

MEDfacts

An Educational Health Series From National Jewish Health®



Atopic Dermatitis (Atopic Eczema)

What is Atopic Dermatitis?

Atopic dermatitis (AD) is a common chronic skin disease that also is called atopic eczema. The onset of AD is usually during the first five years of life. Atopic is a term used to describe allergic conditions such as asthma, hay fever and AD. Both dermatitis and eczema mean inflammation of the skin.

People with AD tend to have dry, itchy and easily irritated skin. This can continue for years and may result in damage to the skin, especially when it is scratched.

What Causes Itching and Rash?

The exact cause of AD is not known. Research has shown that a person is more likely to have AD if parents or other family members have ever had AD, hay fever, asthma, or food allergies.

In the past few years, mutations in the gene for filaggrin protein which is important in building a healthy skin barrier have been described in some patients with atopic dermatitis. These patients appear to have atopic dermatitis that is earlier in onset, more severe and persistent and associated with asthma and allergic sensitization.

There are many things that worsen the itching and rash of AD. These are different for each person. It's important to work closely with your health care provider to try to figure out what makes **your** itching and rash worse.

The Itch-Scratch Cycle

Scratching or rubbing the skin can make the itch and rash of AD worse. Scratching causes further irritation, injures the skin, and increases inflammation. This is called the itch-scratch cycle.

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Irritants

Almost anything can be irritating to the skin when the rash of AD is present. Chemicals, solvents, soaps, detergents, fragrances, some ingredients in skin care products, some fabrics, and smoke are irritants you may need to avoid.

Actions you can take:

- Wash all new clothes before wearing. Formaldehyde and other irritating chemicals are present in new clothing.
- Wear cotton or cotton-blend clothing that may be less irritating than other fabrics. Remove labels if they bother you. If seams cause itching, try wearing clothes inside-out while at home. Avoid wool and irritating fabrics.
- Use fragrance-free, dye-free liquid detergent, if laundry detergent is irritating to you. A second rinsing may help remove residual laundry detergent.
- Avoid sunburn. Use a sunscreen with SPF 15 or higher. If your sunscreen is irritating, try different products or sunscreens made for the face. Sunscreens that have been tolerated by people with atopic dermatitis include:
 - Eucerin facial sunscreen SPF 30
 - Vanicream SPF 35 or 60
 - Neutrogena® Sunblock SPF 30
- Shower or bathe after swimming or using a hot tub. Use a mild cleanser for sensitive skin to remove chemicals and apply moisturizer.

Allergies

If you have a reaction to something you touch, breathe or eat you might have an allergy. Allergies can cause or worsen AD symptoms. Your health care provider may recommend prick or patch skin testing, blood tests, or food challenges to see if allergies are causing itching or rash. Allergens that worsen AD include foods, dust mites, furry animals, allergens in the air, as well as, certain chemicals.

Actions you can take:

- An important step in controlling allergy symptoms is to avoid things to which you are allergic.
- Although many of the measures can be done for the entire home, the bedroom is the most important room to make skin friendly. Talk with your healthcare provider about what measures you can take to avoid your allergens.

Temperature and Humidity

Cold weather, heat and sweating may make AD worse. Extremes of temperature and humidity can be a problem for people with AD. Sweating caused by overheating and high humidity can irritate the skin. Low humidity causes water to be lost from the skin. This can lead to dryness and skin irritation.

Actions you can take:

- Try to keep your surroundings at a comfortable temperature and humidity.
- Wear loose fitting, open-weave clothing during hot weather and exercise.

Infections

Bacterial and viral skin infections occur more frequently than normal for people with AD.

Bacteria are often present in higher than normal numbers on their skin. In addition, skin that has been scratched or has a rash is more easily infected. Signs of infection may include:

- Increased redness
- Pus-filled bumps or oozing
- Cold sores or fever blisters

Actions you can take:

- Call your healthcare provider right away if you have any signs of infection.
- Follow your healthcare provider's action plan to treat the infection.

Dry Skin

Dry skin makes the itching and rash of AD worse. Wind, low humidity, some skin care products, and washing or bathing without proper moisturizing can cause dry skin. The most important treatment for dry skin is to put water back into it.

Actions you can take:

- The best way to get water into your skin is to **soak** in a bath.
- Gently pat the skin dry and immediately apply a layer of moisturizer to **seal** the water in your skin. "Soak and seal" daily helps to prevent and treat dry skin.

Emotions and Stress

Emotions and stress do not cause AD, but they may bring on itching and scratching. Anger, frustration and embarrassment can cause flushing and itching. Day to day stresses as well as major stressful events can lead to or worsen the itch-scratch-itch.

Actions you can take:

- Learn as much as you can about your disease and how to manage it.
- Allow family members and friends to be supportive.
- Learn coping and relaxation skills.
- Ask your healthcare provider if you need help dealing with emotions and stress.

What Medicines Will Help?

Medicines are added to your daily skin care when itching and rash are not well controlled. Medicines also are required if there is an infection present.

Topical steroids: Steroid medicines that are applied to the skin are called *topical* steroids. Topical steroids are drugs that fight inflammation. They are very helpful when rash is not well controlled. Topical steroids are available in many forms such as ointments, creams, lotions, gels and even tape. It is important to know that topical steroids are made in low to super potent strengths. Do not substitute one topical steroid for another without your healthcare provider's advice. Used correctly, topical steroids are safe and effective. Steroid pills or liquids, such as prednisone, should be avoided because of side effects and because the rash often comes back after they are stopped.

Non-Steroid Medical Devices ("Barrier Repair Creams"): Several topical products that are not FDA regulated, but require prescriptions since they are registered as medical devices, have been developed for itchy rashes. These include Epiceram[®],

Atopiclair[®], MimyX[®].

Topical Calcineurin Inhibitors (TCIs): TCIs are also medicines that are applied to the skin. They also treat inflammation, but are not steroids. TCIs don't cause steroid side effects. A common side effect of TCIs is skin burning. This is often not a long-lasting problem. TCIs include Protopic[®] ointment (tacrolimus) and Elidel[®] cream (pimecrolimus).

Antiinfectives: Skin infections caused by bacteria (e.g. impetigo), fungus (e.g. athlete's foot) and viruses (e.g. cold sores) can complicate atopic dermatitis. Some antibiotics, antifungal and antiviral medications are applied to the skin; others are pills or liquids taken by mouth. A skin infection can quickly get out of control. Call your healthcare provider right away if you think you have an infection.

Antihistamines: Antihistamines taken by mouth are used to control allergy symptoms and can help reduce itching. Some antihistamines cause drowsiness. This can make you feel less itchy and help you sleep. Creams and lotions that contain antihistamines or anesthetics (for numbing) should be avoided. They can cause skin irritation and allergic skin reactions.

Tar-based soaps and shampoos: Skin and scalp products that contain coal-tar extracts have long been used to reduce itching and rash. They are not as strong as some other medicines, but they have long-lasting action against inflammation and have few side effects. Tar-based shampoos are helpful if the scalp is red and itchy. One popular brand is T-Gel.

New Treatments

Studies at National Jewish Health focus both on understanding the disease process, why patients with AD get more infections and looking at new treatments. If you are interested in receiving more information about clinical trials in atopic dermatitis, please contact us at 1-303-398-1549 or 1-303-398-1409.

How Can National Jewish Health Help?

AD can be very difficult to live with. Each person with AD deserves to learn what makes their symptoms worse, how to avoid them, and how to best treat them. This is different for each person. National Jewish Health is one of the leading institutions in the United States for treatment and research of AD. Patients treated at National Jewish Health benefit from our interactive, multi-disciplinary, team approach. Our philosophy of care for patients is for comprehensive evaluation and treatment which fits the needs and goals of the patient. At National Jewish Health, we provide single day consultations, multi-day outpatient visits or inpatient care for more extensive testing and treatment. If you have questions, please contact the National Jewish **LUNG LINE[®]**, at 1-800-222-LUNG.

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