



Atopic Dermatitis

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Perhaps better known to families as eczema, this chronic skin disorder afflicts infants and young children more than older children and adults. The condition is characterized by rough, dry, and itchy skin. In infants, it tends to affect widespread areas of skin, sparing the face & scalp, diaper area, palms & soles, and skin that is difficult to reach for scratching. As infants age, the pattern of involved skin becomes more like that of older children and adults, affecting the skin of the neck and the flexural folds at the elbows and knees. The degree of involvement waxes and wanes by the day or week in nearly all patients. Over the long haul, despite the recurrent exacerbations of skin involvement, the majority of patients will experience gradual resolution of most skin symptoms both in terms of severity and frequency. Properly cared for in early life, most patients can look forward to a lifetime with mild to minimal symptoms for the remainder of life beyond early childhood. The principal problem that leads to symptoms is xerosis or skin that is dry due to excess water loss through the skin. The xerosis creates inflammation and thereby generates itchy skin. The scratching of the itchy skin worsens the water loss and inflammation so that once established, a cycle of itching and scratching tends to perpetuate the disorder.

Atopic skin (eczema) is prone to secondary problems. These problems include warts and a "wart-like" condition called molluscum contagiosum. These two problems are almost exclusively limited to the dry skin world of atopic dermatitis. Staph and strep infections of the skin, though they can affect healthy skin, certainly have a predilection for the damaged skin of eczema. Warts and molluscum receive lots of parental attention and a fair amount of medical intervention that is of limited effectiveness. Though that sounds discouraging, there is hidden good news in the knowledge that given time and patient observation almost all molluscum and nearly as many warts will resolve spontaneously. As the patient ages, the health of the skin improves, and the immune system becomes less tolerant of these skin infections. Because this skin condition is immune modulated, almost any illness that provokes an immunological response can exacerbate the waxing and waning pattern of atopic dermatitis. The inciting illness need not be of a dermatologic nature to exacerbate the skin. The often invoked analogy is that the skin is "collateral damage" from the immune system responding to any number of other immunological response-provoking illnesses or conditions. So a



viral respiratory illness acquired in daycare can exacerbate the skin. Given the recurrence probability of viral respiratory illness in daycare, atopic dermatitis can be quite frustrating for the daycare child and parent.

Although atopic dermatitis can be a solitary condition for a patient, it often is part of a more global problem with atopic or allergic sensitivity. Part of the "allergic triad", atopic dermatitis is often paired with allergic rhinitis ("hay fever") and asthma. So if you have a child with atopic dermatitis, who has chronic and recurrent nasal itching, sneezing, clear runny nose and nasal obstruction, think about an evaluation for allergic rhinitis. If that same child has a recurrent problem with coughing, think about asthma. The atopic triad has a fourth component in some patients that includes food allergy. Atopic dermatitis can be exacerbated by food antigens. However, it is primarily a disorder of the skin and the patients with a "food trigger" represent a minority. In patients with involvement of other parts of the atopic triad and recalcitrant symptoms, looking for food antigen sensitivity can be reasonable. This investigation is not a recommended modality of care for all patients.

Improving symptoms hinges on replacing lost skin moisture and controlling inflammation with the associated need to scratch at itchy skin, and limiting triggers that incite that cycle. Moisture care starts with bathing. Debate surrounds bathing with advice on both sides of the bathe and don't bathe divide. Personally, I'd bathe or actually shower (shorter duration of water contact) when needed, even to the point of daily cleansing of the skin. Technique, more than frequency is important so there are things to do or not do if you want to help atopic skin. Don't scrub the skin. Be as gentle as you can be when cleansing. No cloths or pads should be used. Use only your hands and be gentle about it. Pick your cleanser to be the most moisture (skin oil) sparing as possible. Brands like Cetaphil, Ceravae, and Eucerin all produce quality products and these cleansers can be helpful. Be smarter about where on the body you use cleansers as even the mildest cleanser has been designed to remove body oil / moisture and they do. Shampoo the scalp, cleanse the neck, arm pits and groin / diaper area when needed and try to discipline yourself to rinse the remainder of the skin. The American fascination with cleansers head to toe can easily be abandoned in the atopic patient as they are designed to remove the body oil / moisture of the atopic patient that is already in short supply. Now for the water; cooler more tepid water will be body oil sparing. Much like very hot water makes removing oil from greasy cookware easier, so does it also remove more oil from the skin. Hot water will also exacerbate inflamed skin leading to more itching and scratching acutely, so cool it!



If step one is to stop removing skin moisture, then the logical second step is to replenish the skin moisture that is already in short supply. Emollients (moisturizers) are the bedrock of moisture replenishment therapy. There are only a few principles of care to know. Repeated application is the first principle. This is clearly an area where more is better. I often say in the diaper-aged child, every time you change a diaper and the child is partially unclothed, finish unclothing the child so you have body wide skin access and apply another layer of emollient. In the older child, if you can't feel the remnants of the last applied emollient, it's time to apply more! Scratching should be regarded as a call for emergent application of more emollient. If you see the child scratching, apply your best emollient then and often thereafter. I can't say this emphatically enough! Do it often! More is better! I've never seen an atopic dermatitis patient too moist from emollient use. By contrast, in almost all atopic patients where families claim to be compliant with emollient use, they could be more so. The time expenditure and the fact that many youngsters complain about having emollients applied make non-compliance in this labor of love a very common probability.

If you're now motivated to repeatedly apply emollients, then you should use the best available products to get the most out of your time and effort. The general rule of thumb here is that ointments (Aquaphor, petroleum jelly) work better than creams and creams work better than lotions. Put another way, the greasier the concoction you're putting on the skin, the more helpful it is likely to be. Remember the brands we discussed before (Cetaphil, Ceravae, Eucerin, and Aquaphor) because these brands produce excellent emollients as well. Keep fragrances and dyes in products to a minimum. Application of lotions and creams can be met with a complaint of "stinging and burning" from a child that could be true. In this situation, use one of the ointments (Aquaphor or petroleum jelly) at least for a few days till the inflammation of the skin that provokes the stinging complaint resolves. At that point you could then decide to return to a cream or lotion. Always remember though, ointments do better than creams and creams do better than lotions as an emollient.

Helping with itching and scratching is important as well. Less skin damage is done if the scratching is done through clothing rather than to bare skin. Keep lightweight (it's hot in Texas much of the year) cotton and breathable clothing over the involved skin. Fingernails are like claws and although we don't declaw atopic children, keeping the fingernails short and free of sharp edges will help to minimize damaging the skin and perpetuating the itch/scratch cycle. Filing nails rather than trimming nails is effective in keeping the nail edges blunt.



Oral medications are available to help with itching. Most of the time this would entail using an antihistamine. Most commonly this would include a non-sedating choice like Claritin, Zyrtec, or Allegra all of which are now available over the counter without prescription. Prescription choices are available, but the insurance company is liable to get in your business over those choices. If there is a lot of scratching at night while sleeping or disrupted sleep because of scratching, a sedating antihistamine (Benadryl or Atarax) may be recommended at bedtime when a non-sedating dose was given in the morning. Oral corticosteroids are very seldom used to control itching and inflammation in atopic dermatitis. This is sort of a Pandora's Box of therapy. Once started, they need to be stopped in a few days because of toxicity associated with chronic use. By the fifth day of oral steroids, the prescribing doctor looks like a genius because the skin is so much improved. However a couple of days after stopping the steroids, the genius has become a goat because the skin is likely worse now than ever from the rebound of inflammation once the steroid is gone. A cycle of stopping and starting and worsening due to rebound is the often eventual result. If this step is to be taken, likely a dermatologist should be involved.

Tacrolimus and pimecrolimus are immune modulators applied topically and have been shown to be helpful in the care of atopic dermatitis. Some years ago, the FDA issued a warning about the use of these products and the unlikely development of lymphoma (a form of cancer). Though most experts would agree that the warnings are an extremely conservative interpretation of flawed investigation into this association, the resultant use of both products is a small fraction of what it once was. They can be used to reduce the frequency or potency of corticosteroids applied topically. These products do have a place in the tool kit used to care for atopic dermatitis.

If you're doing all these things recommended by your doctor for your child and dermatitis spirals wildly out of control and you can't understand why, think about Staphylococcus (staph) infection. The toxins from staph are potent skin sensitizers and this should provoke an office visit for investigation.

Oral antibiotics will be needed and in some situations a weak bleach solution in the bath tub as a sitz bath may be suggested. Some physicians will use topical antibiotics in the nostrils to try to eliminate staph colonization and repeat infection. These efforts are benign, but of debatable value and of course there is associated cost.