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Atopic Eczema

Atopic eczema is an inflammation of the skin, which tends to flare up from time to time. It usually starts in early childhood. The severity can range from mild to severe. There is no cure but treatment can usually control or ease symptoms. Moisturisers (emollients) and steroid creams or ointments are the common treatments. About 2 in 3 children with atopic eczema grow out of it by their mid-teens.

What is atopic eczema?

Eczema is sometimes called dermatitis which means inflammation of the skin. There are different types of eczema. The most common type is atopic eczema. In this type of eczema there is a typical pattern of skin inflammation which causes the symptoms.

The word atopic describes people with certain allergic tendencies. However, atopic eczema is not just a simple allergic condition. People with atopic eczema have an increased chance of developing other atopic conditions, such as [asthma](#) and [hay fever](#).

What are the symptoms of atopic eczema?



- The skin usually feels dry.
- Some areas of the skin become red and inflamed. The most common areas affected are next to skin creases, such as the front of the elbows and wrists, backs of knees and around the neck. However, any areas of skin may be affected. The face is commonly affected in babies with atopic eczema.
- Inflamed skin is itchy. If you scratch a lot it may cause patches of skin to become thickened.
- Sometimes the inflamed areas of skin become blistered and weepy.
- Sometimes inflamed areas of skin become infected.

Typically, inflamed areas of skin tend to flare up from time to time and then tend to settle down. The severity and duration of flare-ups varies from person to person and from time to time in the same person.

- In mild cases, a flare-up may cause just one or two small, mild patches of inflammation. Often these are behind the knees, or in front of elbows or wrists. Flare-ups may occur only now and then.
- In severe cases, the flare-ups can last several weeks or more and cover many areas of skin. This can cause great distress.
- Many people with atopic eczema are somewhere in between these extremes.

Who gets atopic eczema?

Most cases first develop in children under the age of five years. Current figures suggest about 1 in 5 schoolchildren have some degree of atopic eczema. However, statistics show that it is becoming more common year on year.

By the mid-teenage years the flare-ups of eczema have either gone completely, or are much less of a problem for 2 out of 3 young people. However, there is no way of predicting who will still be affected as adults.

It is unusual to develop atopic eczema for the first time after the age of 20. About one in thirty adults have eczema.

What causes atopic eczema?

The cause is not fully understood. The oily (lipid) barrier of the skin tends to be reduced in people with atopic eczema. This leads to an increase in water loss and a tendency towards dry skin. Also, some cells of the immune system release chemicals under the skin surface, which can cause some inflammation. But it is not known why these things occur. Inherited (genetic) factors play a part. Atopic eczema occurs in about 8 in 10 children where both parents have the condition and in about 6 in 10 children where one parent has the condition. The precise genetic cause is not clear (which genes are responsible, what effects they have on the skin, etc). However, recent research suggests that in some people genetic changes hamper the production of a chemical (filaggrin) involved in the defence barrier of the skin.

As mentioned previously, atopic eczema is becoming more common. There is no proven single cause for this but factors which may play a part include:

- Changes in climate.
- Pollution.
- Allergies to house dust mite or pollens.
- Diet.
- Infections.
- Other early-life factors.

There may be a combination of factors in someone who is genetically prone to eczema, which causes the drying effect of the skin and the immune system to react and cause inflammation in the skin.

Eczema treatment

The usual treatment consists of three parts:

- Avoiding irritants to the skin and other causes (triggers) wherever possible.
- Moisturisers (emollients) - used every day to help prevent inflammation developing.
- Steroid creams and ointments (topical steroids) - mainly used when inflammation flares up.

Avoid irritants and triggers where possible

Many people with atopic eczema have flare-ups from time to time for no apparent reason. However, some flare-ups may be caused (triggered) or made worse by irritants to the skin, or by other factors. It is commonly advised to:

- Avoid soaps, bubble baths, etc, when you wash. They can dry out the skin and make it more prone to irritation. Instead, use a soap substitute plus a bath/shower moisturiser (emollient) - see below.
- Biological washing powders and fabric conditioners can also sometimes cause problems.
- Try as much as possible not to scratch. To help with this, keep nails short and use anti-scratch mittens in babies. If you need to relieve an itch, rub with fingers rather than scratch with nails.
- Wear cotton clothes next to skin rather than irritating fabrics such as wool. However, it is probably the smoothness of the material rather than the type of the material which helps. Some smooth man-made fabrics are probably just as good as cotton.
- Avoid getting too hot or too cold as extremes of temperature can irritate the skin.
- After you wash clothes with detergent, rinse them well. Some biological detergents are said by some people to be irritating. But there is little proof that commonly used detergents that are used in the normal way make atopic eczema worse.

House dust mite may be a trigger in some cases

House dust mite is a tiny insect that occurs in every home. You cannot see it without a microscope. It mainly lives in bedrooms and mattresses as part of the dust. Many people with atopic eczema are allergic to house dust mite. If you are allergic, you have to greatly reduce the numbers of house dust mite for any chance that symptoms may improve.

However, it is impossible to clear house dust mite completely from a home and it is hard work to reduce their number to a level which may be of benefit. It involves regular cleaning and vacuuming with particular attention to your bedroom, mattress and bedclothes.

Therefore, in general, it is not usually advised to do anything about house dust mite - especially if your eczema is mild-to-moderate and can be managed by the usual treatments of emollients and short courses of topical steroids. However, if you have moderate or severe atopic eczema which is difficult to control with the usual treatments, you may wish to consider reducing the number of house dust mites in your home. [See the separate leaflet called House Dust Mite and Pet Allergy, which gives more details on how to reduce house dust mites.](#)

Food allergy may be a trigger in some cases

About 1 in 2 children with atopic eczema [have a food allergy](#) which can make symptoms worse. In general, it is young children with severe eczema who may have a food sensitivity as a trigger factor. The most common foods which trigger symptoms in some people include cow's milk, eggs, soya, wheat, fish and nuts.

If you suspect a food is making your child's symptoms worse then see a doctor. You may be asked to keep a diary over 4-6 weeks. The diary aims to record any symptoms and all foods and drink taken. It may help to identify one or more suspect foods. If food allergy is suspected, it should be confirmed by a specialist. They may recommend a diet without this food if the eczema is severe and difficult to control by other means.

Other triggers

Other possible factors which may trigger symptoms, or make symptoms worse, include:

- Stress and habit scratching.
- Pollens, moulds, and dander from pets.
- Pregnancy and hormonal changes before a period in women.

However, some of these may not be avoidable.

See the separate leaflet in this series, called *Eczema Triggers and Irritants*, for more details.

Moisturisers (emollients)

People with atopic eczema have a tendency for their skin to become dry. Dry skin tends to flare up and become inflamed into patches of eczema. Emollients are lotions, creams, ointments and bath/shower additives which prevent the skin from becoming dry. They oil the skin, keep it supple and moist and help to protect the skin from irritants. This helps to prevent itch and helps to prevent or to reduce the number of eczema flare-ups.

The regular use of emollients is the most important part of the day-to-day treatment for atopic eczema. Your doctor, nurse or pharmacist can advise on the various types and brands available and the ones which may suit you best.

You should apply emollients as often as needed. This may be twice a day, or several times a day if your skin becomes very dry. Some points about emollients include:

- As a rule, thicker, greasy ointments work better and for longer than thinner creams but they are messier to use. Some people don't mind using thick ointments; however, some people prefer creams (but apply them more often).
- Apply liberally to all areas of skin. You cannot overdose or overuse emollients. They are not active medicines and do not get absorbed through the skin.
- Apply emollients in the general direction of hair growth. If applied in the opposite direction the base of the hair shafts can get blocked, leading to possible infection.
- Use emollients every day. A common mistake is to stop using emollients when the skin appears good. Patches of inflammation, which may have been prevented, may then quickly flare up again.
- Various emollient preparations come as bath additives and shower gels. These may be considered in people with extensive areas of dry skin. However, there is some debate as to how well these work. If you do use them, they should be used in addition to, not instead of, creams, ointments or lotions that you rub on to the skin.
- Pump dispensers are better than pots because they are less likely to harbour germs. If you need to use a pot, use a clean spoon or spatula to get the contents out, rather than your fingers.

Many people with atopic eczema use a range of different emollients. For example, a typical routine for a person with moderately severe atopic eczema might be:

- When you have a bath or shower, consider adding an emollient oil to the bath water or as you shower. This will give your skin a general background oiling.
- Use a thick emollient ointment as a soap substitute for cleaning. You can also rub this into particularly dry areas of skin.
- After a bath or shower it is best to dry by patting with a towel rather than by rubbing. Then apply an emollient cream or ointment to any remaining dry areas of skin.
- Between baths or showers, use an emollient cream, ointment or lotion as often as necessary.
- A dry dressing may be helpful if your eczema is more severe, as this helps to keep the emollient from being rubbed off the skin and stops scratching. However, you should not use a dressing if infection is present.
- Use an emollient ointment at bedtime.

Note: emollients used for eczema tend to be bland and non-perfumed. Occasionally, some people become allergic (sensitised) to an ingredient in an emollient. This can make the skin worse rather than better. If you suspect this, see your doctor for advice. There are many different types of emollients with various ingredients. A switch to a different type will usually sort out this uncommon problem.

Warning: bath additive emollients will coat the bath and make it greasy and slippery. It is best to use a mat and/or grab rails to reduce the risk of slipping. Warn anybody else who may use the bath that it will be slippery.

See the separate leaflet called *Moisturisers for Eczema (Emollients)* for more details.

Steroid creams and ointments (topical steroids)

Topical steroids work by reducing inflammation in the skin. (Steroid medicines that reduce inflammation are sometimes called corticosteroids. They are very different to the anabolic steroids which are used by some bodybuilders and athletes.) Topical steroids are grouped into four categories depending on their strength - mild, moderately potent, potent and very potent. There are various brands and types in each category. For example, hydrocortisone cream 1% is a commonly used steroid cream and is classed as a **mild topical steroid**. The greater the strength (potency), the more effect it has on reducing inflammation but the greater the risk of side-effects with continued use.

Creams are usually best to treat moist or weeping areas of skin. Ointments are usually best to treat areas of skin which are dry or thickened. Lotions may be useful to treat hairy areas such as the scalp.

As a rule, a course of topical steroid is used when one or more patches of eczema flare up. You should use topical steroids until the flare-up has completely gone and then stop them. In many cases, a course of treatment for 7-14 days is enough to clear a flare-up of eczema. In some cases, a longer course is needed. Many people with atopic eczema require a course of topical steroids every now and then to clear a flare-up. The frequency of flare-ups and the number of times a course of topical steroids is needed can vary greatly from person to person.

It is common practice to use the lowest-strength topical steroid which clears the flare-up. If there is no improvement after 3-7 days, a stronger topical steroid is usually then prescribed. For severe flare-ups a stronger topical steroid may be prescribed from the outset. Sometimes two or more preparations of different strengths are used at the same time. For example, a mild steroid for the face and a stronger steroid for patches of eczema on the thicker skin of the arms or legs.

Short bursts of high-strength steroid as an alternative

For adults, a short course (usually three days) of a **strong topical steroid** may be an option to treat a mild-to-moderate flare-up of eczema. A strong topical steroid often works quicker than a mild one. (This is in contrast to the traditional method of using the lowest strength wherever possible. However, studies have shown that using a high strength for a short period can be more convenient and is thought to be safe.)

Short-duration treatment to prevent flare-ups (weekend therapy)

Some people have frequent flare-ups of eczema. For example, a flare-up may subside well with topical steroid therapy. But then, within a few weeks, a flare-up returns. In this situation, one option that might help is to apply steroid cream on the usual sites of flare-ups for two days every week. This is often called weekend therapy. This aims to prevent a flare-up from occurring. In the long run, it can mean that the total amount of topical steroid used is less than if each flare-up were treated as and when it occurred. You may wish to discuss this option with your doctor.

How do I apply topical steroids?

Topical steroids are usually applied once a day but this may be increased to twice a day if there is no improvement. Rub a small amount thinly and evenly just on to areas of skin which are inflamed. (This is different to moisturisers which should be applied liberally all over.)

To work out how much you should use each dose: squeeze out some cream or ointment from the tube on to the end of an adult finger - from the tip of the finger to the first crease. This is called a fingertip unit. One fingertip unit is enough to treat an area of skin twice the size of the flat of an adult's hand with the fingers together. Gently rub the cream or ointment into the skin until it has disappeared. Then wash your hands (unless your hands are the treated area).

Note: don't forget you can use emollients as well when you are using a course of topical steroids.

See the separate leaflet called [Fingertip Units for Topical Steroids](#) for more details.

What about side-effects of topical steroids?

Short courses of topical steroids (fewer than four weeks) are usually safe and normally cause no problems. Problems may develop if topical steroids are used for long periods, or if short courses of strong topical steroids are repeated often. The concern is mainly if strong topical steroids are used in the long term. Side-effects from mild topical steroids are uncommon.

- Thinning of the skin has always been considered a common problem. However, recent research suggests that this mainly occurs when high-strength steroids are used under airtight dressings. In normal regular use skin thinning is unlikely and, if it does occur, it often reverses when the topical steroid is stopped.
- With long-term use of topical steroid the skin may develop permanent stretch marks (striae), bruising, discolouration, or thin spidery blood vessels (telangiectasias).
- Topical steroids may trigger or worsen other skin disorders such as **acne**, **rosacea** and **perioral dermatitis**.
- Some topical steroid gets through the skin and into the bloodstream. The amount is usually small and normally causes no problems unless strong topical steroids are used regularly on large areas of the skin. The main concern is with children who need frequent courses of strong topical steroids. The steroid can have an effect on growth. Therefore, children who need repeated courses of strong topical steroids should have their growth monitored.

For more details about side-effects see the separate leaflet called [Topical Steroids for Eczema](#).

Using moisturisers (emollients) and topical steroids together

Most people with eczema will be prescribed emollients to use every day and a topical steroid to use when flare-ups develop. When using the two treatments, apply the emollient first. Wait 10-15 minutes after applying an emollient before applying a topical steroid. That is, the emollient should be allowed to sink in (be absorbed) before a topical steroid is applied. The skin should be moist or slightly tacky but not slippery, when applying the steroid.

Infected eczema patches

Sometimes, one or more patches of eczema become infected during a flare-up. Characteristics of infected eczema include:

- Weeping blisters.
- Infected skin lumps (pustules).
- Crusts.
- Failure to respond to normal treatment.
- Rapidly worsening eczema.

If the infection becomes more severe, you may also develop a high temperature (fever) and generally feel unwell. If infected eczema develops then a course of an [antibiotic tablet or liquid medicine](#) will usually clear the infection. This is used in addition to usual eczema topical treatments. Sometimes, a topical antibiotic is used if the infection is confined to a small area. There is a rare condition where eczema becomes infected with a virus called herpes simplex. This requires antiviral medication rather than antibiotics. [See the separate leaflet called Eczema Herpeticum for more details.](#)

Once the infection is cleared, it is best to throw away all your usual creams, ointments and lotions and obtain fresh new supplies. This is to reduce the risk of applying creams, etc, that may have become contaminated with germs (bacteria). Also, if you seem to have repeated bouts of infected eczema, you may be advised to use a topical antiseptic such as chlorhexidine on a regular basis. This is in addition to your usual treatments. The aim is to keep the number of bacteria on your skin to a minimum.

What if the eczema treatment doesn't work?

See your doctor if a flare-up of atopic eczema is getting worse or not clearing despite the usual treatments with moisturisers (emollients) and topical steroids. Things which may be considered include:

- Whether the strength of the topical steroid should be increased.
- Whether emollients are being used often enough to keep the skin supple and moist.
- The need for an antibiotic if the inflamed skin has become infected.
- Allergy. Occasionally, some people become allergic (sensitised) to an ingredient in a cream (such as a preservative which is included with the steroid or emollient). This can make the skin inflammation worse rather than better.

You may be referred to a skin specialist if a flare-up does not improve with the usual treatments.

Other treatments

- **Tacrolimus ointment** and **pimecrolimus cream** are treatments introduced in 2002. They work by suppressing some cells involved in causing inflammation. (They are called topical immunomodulators.) They are not steroids. They seem to work well to reduce the skin inflammation of atopic eczema. At present they are licensed for use in people aged 2 years and over who have atopic eczema which is not controlled very well with usual treatments. They should not be used on infected skin.
- **Steroid tablets** are sometimes prescribed for a short time if the eczema becomes severe and topical treatments are not helping much.
- **Eczema with blisters** may need special soaks to dry up the weepy blisters.
- **Hospital treatment** is sometimes needed for severe cases. Treatments which are sometimes used include wet wraps, tar and/or steroid occlusion bandages, light therapy and immunosuppressive medication.
- **Tar shampoos** are useful to lift scale from affected scalps.
- **Antihistamine tablets** are sometimes tried to help ease itch. They do not have a great effect on reducing itch but some types of antihistamines can make you drowsy. A dose at bedtime may help children who are troubled with itch to get to sleep.
- **Dilute bleach baths** have been used to good effect in some children with long-term difficult-to-control eczema. The logic is that it helps to clear the skin of germs (bacteria). **But note:** this should only be done under the direct supervision and advice of a doctor. Bleach can seriously harm and using the wrong dilution can be very damaging. Do not try this on your own without individual professional advice.

Alternative remedies

Alternative remedies such as herbal medicines are sometimes tried by some people. However, you should be cautious about using them, especially if their labels are not in your usual language and you are not sure what they contain. Some herbal treatments are mixed with steroids and some (particularly Chinese remedies) have been linked to liver damage.

How can atopic eczema be prevented?

It may be worth [breastfeeding a newborn baby](#) for three months or more if several members of the family suffer from allergies such as eczema, hay fever or asthma. There is, however, no evidence to suggest that the mother should avoid any particular foods during pregnancy or breastfeeding.

Further reading & references

- [Atopic eczema in children](#); NICE Clinical Guideline (December 2007)
- [Tacrolimus and pimecrolimus for atopic eczema](#); NICE Technology Appraisal Guidance, August 2004
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