

# Understanding Atopic Dermatitis



An educational health series from



**National Jewish  
Health**<sup>®</sup>

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# Understanding Atopic Dermatitis

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Note: This information is provided to you as an educational service of National Jewish Health. It is not meant as a substitute for your own doctor.

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## About Atopic Dermatitis

Atopic dermatitis is a common chronic skin disease. It is also called atopic eczema. Atopic is a term used to describe allergic conditions such as asthma and hay fever. Both dermatitis and eczema mean inflammation of the skin.

People with atopic dermatitis tend to have dry, itchy and easily irritated skin. They may have times when their skin is clear and other times when they have rash.

### INFANTS AND SMALL CHILDREN

In infants and small children, the rash is often present on face, as well as skin around the knees and elbows.

### TEENAGERS AND ADULTS

In teenagers and adults, the rash is often present in the creases of the wrists, elbows, knees or ankles, and on the face or neck.

The rash can occur in the creases of the arms and legs at any age.

Atopic dermatitis usually begins and ends during childhood, but some people continue to have the disease into adulthood. If you ever had atopic dermatitis, you may have trouble with one or more of these:

- Dry, sensitive skin
- Skin infections
- Hand dermatitis

### What Causes Atopic Dermatitis?

The exact cause of atopic dermatitis is unknown. Research suggests that atopic dermatitis and other atopic diseases are genetically determined. This means that you are more likely to have atopic dermatitis, food allergies, asthma and/or hayfever if your parents or other family members have ever had atopic dermatitis.

These diseases may develop one after another over a period of years. This is called the “atopic march”. Recognizing that a person with atopic dermatitis is at a higher risk of developing one of these diseases is important for parents, patients and health care providers. Knowing that a child with a slight wheeze has had a history of atopic dermatitis, for example makes it easier to diagnose the subtle onset of asthma.

There are many things that make the itching and rash of atopic dermatitis worse. When you learn more about atopic dermatitis and how to avoid things that make it worse, you may be able to lead a healthier life.



An allergist or dermatologist can provide expert evaluation.

### Do You Have Atopic Dermatitis?

**Put a check mark (✓) in the box if the answer to the question is yes.**

- Do you have dry skin with a red or scaly rash?
- Do you itch or have rash in the creases of your wrists, elbows or knees?
- Do you notice thick skin where there has been a past rash?

If you answer yes to any of these questions, talk with your health care provider about atopic dermatitis. You will be asked questions about your health and your skin. Be sure to tell your health care provider if you or anyone in your family has had a similar rash, asthma or allergies.

## Should You Go to an Expert?

You may choose to visit a doctor who is an expert in atopic dermatitis. These doctors are called allergists or dermatologists.

Any one of the following is a good reason to see an expert:

- Your itching, dry skin or rash is getting worse
- You think your rash is worse after eating certain foods
- You think your rash is worse after being around things in the environment
- You are on medicine for your skin much of the time
- You have frequent skin infections
- You are unable to participate in daily activities
- Your regular health care provider refers you to an expert for evaluation

## What Are Your Goals?

You can lead an active life with atopic dermatitis. You should be able to:

- Participate in family, social, school and/or work activities
- Have little or no rash
- Have very few or no side effects from medicines
- Feel good about your appearance and about your skin care
- Have restful sleep

**You may have other goals. If you do, list them below:**

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This book explains how you can reach your goals. You will learn more about:

- Things that cause or worsen itching and rash
- Daily “Soak and Seal” skin care
- Medicines
- An action plan for atopic dermatitis



## Avoiding Things that Make Itching and Rash Worse

Almost everyone with atopic dermatitis has had itchy skin at some time. It is not known why skin feels itchy. What is known is that scratching or rubbing leads to even itchier skin. This is called the itch-scratch cycle. Scratching and rubbing irritates the skin and can cause or worsen the rash. Over time, scratching and rubbing may cause thickening of the skin.

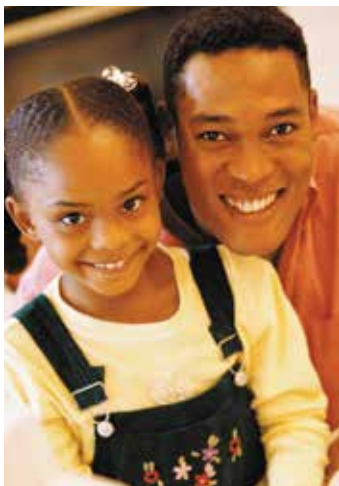
### ACTIONS YOU CAN TAKE

- Keep fingernails very short, smooth and clean to prevent damage from scratching.
- Apply moisturizer when you feel itchy, instead of scratching or rubbing.
- Use medicines prescribed by your health care provider.
- Keep hands busy.

Many things can make the itch and rash of atopic dermatitis worse. These are different for each person. Ask your health care provider about what makes your itching or rash worse. Irritants, extremes of temperature and humidity, allergies, emotions and stress can worsen itching and rash. Infections and extremely dry skin also can be a problem.

### Irritants and Allergens

Things that cause burning, itching or redness are called irritants or allergens. Chemicals, solvents, soaps, detergents, fragrances, ingredients in skin care products, some fabrics and smoke are things you may need to avoid. Your health care provider may recommend special patch testing to see if products you use or are exposed to may be causing an allergic skin reaction.



What is known is that scratching or rubbing leads to even itchier skin. This is called the itch-scratch cycle.

#### 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. Common sunscreens include:
  - Eucerin facial sunscreen SPF 30
  - Vanicream SPF 50 or 60
  - Neutrogena® Sunblock SPF 30
- If your sunscreen is irritating, try different products or sunscreens made for the face.
- Shower or bathe after swimming or using a hot tub. Use a mild cleanser to remove chemicals and apply moisturizer.

### Temperature and Humidity

Extremes of temperature and humidity can be a problem for people with atopic dermatitis. 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.



### Allergies

If you have a reaction to something you touch, breathe or eat, you might have an allergy. Allergies can trigger or worsen your atopic dermatitis symptoms. Common causes of allergy are:

- Dust mites
- Furry and feathered animals
- Cockroaches
- Pollens
- Molds
- Foods
- Chemicals

Your health care provider may recommend allergy testing and food challenges to see if allergies worsen itching or rash.

Allergy testing may include skin testing, blood tests or patch tests. Many measures can be taken 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 health care provider about what measures you can take to avoid your allergens.

### Food Allergies

Food allergies may be the cause of itching or rash that occurs immediately after eating, especially in children. Some common food allergens include milk, eggs, peanuts, wheat, nuts, soy and seafood. A positive allergy skin or blood test is a measure of allergic sensitization. It does not necessarily prove a person will have clinical symptoms. A thorough history and possible food challenges can assess clinical symptoms. Be aware that diet restrictions can lead to poor nutrition and growth delay in babies and children. Talk with your health care provider about maintaining a well-balanced diet.

### Emotions and Stress

Emotions and stress do not cause atopic dermatitis, 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 cycle.



The bedroom is the most important room to make skin friendly.

### 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 health care provider if you need help dealing with emotions and stress.

### Infections

Skin infections are often a problem for people with atopic dermatitis. Infectious organisms (bacteria, viruses, fungi) are often present in higher than normal numbers on the skin. Skin that has been scratched or has a rash is more easily infected. Signs of skin infection include:

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

### ACTIONS YOU CAN TAKE

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



## Treatment and Medication Therapy

### Soak and Seal

Dry skin makes the itching and rash of atopic dermatitis worse. Wind, low humidity, soaps, 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 in it. The best way to get water into your skin is to soak in a bath or shower. Gently pat dry, leaving skin a bit damp. Apply a thick layer of moisturizer right away to seal the water in your skin.

#### Take Action with Daily “Soak and Seal” Skin Care

- Soak in the bathtub or shower each day. Use warm water and stay in for 10-15 minutes so that your skin absorbs a lot of water.
- Use a gentle skin cleanser and avoid scrubbing.
- Gently pat excess water away and immediately apply the recommended medicine or moisturizer to damp skin. Attempt to do this within 3 minutes. This seals in the water. (If you are applying skin medicine, do not apply moisturizer over it.)



Soaking in a bath or shower and then immediately applying a thick layer of moisturizer is the most important treatment for dry skin.

### MOISTURIZERS

Ask your health care provider to recommend a skin cleanser and moisturizer. During the day, apply more moisturizer whenever your skin feels dry or itchy. You can save money by asking your pharmacist to order the largest container of moisturizer available.

A skin cleanser is a bar or liquid used to clean the skin. Try products labeled for use with “sensitive skin.” Gentle cleansers include: Dove,<sup>®</sup> Oil of Olay,<sup>®</sup> Basis,<sup>®</sup> Oilatum,<sup>®</sup> Eucerin,<sup>®</sup> Aveeno,<sup>®</sup> and Neutrogena.<sup>®</sup>

A moisturizer is a skin care product that adds moisture to the skin. Ointments and creams are recommended instead of lotion for people with very dry skin. Products that can help add moisture include:

- Aquaphor<sup>®</sup> ointment
- Eucerin Creme<sup>®</sup>
- Vanicream<sup>®</sup>
- Cetaphil<sup>®</sup> cream

### What Medicines Will Help?

Medicines are added to your daily skin care when itching and rash are not well controlled and when there is infection.

The medications used in atopic dermatitis include:

- Topical steroids
- Topical calcineurin inhibitors
- Topical PDE4 inhibitors
- Biologics
- Antiinfectives
- Antihistamines
- Barrier repair creams

### 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 and gels. 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 health care



## Treatment and Medication Therapy

provider's advice. Used correctly, topical steroids are safe and effective. Steroid pills or liquids, like prednisone, should be avoided because of side effects and because the rash often comes back after they are stopped.

### TOPICAL CALCINEURIN INHIBITORS (TCIS)

Topical Calcineurin Inhibitors (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.

Common Topical Calcineurin Inhibitors (TCIs) include:

- Protopic® ointment (tacrolimus)
- Elidel® cream (pimecrolimus)

### TOPICAL PDE4 INHIBITORS

A topical phosphodiesterase 4 inhibitor (PDE4) is a medicine that is applied to the skin to treat inflammation, but is not a steroid. This is approved for children 2 years and older with mild to moderate AD.

A common PDE4 inhibitor is:

- Eucrisa® (crisaborole) ointment

### BIOLOGICS

This biologic is a medicine that is given as a routine shot.

This is approved for adults with moderate to severe AD.

A common biologic is:

- Dupixent® (dupilumab)

### TAR PRODUCTS

Skin and scalp products that contain coal tar extracts have been used to reduce itching and rash. Tar shampoos, such as T-Gel®, are often helpful for red, itchy scalp. For scalp scaling or flaking, T-Sal® or Head and Shoulders® may be helpful.

### ANTIINFECTIVES

Skin infections are caused by bacteria (impetigo), fungus (athlete's foot) and viruses (cold sores). 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 health care provider right away if you think you have an infection.



Daily "Soak and Seal" skin care must continue during topical treatment. After soaking, apply the topical medicine to your rash and your usual moisturizer to the rest of your skin.

### ANTIHISTAMINES

Antihistamines taken by mouth can help reduce itching. They are also used to control allergy symptoms. 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.

### 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<sup>®</sup>, Atopiclair<sup>®</sup>, MimyX<sup>®</sup>.



## Action Plan for Atopic Dermatitis

### Action Plan for Atopic Dermatitis

An action plan will help you control your atopic dermatitis. It will help you know what to do if your skin is dry, itchy or has a rash. Your health care provider can help you develop your atopic dermatitis action plan.

Here are some important things to include in your atopic dermatitis action plan:

- What to do if daily “Soak and Seal” skin care isn’t enough
- What to do if you feel like scratching
- When to start, stop, increase or decrease your medicine
- What to do if you notice signs of infection
- When to call your health care provider

Make sure you understand how to use your action plan. Talk with your health care provider if you have any questions. Be prepared, know what to look for and what to do. Be sure to have a supply of the skin care products and medicines you need.

### What to Do When Symptoms Are Severe

If your skin is becoming more dry, itchy or your rash is worsening, call your health care provider for advice. You may be told to increase your daily “Soak and Seal” skin care to two to three times a day. Your health care provider may also start or change medicines.

When your rash is very severe, your health care provider may recommend wet wraps. Wet wraps are dressings, such as gauze or articles of clothing that are soaked in water and then applied to the skin after soaking and sealing. Wet cotton gloves can be applied over the hands. They help keep the skin moist, increase absorption of topical medicines and have a cooling effect. The wet wraps should be re-wet or taken off when they start to dry out.

A hospital stay at a specialty center like National Jewish Health can be helpful for people whose rashes are not well controlled. Children, adolescents and adults spend their days in a hospital and go home or to a hotel at night. This can help get treatment back on track in several ways.

First, it removes you from allergens in your home or environment. It also allows you to be seen by a team of physicians, nurses and other providers who specialize in atopic dermatitis. Team members assist you in self-care techniques to manage your atopic dermatitis. Antibiotics may be given to fight secondary skin infections, if present. During the hospital stay testing and challenges are often done to identify irritants and allergens that worsen your atopic dermatitis. Most people’s atopic dermatitis improves during the hospital stay so they are able to avoid using more aggressive treatments at home.



When your rash is very severe, your health care provider may recommend wet wraps.



### Living with Atopic Dermatitis

People with atopic dermatitis may struggle with a poor self-image and low self-esteem. In severe cases, the appearance of their skin can invite teasing and, especially in children, interfere with peer relationships. The sleep disturbances that may occur with atopic dermatitis can put added stress on the family. People with atopic dermatitis who are having a lot of stress may benefit from psychological counseling or even from taking anti-anxiety medication. Relaxation therapy and biofeedback also can be helpful for people who are finding it hard to control their scratching.

Be sure to talk with your health care provider if you have questions about the information in this booklet. Your health care provider is your partner in your atopic dermatitis care.

### Remember Your Goals

You should be able to:

- Participate in family, social, school and/or work activities
- Have little or no rash
- Have very few or no side effects from medicines
- Feel good about your appearance and about your skin care
- Have restful sleep

Sometimes having atopic dermatitis can be difficult for you and your family. Talking with someone can be helpful. Your health care provider can help you find an expert to talk with.

# Glossary

**ALLERGY** A disease in which you itch or sneeze when you breathe, touch or eat certain things.

**ANTIBIOTICS** Medicines used to treat infection caused by bacteria.

**ANTIFUNGALS** Medicines used to treat infection caused by fungi.

**ANTIHISTAMINES** Medicines used to treat allergies and itching.

**ANTIINFECTIVES** Medicines that fight infection.

**ANTIVIRALS** Medicines used to treat infection caused by viruses.

**ASTHMA** A disease in which the airways of the lungs become puffy and swollen, squeezed by the muscles around them, and blocked by mucus.

**ATOPIC** Inherited disorders that cause itching, sneezing and/or wheezing.

**DERMATITIS** Skin that is red and itchy.

**ECZEMA** A term used for many different types of dermatitis.

**FOOD CHALLENGE** A test to diagnose food allergies.

**INFECTION** Disease caused by bacteria, fungi or viruses.

**INFLAMMATION** A reaction in the body that causes redness and swelling.

**IRRITANTS** Things that can cause itching and/or rash.

**MOISTURIZE** To add moisture (water).

**MOISTURIZER** A skin care product that adds moisture to the skin.

**PATCHTESTING** A test to diagnose a skin reaction called allergic contact dermatitis.

**RASH** Skin that is red, bumpy, scaly or otherwise abnormal.

**SIDE-EFFECT** An unwanted effect of a medicine.

**SKIN CLEANSER** Bars or liquids used to clean the skin.

**PRICK SKIN TEST** A test to diagnose allergies.

**STEROIDS** Medicine that controls inflammation.

**TOPICAL** Medicine applied to the skin.

**TOPICAL CALCINEURIN INHIBITORS (TCIS)** Medicine applied to the skin to treat inflammation.



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**We serve by providing the best integrated and innovative care for patients and their families; by understanding and finding cures for the diseases we research; and by educating and training the next generation of healthcare professionals to be leaders in medicine and science.**



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