczema. Infection causes inflamed blisters that pop, weep and form crusts. Treatments include antiseptic creams and antibiotic tablets
- herpes simplex virus – cold sores. This can easily spread over wide areas. See your doctor for early treatment
- warts – small, raised lumps caused by viral infections. Warts often clear up by themselves, but this can take up to 12 months.

## Where to get help

- Your doctor
- Dermatologist
- Pharmacist
- Maternal and child health nurse
- **Eczema Association of Australasia** Inc. Tel. 1300 300 182 or (07) 3206 3633
- **Australasian College of Dermatologists**

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