Overview

Eczema (also called atopic eczema or atopic dermatitis) is a very common skin condition affecting babies and children. It commonly presents in the first year of life, and as children grow older their eczema often improves. For those children with more severe eczema there is a possibility that this will persist into adult life. Eczema can be mild, moderate or severe and treatment of the eczema will depend on the severity. There is currently no cure for eczema, so avoidance of trigger factors (those which make the eczema worse) and a clear eczema treatment plan for managing eczema is important.

What causes eczema?

Eczema starts with an impaired skin barrier, leading to dry skin and eventually skin inflammation. Genetic and environmental risk factors, such exposure to hard domestic water, interact. The commonest genetic risk factor is inheritance of a mutation in the filaggrin skin barrier gene. Filaggrin is a protein that plays an important role in the natural moisture level of the skin. Individuals with reduced amounts of filaggrin due to an inherited faulty copy of the gene have an increased likelihood to have dry skin and of developing eczema. It is important to note that not everyone with eczema has the filaggrin gene though.

It is a common misperception that food allergy causes eczema, however this is not true. Having a food allergy or having had a food allergic reaction may cause a sudden eczema flare or worsen the condition over time. Sometimes this happens within minutes after eating the food and on other occasions can be delayed several hours or even a day after exposure. However, even in the absence of positive allergy tests, certain foods like milk and wheat can also still be a problem and cause eczema to flare. It is possible to have a food allergy without having eczema and vice versa. If there is a strong suspicion of food allergy then a referral to an allergist (allergy doctor) or joint dermatology and allergy service should be made by your GP for further investigation and management, as recommended by the National Institute for Clinical Health Care and Excellence (NICE 2007) Guidelines on atopic eczema in children (1).

Advances in research have provided a greater understanding of how the immune system works. Eczema that leads to a defective (broken) skin barrier enables the potential transfer of food via the skin to be shown to the immune system and misread as harmful which can lead to the development of an allergy to a food that may never have been eaten (2).

Where eczema develops in the first few months of life and is moderate to severe in severity there is an increased likelihood of developing a food allergy (3).

Signs and symptoms

Eczema in babies is often seen on the face, body, arms and legs. As children grow older eczema is more likely to be
seen in the flexural creases around the knees, wrists, elbows and ankles. It is important to note that eczema in skin of colour (Asian, black Caribbean, black African) may present differently and the skin can appear darker rather than red.

The main symptom of eczema is an intense itch as well as skin that may be:

- Red
- Dry
- Inflamed
- Feel Hot
- Scabbed
- Weeping (red flag—may be a sign of infection)
- Crusting (red flag—may be a sign of infection)

How is eczema diagnosed?

It is important that eczema is diagnosed by a health professional which will usually be by your GP. Having an accurate and timely diagnosis is important so the right eczema treatment can be started. Where the diagnosis is or has become uncertain or the eczema is not well controlled or not responding to treatment a referral to a dermatologist (doctor specialising in skin conditions) may be required. Indications as recommended by (NICE 2007) for the referral for specialist dermatological advice are listed below. Guidelines for the diagnosis of eczema in under 12’s recommends referring children with eczema if they meet the following criteria:

- If the diagnosis is, or has become, uncertain
- Management has not controlled the atopic eczema satisfactorily based on a subjective assessment by the child, parent or carer (for example, the child is having 1–2 weeks of flares per month or is reacting adversely to many emollients)
- Atopic eczema on the face has not responded to appropriate treatment
- The child or parent/carer may benefit from specialist advice on treatment application (for example, bandaging techniques)
- Contact allergic dermatitis is suspected (for example, persistent atopic eczema or facial, eyelid or hand atopic eczema)
- The atopic eczema is giving rise to significant social or psychological problems for the child or parent/carer (for example, sleep disturbance, poor school attendance)
- Atopic eczema is associated with severe and recurrent infections, especially deep abscesses or pneumonia.

What can trigger eczema?

Individual trigger factors vary from person to person, some trigger factors may be easy to identify whilst others may not be so easy to work out. If you suspect a specific food or something in the environment may be a trigger factor keeping a symptoms diary can help work out patterns of exposure and signs and symptoms and may be useful to provide to your doctor.

Eczema may be made worse by coming into contact with one or more of the following trigger factors:

- Heat or changes in temperature
- Irritants for example (chemicals, detergents, soaps, bubble bath, perfumed products)
- Chemicals – Swimming in chlorinated water
- Fabrics like wool (which causes a prickle) or synthetics
- Food allergy or intolerances
- Contact allergens in the environment for example house dust mite, pollen or animal dander can make eczema worse.
- Viral or bacterial infections

How to treat eczema

Emollients

The main focus of eczema treatment is keeping skin well moisturised and this is done by using
an emollient. Emollient is the name given to a good quality moisturiser made specifically for dry skin conditions like eczema. Emollients are a very important part of the everyday treatment of eczema skin. It is important to keep eczema skin well moisturised and hydrated (as eczema skin is naturally prone to dryness) by using an emollient at least twice a day and as often as is required. The use of an emollient helps maintain the protective role of the skin barrier and will help reduce dryness which reduces the itch. Emollient should be applied to all areas of the body and not just to those with visible areas of eczema.

**Tips for emollient treatment**

- Emollients for children are available on prescription or to buy from a pharmacy. It may be necessary to trial several different types before finding one that is suitable. Emollients that cause irritation after applying or appear to worsen eczema should be stopped immediately and an alternative used.
- Emollients come in a variety of forms including lotions, cream, gel or ointment that can be used for everyday moisturising, washing and bathing. NICE guidelines on eczema management recommend that children with atopic eczema prescribed sufficient quantities of emollients up to 250-500g weekly.
- Emollients should only be applied after washing hands to remove any bacteria.
- Emollients should be smoothed onto the skin in a downward motion to avoid hair follicles becoming blocked, avoiding rubbing as this may cause the skin to become itchy or damage already fragile skin.
- Emollients should be used according to the dryness of the skin.
- Using a combination of emollients based on skin dryness, daily activities for example using a lighter type of emollient in the day that is easy to apply at school and an ointment at night. Applying thick layers of emollients can make the skin hot.
- Emollients in pump dispensers or tubes are preferable to those in tubs which may easily become contaminated with bacteria by hands dipping in and out. Using a spoon or spatula to remove emollient from a tub is recommended to help reduce the risk of this.
- Emollients containing paraffin should be used with caution due to the potential risk of flammability if near or exposed to sources of ignition like gas flames from cooker tops or fires or open fires.
- Emollients should be continued even when the eczema appears well controlled and can help reduce the need for steroids.

**Steroid treatment**

Are used to control eczema flares (red and inflamed skin) and work by reducing the redness and inflammation. The National Institute for Health and Care Excellence (NICE) (2013) recommends the most effective preparation (steroid) should be matched to the severity (mild, moderate, severe) of the eczema and area of the body being treated. Areas of the body where the skin is thinner and more fragile for example the face should only be treated with a mild or (under guidance from a doctor) moderate strength steroid. Stronger steroids may be used under the direction of a specialist doctor or nurse. Steroids are safe and effective in the use of controlling eczema flares when used in the correct strength (potency), quantity and on the right area. For effective control of an eczema flare use as soon as possible after recognising the signs and symptoms. Strong steroids should only be applied as directed by your doctor.

**Tips for steroid treatment**

- Steroids are available as a cream or ointment
- Steroids should only be applied to areas of flared eczema that appear inflamed, red and itchy.
- Steroid and emollients should not be put on at the same time. The emollient is usually put on first to all dry areas of the skin. Leave a gap of 30 minutes before the steroid cream is applied to the inflamed (red) skin.
Bathing and eczema

A daily bath is recommended as a treatment that forms part of good eczema management. Bathing helps treat eczema skin by removing dry skin and any build-up of emollients, reducing bacterial levels on the skin and softening the skin ready for the application of emollients and/or steroids. However, it is important that bathing is carried out under the right conditions as listed below.

Tips for bathing

• Water alone is very drying on the skin so adding a bath oil (non-perfumed) or emollient to the water is important. *Emollients and oils can make the bathing environment, baby or child slippery, so be careful.
• Bath water should be tepid (around 30 degrees), as heat is a common trigger for eczema and having the bath water too hot may trigger the itch scratch cycle.
• Skin should be patted dry rather than rubbed dry to prevent any further damage and stimulating the itch scratch cycle.
• Even with the addition of a bath oil or emollient wash product emollients need to be applied after bathing to trap moisture in and prevent dryness.

Infected eczema

Children with eczema naturally carry bacteria on the skin and are more likely to get a bacterial or viral skin infection. It is important that this is recognised and treated early. If you suspect your child’s eczema is infected, it is important to discuss this with a health professional (GP, Health Visitor or Nurse) who may take a swab and depending on the result start treatment with antibiotic medication which may be in a tablet/liquid form or a cream based antibiotic to apply directly to the skin. Signs and symptoms that eczema may be infected include:

- Oozing or weeping
- Scabbed yellow crust
- Increased itch and irritation
- Painful skin

Other types of eczema treatments

Wet wraps

Wet wraps can be an effective way of cooling the skin and providing relief from the intense itch associated with an eczema flare. Wet wraps should only be used after assessment by a specialist and guidance on how and when to apply them given.

Calcineurin Inhibitors

Calcineurin inhibitors are used for controlling flares of eczema that have not responded to steroid treatments, in particular in delicate areas, such as around the eyes, the neck and flexures of the arms and legs. They work by altering the immune system in blocking one of the chemicals that contributes to the flare of eczema. There are two types of calcineurin inhibitors called Tacrolimus (0.03% and 0.01% strength) and Pimecrolimus (1% strength only), and they are usually initially prescribed by a specialist rather than a GP. It is common for a mild burning to be experienced on application of these products which should resolve after more frequent exposure.

Quality of life issues

Eczema often has a significant effect on the quality of life of both the child with eczema, their family and wider networks. Babies and children with eczema may not sleep as well which can have a knock on effect on sleep quantity and quality. For older children it may make concentrating on tasks and school work hard. Sometimes children with eczema are embarrassed by how their skin appears and can be subject to bullying. The following tips can help improve some of the issues highlighted.
• Creating the best possible sleep environment enables the skin time to repair: Applying emollients and/or steroids before bed, keeping the nursery/bedroom cool, and placing them in light cotton sleep wear.
• Use distraction techniques and rewards for treatment times at an age appropriate level. Examples include singing, watching a favourite cartoon, and the use of a star chart or stickers.
• When talking about eczema use positive language – avoid saying ‘stop scratching’ or using negative terms like ‘bad skin’.
• Older children depending on maturity and confidence can start to become more involved in the daily management of their eczema treatment and may like to have their own emollient supply to put on at school.

Clinical contributions

Allergy UK Health Advisory Board
Dr Carsten Flohr, Consultant Paediatric Dermatologist, Head, Unit for Population-Based Dermatology Research, St John's Institute of Dermatology, Guy's & St Thomas’ NHS Foundation Trust, London

Allergy UK Clinical Team
Holly Shaw, Nurse Advisor

References:
1. NICE. Atopic eczema in children. Nice.org.uk/CG57