



The Skin - Cut Away View

### Atopic dermatitis (Eczema)

Atopic dermatitis is a chronic inflammatory condition involving the skin. As part of the atopic spectrum, it is related to asthma and allergic rhinitis. It has its onset under one year of age although it may occur for the first time at any age. During infancy it predominantly affects the face, and outer aspects of upper and lower extremities. As the child gets older and in adults, it affects the inner aspects of the extremities. Usually the atopic dermatitis gets better when the child reaches the age of 3 or 4. But sometimes it can persist into adulthood. Onset of atopic dermatitis after the age of 40 is unusual, and should alert one to the possibility of other causes. Hand dermatitis may be a sign of atopic dermatitis in older patients. In patients with chronic disease, the skin gets thickened, fissured or cracked and gets hypo- or hyperpigmented. Such patients are also more prone to developing increased creases in their hands and feet, cataracts and a condition known as keratoconus, where the cornea gets elongated and out of shape resulting in visual difficulties. The disease has a tendency to remit and relapse. Many children with atopic dermatitis develop allergic rhinitis. Some of these children go on to develop asthma as well. Generally speaking atopic dermatitis tends to run in families where other close relatives also have atopic dermatitis. Sometimes the disease is mild and such history may not be available. Atopic dermatitis is also known colloquially as eczema.

Dryness and itching of the skin are the two predominant signs of atopic dermatitis. In people with atopic dermatitis, the skin is unable to retain water. Therefore the skin tends to get dry easily. This results in itching and scratching. This causes inflammation of the skin and appearance of rash. Sometimes scratching could introduce secondary skin infection that aggravates the inflammation more. Dryness and scratching of the skin could lead to development of cracks and fissures in the skin through which the bacteria gain access inside. The bacteria make toxins which contribute to further inflammation of the skin. About 10% of normal people have bacteria called *Staphylococcus aureus* colonizing their skin surface. However about 90% of patients with atopic dermatitis have colonization with *Staphylococcus aureus* on their skin. Some of them also carry the bacteria in the nose. In small children who pick their nose and have dirty and long fingernails, the bacteria get spread from the nose to rest of the skin while scratching. Also from time to time the amount of bacteria on the skin of people with atopic dermatitis increases significantly and during this time, the skin inflammation increases significantly. Patients with atopic dermatitis also tend to get other kinds of infections on their skin more commonly such as viral infections [warts and molluscum contagiosum], and yeast and fungal infections. The reasons for this are not clear but could be related to lower immunity in the skin in fighting these infections. Rarely patients with atopic dermatitis who also develop cold sores from herpes simplex viruses, could develop a generalized and a serious dissemination of herpes infection in their skin and this is called eczema herpeticum. This needs immediate medical attention.

Scratching, secondary bacterial, fungal and viral skin infections, cold and dry weather and hot and humid weather, irritants, contact allergens or inhaled allergens such as pollens, dust, dust mite and animal dander, certain foods [citrus fruits, tomato], and certain sensitizing chemicals can aggravate the atopic dermatitis. These factors should be considered and eliminated following each exacerbation of AD. In up to 1/3 of patients with atopic dermatitis, food allergy can be a trigger. Strict elimination of suspected foods may be tried for 14 days to see if it improves the condition. Time interval between ingestion of a suspect food and exacerbation of atopic dermatitis can vary [from few hours to several days] and it can be difficult to establish the link. A retroactive food-symptom diary may be helpful in this regard.

The patient with atopic dermatitis should use mild soaps (Dove, Cetaphil, Neutrogena or Aveeno) to bathe, use liquid detergents (Tide Free, All Free and Clear) to wash clothes and sheets, avoid using Clorox, Bleach, Downey or Bounce, double rinse clothes and sheets, avoid use of bubble bath and woolen clothes, liberally apply emollients (Crisco shortening, Eucerin, Lubriderm, Plain Vaseline without Alovera) all over the body several times a day, use 100 percent cotton clothes and try to stay in cool environments and minimize sweating as much as possible. Trimming of fingernails and wearing mittens at night may also be considered. Usually AD tends to flare up during winter and/ or summer and above measures should be intensified during this time. Of all the measures outlined above, liberal application of emollients over affected areas several times during the day is the most important step in the treatment of atopic dermatitis and this can never be overemphasized. For detailed and skin care instructions, please refer to the GENERAL SKIN CARE information sheet.