

# Atopic Dermatitis

## Overview, Symptoms, & Causes

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## Overview of Atopic Dermatitis

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Atopic dermatitis, often referred to as eczema, is a chronic (long-lasting) disease that causes inflammation, redness, and irritation of the skin. It is a common condition that usually begins in childhood; however, anyone can get the disease at any age. Atopic dermatitis is *not* contagious, so it cannot be spread from person to person.

Atopic dermatitis causes the skin to become extremely itchy. Scratching leads to further redness, swelling, cracking, “weeping” clear fluid, crusting, and scaling. In most cases, there are periods of time when the disease is worse, called flares, followed by periods when the skin improves or clears up entirely, called remissions.

Researchers do not know what causes atopic dermatitis, but they do know that genes, the immune system, and the environment play a role in the disease. Depending on the severity and location of the symptoms, living with atopic dermatitis can be hard. Treatment can help control symptoms. For many people, atopic dermatitis improves by adulthood, but for some, it can be a lifelong illness.

## Who Gets Atopic Dermatitis?

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Atopic dermatitis is a common disease and usually appears during infancy and childhood. For many children, atopic dermatitis goes away before the teenage years. However, some children who develop atopic dermatitis may continue to have symptoms

as teens and adults. Occasionally, for some people, the disease first appears during adulthood.

The chance of developing atopic dermatitis is higher if there is a family history of atopic dermatitis, hay fever, or asthma. In addition, research shows that atopic dermatitis is more common in non-Hispanic black children and that women and girls tend to develop the disease slightly more often than men and boys do.

## Symptoms of Atopic Dermatitis

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The most common symptom of atopic dermatitis is itching, which can be severe. Other common symptoms include:

- Red, dry patches of skin.
- Rashes that may ooze, weep clear fluid, or bleed when scratched.
- Thickening and hardening of the skin.

The symptoms can flare in multiple areas of the body at the same time and can appear in the same locations and in new locations. The appearance and location of the rash vary depending on age; however, the rash can appear anywhere on the body. Patients with darker skin tones often experience darkening or lightening of the skin in areas of skin inflammation.

## Infants

During infancy and up to 2 years of age, it is most common for a red rash, which may ooze when scratched, to appear on the:

- Face.
- Scalp.
- Area of skin around joints that touch when the joint bends.

Some parents worry that the infant has atopic dermatitis in the diaper area; however, the condition rarely appears in this area.

## Childhood

During childhood, usually 2 years of age to puberty, it is most common for a red thickened rash, which may ooze or bleed when scratched, to appear on the:

- Elbows and knees, usually in the bend.
- Neck.
- Ankles.

## Teens and Adults

During the teenage and adult years, it is most common for a red to dark brown scaly rash, which may bleed and crust when scratched, to appear on the:

- Hands.
- Neck.
- Elbows and knees, usually in the bend.
- Skin around the eyes.
- Ankles and feet.

Other common skin features of atopic dermatitis include:

- An extra fold of skin under the eye, which is known as a Dennie-Morgan fold.
- Darkening of the skin beneath the eyes.
- Extra skin creases on the palms of the hands and soles of the feet.

In addition, people with atopic dermatitis often have other conditions, such as:

- Asthma and allergies, including food allergies.
- Other skin diseases, such as [ichthyosis](#), which causes dry, thickened skin.
- Depression or anxiety.
- Sleep loss.

Researchers continue to study why having atopic dermatitis as a child can lead to the development of asthma and hay fever later in life.

Complications of atopic dermatitis can happen. They include:

- Bacterial skin infections that can worsen from scratching. These are common and may make the disease harder to control.
- Viral skin infections like warts or cold sores.
- Sleep loss that can lead to behavior issues in children.
- Hand eczema (hand dermatitis).
- Eye problems such as:
  - Conjunctivitis (pink eye), which causes swelling and redness in the inside of your eyelid and the white part of your eye.
  - Blepharitis, which causes general inflammation and redness of your eyelid.

## Causes of Atopic Dermatitis

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No one knows what causes atopic dermatitis; however, researchers know that changes in the protective layer of the skin can cause it to lose moisture. This can cause the skin to become dry, leading to damage and inflammation in the skin. New research suggests that inflammation directly triggers sensations of itch which in turn cause the patient to scratch. This leads to further damage of the skin as well as increased risk for infection with bacteria.

Researchers do know that the following may contribute to the changes in the skin barrier, which helps control moisture:

- Changes (mutations) in genes.
- Problems with the immune system.
- Exposure to certain things in the environment.

## Genetics

The chance of developing atopic dermatitis is higher if there is a family history of the disease, which suggests that genetics may play a role in the cause. Recently, researchers found changes to genes that control a specific protein and help our bodies maintain a healthy layer of skin. Without the normal levels of this protein, the skin barrier changes, allowing moisture to escape and exposing the skin immune system to the environment, leading to atopic dermatitis.

Researchers continue to study genes to better understand how different mutations cause atopic dermatitis.

## Immune System

The immune system normally helps to fight off illness, bacteria, and viruses in your body. Sometimes, the immune system becomes confused and overactive, which can create inflammation in the skin, leading to atopic dermatitis.

## Environment

Environmental factors may trigger the immune system to change the protective barrier of the skin allowing more moisture to escape, which can lead to the atopic dermatitis. These factors may include:

- Exposure to tobacco smoke.
- Certain types of air pollutants.
- Fragrances and other compounds found in skin products and soaps.
- Excessively dry skin.