ETFAD- EADV leaflet

What is atopic dermatitis?

Eczema is a general term to describe skin that is inflamed (red, swollen, scaly and itchy). The most frequent form of eczema is Atopic Dermatitis (AD) also known as Atopic Eczema or Neurodermatitis. The best way to know if you or your child has AD (and not another form of eczema) is to consult your doctor. Dermatologists, pediatricians, allergists and some general practitioners are specialized in treating AD. There is usually no need for a blood test or allergy tests to know if you have AD.

How frequent is atopic dermatitis?

AD is a frequent disease. 10-15% of children and about 3-5% of adults are affected by AD in Europe, but this frequency varies. AD seems to be more frequent in large cities and in industrialized countries than in rural areas. The reason for this is still unclear, but environmental and lifestyle factors are most likely to blame.

How to recognize atopic dermatitis?

Adults and children affected by AD typically show symmetrical red patches of inflamed, dry, and itchy skin. These patches may be located on the cheeks (especially in toddlers), arms, legs, wrists and often affect flexures. The location of AD patches depends on each individual and may be anywhere on the body surface. Sometimes, the skin thickens when AD has been present for longer. Sometimes AD skin may weep, ooze or bleed during flare-ups, especially after intense scratching. AD almost always causes itch, and sometimes pain or burning.

What is the cause of atopic dermatitis?

It is not clear what the cause of AD is. There is probably not one single cause of AD. Several inborne and acquired factors interact with each other to produce the disease, such as immune dysfunction and skin barrier dysfunction.

Is atopic dermatitis an allergy?

AD is a complex disease, and a major part of the cause of AD is an allergic dysfunction. Allergy is a harmful response of the body's immune system to normally harmless substances, such as pollens, foods, house dust mite and other allergens. In some AD patients, these allergens may trigger flare-ups of AD. However, the vast majority of AD patients should not follow a diet. All diets, especially for children, must be discussed with a doctor, as a diet might otherwise cause harm.

What is the course of atopic dermatitis?

Atopic dermatitis is a long lasting form of eczema which often starts during childhood, often getting better when people grow up but sometimes lasting into adulthood. Some people may also have AD that starts during adulthood. Factors that are associated with chronic disease include early disease-onset and presence of allergic disease such as asthma and hay fever.

What is a flare-up?

A flare-up is a period of severe itch and very inflamed painful skin. Some people may experience an alternating of acute flare-ups and some more quiet phases with mild itch and minor inflammation in the skin. Even between flare-ups, the skin is often very reactive to temperature changes or stress or irritant skin products. However, when your skin is constantly itchy and inflamed, it is difficult to clearly identify flare-ups.

What causes a flare-up in patients with atopic dermatitis?

The trigger factors causing flare-ups vary between individuals. Some classic triggers are weather changes, hot showers, bubble baths, harsh soap, heat, wool, perfume, skin products, sweat, emotional stress, or eating certain foods. Flare-ups are more common during months with low temperature and humidity. Moreover, bacterial and viral infections can worsen AD.

What are the consequences of more severe atopic dermatitis?

Severe AD is more likely to cause sleep loss and fatigue, chronic stress and even depression. AD may have significant impact on quality of life of patients of all ages and their families. It is very important to speak to your doctor if you feel that your AD makes you sad or disturbs your social or personal life. If your child has AD with sleep problems, be aware that it may cause some learning issues at school or have an impact on your occupational activities.

Three important things to know about the treatment of atopic dermatitis

It is very important to understand 3 points to avoid misunderstandings with health care providers:

1. AD is a chronic disease, which lasts several years in most cases. It does not mean that you or your child will have AD for their whole life, as most children get better as they grow up. Even when people remain AD sufferers as adults, they frequently experience very quiet and long stable periods.
2. AD is not due to an allergy to a single allergen, but allergies for example against food may co-exist with AD and sometimes trigger flare-ups.
3. Even if AD can't be cured by a simple short treatment (as an infection is cured by antibiotics), it is possible to control AD over the long term so that life can be as normal as possible for patients. Well conducted treatment can make a significant difference to the disease.

How to treat the red patches/inflammation of atopic dermatitis in daily life?

- The most frequently used medication to treat the red patches is topical steroids. Most of the time topical steroids (TCS) are applied only once daily, preferably in the evening.
- There are different strengths of topical steroids (mild, moderate, potent or superpotent) and different formulations (creams, ointments, lotions, foams) available. Your doctor will prescribe the most adapted strength and formulation according to patient age and location of the patches.
- Another frequently used medication to treat the red patches is topical calcineurin inhibitors (TCI).
- There are only two different TCI available, tacrolimus ointment and pimecrolimus cream.
- It is important to treat the red patches with TCS or TCI, as it is the best way to reduce itch and scratching, which drives the disease process further.
- Antihistamines rarely help the itch in AD, unless they have sedating properties.
- Treating the red patches contributes to reinforcing your skin barrier.

- TCS and TCI must be applied until the itch is gone, the red patches disappear and the skin becomes smooth again. It is very important to not stop TCS or TCI too early to avoid rapid rebound. A gradual tapering in frequency approach may be best and flare prevention treatment 2-3 times per week during maintenance phase is sometimes used.
- Another important thing to bear in mind is to start TCS or TCI as soon as the red patches appear. This is when the skin turns into pink and becomes slightly rough. Do not wait for a severe flare-up before starting. If you wait too long before starting the treatment, it will be much more difficult to treat the flare-up.
- Sometimes your doctor will prescribe wet bandages on top of topical steroid applications (see wet wrapping tutorial) in order to boost the efficiency of the treatment.

What are general recommendations for skin care in atopic dermatitis?

- Use gentle non perfumed washing products (synthetic detergents) and not soap.
- Avoid prolonged hot baths, prefer short lukewarm baths (5-10 minutes) or showers.
- There is no clear recommendation regarding the frequency of baths or showers. Every-other-day or even every day seems to be fine.
- Use an emollient after bathing or showering directly after gently patting the skin dry. The skin can still be a little wet as you apply the emollient.
- Using an emollient regularly is the best way to reinforce your skin barrier. It can be applied either in the evening or in the morning, especially when combined with an anti-inflammatory treatment with TCS or TCI (see below).
- When combined to an anti-inflammatory treatment, emollients should be applied after the anti-inflammatory application.
- The emollient should be as allergen free as possible. You can use either an ointment (greasier) or cream (lighter), depending on your or your child's preference, degree of skin dryness and the season.
- Sometimes using emollients on very inflamed skin may cause burning sensations. This should not be interpreted as an allergy to emollients components. Sometimes your doctor will tell you to stop emollients during acute flare-ups for a few days.

Are topical steroids dangerous?

Topical steroids are generally very effective and safe, but people with AD frequently have fears about using them. Topical steroids must be differentiated from oral steroids (steroids that are taken in the form of a tablet or syrup). Topical steroids are much safer than oral steroids, as they are applied directly on the inflamed skin without affecting the entire body. Side effects are very rare when topical steroids are used in acute AD as prescribed by your doctor. Besides they may be useful for maintenance treatment to prevent flares. However, if you are an adult or an adolescent with AD, you should be aware of two particular situations to avoid side effects:

- Potent topical steroids should not be applied every day on the face for more than one month, because it may induce skin fragility and redness. Intermittent use, for instance application of the topical steroids every other day or 2 times a week will reduce the risk of side effects.

- Applying topical steroids on the inside of the thighs and breast (in females) for longer periods of time may induce stretch marks particularly in adolescents. Similarly, pregnant women with AD should be cautious when applying steroids on the abdomen to avoid stretch marks.

What are topical calcineurin inhibitors (TCI) for atopic dermatitis?

Maybe your doctor prescribed you Pimecrolimus or Tacrolimus. These are steroid-free topical treatments called 'topical calcineurin inhibitors'. They are not more efficient than topical steroids but may be useful if you have chronic AD, especially on the face or eyelids. They may also be useful on other body localization during maintenance phase to prevent flare-ups. Both Tacrolimus and Pimecrolimus are safe to use in children and adults. There is no evidence that topical calcineurin inhibitors may cause cancer. These products do not cause stretch marks, but may cause a stinging sensation, especially at the beginning of treatment.

How about skin infections?

If you have AD, you may have had one or several skin infection episodes.

- The skin barrier is fragile in AD sufferers and some microbes such as the bacterium *staphylococcus aureus* are numerous at the surface of the skin, even in uninflamed skin. Skin infections due to s. aureus may cause painful yellow crusts on the skin and make your AD worse. This type of infection may need treatment with antibiotics prescribed by your doctor, but can often be solved with increased use of steroid creams. Diluted bleach baths, or other disinfectants, can also be helpful here. Consult your doctor to learn which possibilities are available to you.
- People with AD may also experience episodes of skin infection with a virus such as herpes. Therefore, family and friends with a known or suspected history of herpes virus (e.g. cold sores) should avoid contact with AD sufferers when they are having an active outbreak of herpes.

When and how should atopic dermatitis be treated with systemic drugs?

Most AD patients can be treated well with a combination of emollients and topical anti-inflammatory creams. Severe AD may need systemic drugs for disease control. These drugs may be given by mouth as pills or subcutaneously as injections. Oral steroids have some risk and little benefit and should mostly be avoided. Cyclosporin A is a fast acting, immunosuppressive drug licensed in many European countries. Methotrexate, Azathioprine and Mycophenolate are slower acting immunosuppressive drugs, which are sometimes used by experienced specialists. Dupilumab is a new biological drug licensed in the EU only recently. It targets only that part of the immune system, which is overactive in AD patients. Systemic treatment of AD should be given by experienced specialists only.

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