

## **ATOPIC ECZEMA**

**Eczema can have many different causes and appear in different forms. In children, the most common form of eczema is atopic eczema, also called infantile eczema or atopic dermatitis. The eczema manifests itself by tiny, itchy buds and sometimes blisters on the skin. Wounds and oozing skin areas can appear after itching and scratching. Gradually, the skin becomes thickened, dry and scaly, and painful cracks can appear.**

## **OCCURRENCE**

**Atopic eczema occurs more frequently in families where one or more members have or have had similar eczema, asthma or allergic rhinitis (hay fever).**

The risk of developing atopic eczema is greater for a child whose parents have had asthma, hay fever or eczema.

Children with atopic eczema have an increased risk of developing hay fever or asthma. Most children, however, do not develop asthma. The eczema most often appears during childhood and often disappears before adulthood. For some people, however, the eczema may continue into adulthood, both as eczema on the face and body, but also as hand eczema.

## **APPEARANCE**

**Children with atopic eczema often have dry and rough skin. This dryness can be detected already in infancy.**

The appearance of the eczema depends on the child's age. When the eczema occurs in infancy, it often appears on the cheeks. With older children, the eczema appears in the knee folds and elbow bends or at wrist and ankle joints.

Here, the skin often becomes thickened, rough and furrowed due to scratching. When ulceration occurs, the eczema is sometimes aggravated due to infection.

## **THE CAUSE OF THE ECZEMA**

There are several different reasons why a child develops atopic eczema. Hereditary factors play a role, but there are also external factors involved.

A protein substance which is produced in the skin's surface, called filaggrin, has proven to have a significant impact on the skin's ability to protect against external factors. The production of filaggrin is controlled by a person's genes (hereditary conditions). This gene is not working too well for 10% of the population in Europe and up to 50% among patients with atopic eczema

As a result, the protein is partly or completely missing in the skin.

If the skin cannot produce filaggrin, it becomes dry and itchy, and it can easily develop eczema.

Atopic eczema is sometimes associated with asthma or hay fever, where allergy to e.g. grass pollen, household dust or animal hair can be detected. These allergies can affect the eczema. Hypersensitivity to foods can aggravate the eczema which is especially seen with young children. It can be detected by itching and redness around the mouth and on the cheeks or more widespread on the skin after consumption of certain foods or drinks. The food allergies, which might affect the eczema, include milk products, eggs, soy and fish. If food allergy is suspected, the child should be examined by a dermatologist, allergy doctor or paediatrician. Allergy testing with skin tests (prick test) or a blood test can be indicative.

Food allergies often disappear during childhood. Especially allergies against milk and egg.

However in most cases, hypersensitivity to foods or drinks cannot be demonstrated, and diets can be useless or even harmful to the child.

## **THE COURSE OF THE ECZEMA**

**The eczema is often improved during summer after sunbathing and swimming in the sea, but is worsened in the dry winter air. Many children with eczema frequently scratch themselves, especially at night.**

Most children will become free of eczema as they grow older, but some will keep their eczema.

However, there is an increased risk for them to develop hand eczema later in life as a cause of various substances irritating the skin.

Children should therefore be guided in choosing professions that do not require them to work in humid surroundings and have contact with substances irritating the skin, e.g. within the industries of hairdressing, cleaning, restaurant, hospital or machinery.

## **GENERAL ADVICE**

**Children with atopic eczema should have a normal life.**

Avoid yelling at the child in case of habitual scratching. The child's sleep rhythm is in most cases not changed by the itching, so the child should not be picked up in case it scratches itself in its sleep.

Skin care with moisturizer is essential, also in eczema free periods, and should be carried out on the same basis as teeth brushing.

By setting aside plenty of time for the moisturizing treatment, preferably in a warm room with access to toys or distraction such as TV, the treatment can be made easier for both child and parent. In order to improve understanding of the child's disease and prevent teasing, information about atopic eczema should be distributed to class mates as well as educators and teachers in day care and school.

**Breastfeeding:** Breast milk is the best nutrition for infants. With infants, whose parents or siblings have or have had eczema, asthma or hay fever, breastfeeding for 4 months may decrease the frequency of eczema or delay the time of emergence. Whenever breastfeeding is not possible or desired, hypoallergenic infant formulas are encouraged until the child is 4-6 months old.

**Clothes:** Many children with atopic eczema itch and scratch themselves whenever they wear woollen and hard synthetic materials on the body. The itching is caused by the special fibre structures of wool and some synthetic materials, and it is not indicative of any allergy. Cotton clothing and soft synthetic materials feel more comfortable.

**Pets:** Since the child has an increased risk of developing animal hair allergy, it is best not to acquire pets with fur. In case there are already pets at home, they should not have access to the child's bedroom. The bedroom should be well ventilated in order to avoid high humidity levels which provide good breeding ground for dust mites.

**Vaccination:** Vaccination treatment (hyposensitising), which can be given for asthma or hay fever, will not improve the eczema and may even cause aggravation.

## **TREATMENT OF THE ECZEMA**

**Treatment can always relieve the itching and improve the eczema, which at times may almost disappear. Skin care is important for the child's well-being.**

Hot showers and soap can dry out the already dry skin.

Therefore, bathe the child in lukewarm water and use soap only in the most necessary places. Dryness of skin can be countered by lubricating the skin with moisturizer immediately after bathing. Moisturizing creams are available over the counter.

Prescription drugs such as fatty ointments or less greasy creams containing corticosteroids can bring a flare-up of the eczema to rest. Some of these ointments have a stronger effect than others. Many children are more troubled by their eczema than necessary due to parents' concerns about using even the weakest steroid ointments. The weakest steroid ointments can be used for a long time without side effects. By using some of the stronger ointments for several months, the skin can be damaged. By alternating between ointments of adequate strength – depending on the severity of the eczema and the affected skin area and in consultation with the doctor – the eczema can usually be kept at rest without side effects of the treatment.

In recent years, new locally acting drugs known to soothe eczema have emerged that inhibit the release of eczema aggravating neurotransmitters from cells in the skin.

They are just as effective as medium strong hormone ointments, but have a different mode of action and other side effects. They some times cause a burning sensation in the skin for up to one hour

after application at the beginning of the treatment, but this problem usually diminishes after 5-8 days of continued treatment. They are significantly more expensive than the steroid ointments. More traditional treatments with tar can also be effective.

If there are many infected wounds, it might be necessary to apply ointments with bactericides or antibiotics for a period of time, or treatment with antibiotic tablets. In the most severe cases, patients can be hospitalised for treatment in a dermatology department.

In some cases, treatment with ultraviolet light in special solariums can also help.

Antihistamines are not effective against eczema and only rarely reduce itching, but are useful in reducing symptoms from urticaria (nettle rash) and hay fever.

Atopic eczema often lasts long and requires daily treatment. After some time, the patient or the parents often find the right alternation between various therapeutic agents themselves. Whenever questions concerning the eczema arise, they should be consulted with the doctor.

## **ASSISTANCE**

**The Danish Social Services Act (section 41) allows for financial assistance for additional costs associated with the disease.**

Assistance may be granted in cases of severe, long-term eczema with children under 18 years old, where the additional costs exceed a certain amount (regularly adjusted). Whenever frequent visits to a dermatologist or other doctors/practitioners are necessary, one of the parents can apply for compensation for lost earnings (section 42).

# Atopic eczema

## HOW TO APPLY OINTMENT OR CREAM

Apply an amount of ointment/cream corresponding to the length of the outer part of the index finger (approximately 2.5 cm for an adult). This amount of ointment/cream is called a fingertip unit and will treat an area of skin corresponding to the size of two whole palms.

With children, the same rule applies; only the amount of ointment/cream and the area it should cover are smaller. Apply the cream on the eczema area with a fingertip and rub it in the skin. After application: wash your hands, if they should not be treated.

Follow the doctor's instructions regarding the frequency of treatment.

## TREATMENT WITH MEDICAL OINTMENTS/CREAMS CONTAINING STEROID

Atopic eczema is treated with creams or ointments containing corticosteroids. The weakest steroid ointments and creams are available over the counter. The strongest preparations are only available on prescription. The eczema is often initially treated with one of the stronger steroid ointments to control the activity of the eczema, and then followed by a weaker preparation, depending on the severity and location of the eczema. After prolonged use, the strong steroid ointments and creams may cause side effects, such as thin skin with vasodilatation. The risk of side effects is small when the treatment is carried out in consultation with a dermatologist. The doctor can tell you about the preparation efficiency – weak, medium strong or strong.

## STEROID OINTMENTS AND CREAMS

(The pharmaceutical names are listed in alphabetical order within each group)

Pharmaceutical speciality	Content
<b>STRONG</b>	
Betnovate	Betamethasonvalerat
Celestonvalerat	Betamethasonvalerat
Cutivat	Fluticasone
Diproderm	Betamethasone dipropionate
Dermovate	Clobetasol propionate
Elocon	Mometasone furoate
Elocom	Mometasone furoate
Ibaril	Desoximetasone
Metosyn	Fluocinonide
Nerisona	Diflucortolone valerate
Synalar	Flucinolonacetonid
<b>MEDIUM STRONG</b>	
Emovat	Clobetasone butyrate
Kenalog	Triamcinolone acetonide
Locoid	Hydrocortisone butyrate
<b>WEAK</b>	
Hydrocortisone	Hydrocortisone
Mildison (lipid)	Hydrocortisone
Uniderm	Hydrocortisone

## CALCINEURIN INHIBITORS (non-steroidal)

Elidel Pimecrolimus  
Protopic Tacrolimus

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The dermatologist informs about

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