Shedding light on ECZ
By Mark Harris

Many people perceive eczema as “just another skin condition,” annoying and uncomfortable but not that serious.¹ For many of those diagnosed with eczema, however, this is a misperception. In fact, eczema can significantly impact a person’s health and quality of life.

Eczema is an inflammatory skin condition that causes skin to become itchy, dry, red, or swollen. In many cases, blisters or crusty patches form on the skin. Individuals with eczema very often find it hard to resist scratching. This can in turn cause affected areas to bleed or ooze fluid, thus increasing the risk of secondary infection.

About 31.6 million Americans (approximately 10 percent of the population) has some form of eczema. While the term atopic dermatitis itself encompasses a broad category of related skin conditions (including contact dermatitis), atopic dermatitis is the most prevalent form of eczema. More than half of those with eczema symptoms have atopic dermatitis.²

In atopic dermatitis, a more severe form of chronic eczema, a red, itchy rash often appears on the cheeks, arms, and legs, explaining its reputation as “the itch that rashes.”³ The condition can come and go but is prone to troubling flare-ups in response to environmental triggers.

Typically, atopic dermatitis begins in early childhood, a common first indicator of allergic diseases. Although atopic dermatitis is incurable, for many children the condition will eventually diminish or disappear as they mature.⁴

The skinny on eczema
What causes the group of skin conditions known as eczema is not yet fully understood, but genetics is a component of the disease etiology. Evidence indicates that those with atopic dermatitis have a mutation of the gene responsible for making filaggrin, a protein that helps the body maintain a healthy, protective barrier on the skin’s top layer, according to the National Eczema Association. Without adequate filaggrin, the skin can become more vulnerable to dryness and infection.⁴

Moreover, the term atopic refers to a genetic tendency toward allergic disease. As such, atopic diseases involve an underlying immune system disorder. As JAMA Pediatrics explains, “The main feature is the development of a particular immunoglobulin (IgE)
Eczema

Intensive treatment program
At Michigan Medicine’s Dermatology Day Treatment Center (DTC) in Ann Arbor, patients with severe eczema and other inflammatory skin conditions benefit from an innovative alternative to both standard outpatient therapy and hospitalization. Patients receive two to four weeks of intensive topical treatments and other specialized nursing care, including patient education. This includes modified Goeckerman therapy, which involves the application of topical creams and medications, scalp treatments, and ultraviolet light therapy. Typically, treatments last six days a week for several hours a day.

“To qualify for the DTC, the patient’s condition has to be emotionally or physically disabling,” says Frank Wang, MD, the program’s medical director. “The majority of our patients have a very extensive disease, with 30 percent or more of their body surface area involved, or in very disabling locations, such as the hands or the feet. The good thing is that after a course of the modified Goeckerman therapy, [patients’ skin] can stay relatively clear, under good control, for many months afterward.”

Directed against allergens that are usually harmless. Childhood atopic disease includes atopic dermatitis, allergic rhinitis, asthma, and food allergy. As an immune system disorder, atopic dermatitis is thus basically a chronic, relapsing inflammatory skin disease.

As the most common form of eczema, atopic dermatitis is likely more widespread than many people realize. “Atopic dermatitis affects about 15 to 20 percent of children and a smaller percentage of adults,” says Bruce A. Brod, MD, clinical professor of dermatology at the University of Pennsylvania Perelman School of Medicine (Penn Medicine). “The condition involves the interplay of the immune system and the skin and is often associated with certain other conditions, like asthma and seasonal allergies. In fact, there’s evidence that links the development of asthma to the presence of atopic dermatitis early on in life. There is a pathway to asthma.”

This pathway, as Dr. Brod describes, is sometimes referred to as the atopic march (or allergic march), a reference to the natural progression of allergic diseases that can begin at a young age.

Atopic dermatitis is largely a clinical diagnosis, and primary care physicians who have some education in dermatology should be able to diagnose this condition when it presents in the classical form,” explains Dr. Brod. “But atopic dermatitis can also be confused and overlap with other similar skin conditions, like allergic contact dermatitis or irritant dermatitis from exposure to soaps and other irritating chemicals. When it doesn’t present in the classical form, other skin conditions, the differential diagnosis, should be considered.

“The diagnosis of atopic dermatitis is generally very straightforward,” adds Peter A. Lio, MD, a clinical assistant professor of dermatology and pediatrics at Northwestern University Feinberg School of Medicine in Chicago. “This can be frustrating to patients and even to clinicians who do not see it very often, but for those with enough experience, it has very characteristic attributes. Importantly, there is no ‘gold-standard test,’ nothing to say definitively that it is or isn’t, so at this point, we must rely on our clinical judgment. Generally speaking, there are widely used criteria by Dr. Jon Hanifin and Dr. Georg Rajka, the so-called Hanifin and Rajka criteria. To be [accurately] diagnosed with atopic dermatitis by this set of symptoms and signs, one only needs to have itchiness, the characteristic eczematous rash, and a chronic or relapsing pattern of disease. That alone would qualify as true atopic dermatitis, although there are many other features which can support this diagnosis, including a family history of allergic disease, early onset of the disease, and dry skin, for example.”

These fairly basic diagnostic criteria (first introduced by Hanifin and Rajka in 1980) may pose other challenges, in terms of clearly differentiating atopic dermatitis from other forms of eczema. “This can sometimes be confusing, especially for those who like to ‘split’ or refine diseases, as opposed to those who like to ‘lump’ diagnoses together,” says Dr. Lio, “because it can make it difficult to separate some of the other eczematous diseases that can fit into this schema.”

Tellingly, the diagnostic criteria may also suggest both what we know and do not know about atopic dermatitis, or eczema more generally. “The deepest truth is that, to some extent, this is all evidence that we don’t really have a deep understanding of this disease—or what I think of as truly a group of similar diseases—and that is why we cannot yet clearly define it,” observes Dr. Lio, who is also a medical acupuncturist and codirector of the Chicago Integrative Eczema Center. “Beyond that, however, the most important thing—thankfully!—is that the treatment approaches are all very similar, so that, to a certain extent, the specifics are less important than the general category at this point.”

Flesh out the facts
In addition to atopic dermatitis, several other types of eczema exist:

- **Contact dermatitis** is linked to exposure of the skin to irritating substances (e.g., solvents and detergents) or allergens (e.g., animal dander and pollen). Despite “contact” being in its name—and like all forms of eczema—eczematous conditions are noncommunicable.

- **Dyshidrotic eczema** involves small, itchy, and often deep blisters on areas of the hands and feet. Dyshidrotic eczema occurs more frequently in women than in men.

- **Nummular dermatitis** manifests as round, itchy spots on the skin. Insect bites, inflamed skin, dry skin in winter,
and other environmental influences can trigger this form of eczema.

- **Seborrheic dermatitis** is usually found on areas of the body with more oil-producing glands, such as the upper back, nose, and scalp.

- **Stasis dermatitis** is a type of eczema distinctly associated with poor circulation in the legs.

Primary care providers should refer patients with eczematous conditions to a dermatologist when “the diagnosis isn’t clear-cut on clinical grounds, when the patient is getting worse, when the patient is not responding to therapy, or when the disease is very severe, based on the symptoms for the body surface area,” states Dr. Brod, who is also codirector of the Occupational and Contact Dermatitis Program at Penn Medicine in Philadelphia. “And certainly, [a referral is appropriate] if the patient also has multiple other complicating, associated illnesses.”

Notably, some non-eczema diseases and conditions can look like atopic dermatitis but are not. In such cases, the differential diagnosis can be critical, cautions Dr. Lio. “Clinicians need to remain vigilant as they can have drastically different treatment approaches than the eczemas as a group,” he says.

What are some of these mimicking conditions? “The first would be a fungal infection, or ringworm,” says Dr. Lio. “This can make an eczematous rash, and if untreated or incorrectly treated, it can become much more widespread. Another would be a condition called cutaneous T-cell lymphoma, which represents a group of diseases that are technically lymphomas but often present with a rash that is very similar to atopic dermatitis. Another important consideration is allergic contact dermatitis to things like preservatives or fragrances, which are often found in topical soaps, cleansers, and sometimes the very products we are recommending to treat the skin problem! This is very difficult because it can be both a totally separate condition that will resolve when the allergen is removed from the environment—and this can be discovered by a technique called patch testing—but it can also simply be a secondary phenomenon that develops in addition to underlying atopic dermatitis and can act as a trigger.”

A diagnosis of atopic dermatitis can thus be relatively straightforward—or not. When it isn’t, a dermatology referral is often the best recommendation. “One can see how complex things can get here and why experience with atopic dermatitis can really help navigate through these issues,” concludes Dr. Lio.

### Rash decisions

Once a dermatology referral is made, the care and management of atopic dermatitis should proceed with attention to detail. “When a patient is first referred to us, despite how extensive their disease may be, we always start with a review of the basics of care: use of daily moisturization, use of hypoallergenic topical products, and use of very mild gentle soaps, detergents, and personal care products, trying to control itching and things of that nature,” says Frank Wang, MD, associate professor of dermatology at Michigan Medicine, which is the affiliated health system of the University of Michigan in Ann Arbor.

As valuable as proper moisturization and other self-care is to atopic dermatitis patients, it may insufficiently control the condition’s symptoms, says Dr. Wang. For this reason, dermatologists will often employ a graded treatment approach to manage the condition. The steps upon this therapeutic ladder use a variety of treatment options, including topical corticosteroids, phototherapy, and systemic prescription agents.

“We’ll often start off with the topical steroids,” says Dr. Wang, medical director of the Dermatology Day Treatment Center at Michigan Medicine. “We may use stronger topicals on certain parts of the body, like the hands, which tend to have thicker skin, … to penetrate the skin more effectively. We may also use a variety of newer anti-inflammatory topical agents that are nonsteroidal. If it’s a high-risk location involved, such as the face or genitals, for instance, we may use a calcineurin inhibitor, which is a nonsteroidal anti-inflammatory.”

If atopic dermatitis covers a large area of the body, other approaches might then be necessary, adds Dr. Wang. “Especially if it’s over more than 10 percent of the body surface area, we begin to think then about more than just topical treatments. First, we would probably think about using light therapy. This involves exposure to very specific wavelengths of ultraviolet light, which is different from the light you get if you just walk outside or go to a tanning booth. If
Phototherapy can be very effective. The light can clear out atopic dermatitis over the course of two or three months with consistent phototherapy sessions, which are usually done two to three times a week.

How does phototherapy aid in healing? “Phototherapy is basically an anti-inflammatory treatment,” explains Dr. Wang. “Specifically, it helps to target the production of inflammatory molecules by various skin cells and immune cells. In some cases, it can reduce the function and activities of those immune cells.”

For more difficult cases, the dermatology toolkit can include other options. Dr. Wang explains: “Beyond light therapy, if atopic dermatitis is more extensive or very recalcitrant, we’ll start to think about systemic agents, which traditionally have been immune suppressant–type medications, such as methotrexate [Xatmep] or mycophenolate [CellCept]. But these conventional agents potentially have a lot of side-effects, and long-term monitoring blood work is often required. They’re also not perfect medications. They can work for a good number of patients, but not for everyone.”

Help every itch way
Notably, some newer, highly promising treatment options have become available. One is the prescription medication dupilumab (Dupixent), a biologic drug for adults given as an injection for moderate to severe atopic dermatitis. About one-third of patients using dupilumab in clinical trials saw their symptoms clear or nearly clear in four months. Many more reported reduced swelling, redness, and itchy patches.

Another new medication is crisaborole (Eucrisa), a steroid-free prescription ointment. In clinical trials, crisaborole was shown to reduce skin redness and swelling in patients with mild to moderate eczema in four weeks. Crisaborole is approved for patients ages 2 and up.

While these newer medications have generated hope for the future of eczema treatment, it remains true that much of the treatment focus will continue to rely on some basic established practices. “There’s nothing necessarily cutting edge about still just doing some of the right things,” remarks Dr. Brod, “such as refraining from bathing too frequently with hot showers, limiting the use of soaps that strip oils out of the skin, and avoiding overexposure without protection to things that irritate the skin.”

Indeed, most dermatologists spend considerable time educating patients on how to identify and avoid exposure to products or substances that may trigger disease flare-ups, including fragrances, harsh cleansers, rough clothing, cold, dry air, and other environmental factors. And for good reason. Along with measures to fortify the skin barrier using frequently applied moisturizers, many patients with mild atopic dermatitis report good results with these basic measures.

“The mainstay of therapy for eczema is teaching patients how to preserve their skin barrier,” explains Dr. Brod. “Even though atopic dermatitis is an inflammatory condition, patients tend to do bet-

A holistic approach
The Chicago Integrative Eczema Center is a unique resource for patients with eczema and their families seeking a more holistic approach to care. Under the codirection of Peter A. Lio, MD, the center combines Western medical treatments, natural therapies, traditional Chinese medicine, acupuncture, and acupressure toward the goal of optimal patient care.

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understand how topical antibacterials can play a role. I am finding that—for certain patients—using a topical antibacterial cream can make a dramatic difference. Finally, if none of these are helping enough, or if we feel that the topical steroids are being used too frequently for safety, we will consider the more powerful systemic treatments, including phototherapy, dupilumab, and the older immunosuppressants, that are not [approved by the U.S. Food and Drug Administration] but still often used: methotrexate, cyclosporine [Restasis], mycophenolate, and azathioprine [Azasan].”

Body and soul
Living with atopic dermatitis can be especially challenging psychologically. Accordingly, reassurance that the condition is treatable can be critical for some patients.

“Atopic dermatitis can cause significantly diminished quality of life,” observes Dr. Brod. “This is why it’s so important for us to educate and reassure the patient about the condition. The patient needs to understand this is a treatable, chronic condition that can come and go.”

A related aspect of patient education should involve helping patients understand what is or is not contributing to their condition, adds Dr. Brod. This education includes dispelling any myths patients may have about the specific cause of their condition. “For example, the patient may think certain foods are causing their eczema,” says Dr. Brod. “Actually, this is a very uncommon cause. Atopic dermatitis is not associated with particular foods except in very rare instances. In this sense, it’s important for us to team up with the patient and work together to develop a treatment plan that will make their condition more manageable.”

Indeed, many people may not fully appreciate just how debilitating atopic dermatitis can be. A recent review and meta-analysis of 15 studies published in JAMA Dermatology found that patients with atopic dermatitis were 36 percent more likely to have attempted suicide than those without atopic dermatitis. Overall, 44 percent reported symptoms of suicidal ideation.

Undoubtedly, as the reviewers note, in terms of anxiety, depression, and chronic sleep loss, the impact of living with the disease’s chronic inflammatory state can be devastating. While not in itself physically life-threatening, even mild to moderate cases of atopic dermatitis can interfere with daily activities and self-confidence. The appearance of damaged, inflamed skin can also be quite stigmatizing for many individuals.

This is a pervasive patient concern and one that can impact even the most accomplished or otherwise confident individuals. “Feeling uncomfortable, feeling insecure, not wanting others to stare at you or think you have some sort of disease, you don’t feel confident,” acknowledges Olympic Gold Medalist Jenny Finch, a former University of Tennessee softball athlete, on the personal impact of atopic dermatitis in an American Academy of Dermatology video. “You don’t feel like you can be yourself.”

Ironically, despite the range of effective treatments available for atopic dermatitis and other types of eczema, these conditions are likely often undertreated in the population. For various reasons, many individuals may try to just cope with their condition and neglect seeking medical care.

“From being concerned about side effects to not having time to do it to financial concerns,” the possible reasons for undertreatment are many, observes Dr. Lio. Nevertheless, “all of these become our shared problem in the patient-doctor relationship because my goal is to get the person better safely—and keep them there! We need to be willing to work with individuals and their families to find out what works and what keeps them in their comfort zone in order to be effective.”

This latter point may be especially relevant where medication use is concerned, explains Dr. Lio. “I find that most of my referrals are undertreated which, paradoxically, can also mean that they are overusing steroids,” he explains. “By that I mean because the steroid is too mild, people are...
using it every day or nearly so, and I think that can lead to many issues over time. I prefer to use a synergy of treatments, often including a stronger topical steroid, for a brief time—say three to five days, a week at most—and then give the skin a total break from steroids for a bit, maybe switching to a nonsteroidal agent.

**Touch base**

As central as the physician-patient relationship is to quality care, the entire health care team—including support staff—has a vital role to play in establishing positive professional relationships with patients. The latter can be essential in ensuring that patients with eczema get the optimal care they need from their providers.

“When patients have flare-ups of their symptoms, they’re often pretty desperate when they call us,” notes Lisa Woolever, CMA (AAMA), the lead medical assistant at Fort HealthCare Dermatology in Fort Atkinson, Wisconsin. “With patients, we usually know when we need to get them in as soon as possible. For example, one patient is a businessman who travels a lot and gives presentations. If he gets a flare-up before he has to give a talk, he can look very red, almost like he’s sunburned. He’s very sensitive to these issues. Everyone in the clinic knows we have to find a way to fit him into the schedule before he travels.”

Woolever says the clinic sees quite a few eczema and atopic dermatitis patients. “Roughly three days a week, … we have about 20 patients coming for phototherapy appointments,” she says. “These might also include some psoriasis patients.”

Working with these patients, Woolever stresses that clinic staff needs to be sensitive to the patients’ perspectives. “All of our staff know that many of the patients are hurting. If their symptoms are bad, these rashes and different skin conditions can really take over their lives. I think it’s so important for all of us to treat these patients with empathy and encouragement.”

Woolever, a 10-year veteran of Fort HealthCare Dermatology, says seeing patients return, excited at their improved health and well-being is gratifying. “When they return later feeling better, it’s a wonderful feeling for us, too,” she remarks.

Indeed, ensuring that every patient with eczema avoids undertreatment, receives quality care, and gets the right treatment at the right time is a physician-led effort that requires the dedicated engagement of every member of the health care team. And at the heart of all effective patient-provider relationships is open communication.
“If there is good communication between the patient and provider, we will know if they are concerned about side effects or are unable to obtain a medication,” explains Dr. Lio. “We will know if they are actually improving or simply using more and more steroids to stay afloat. We will be able to understand the impact on life and school or work and sleep and know when it is time to get an expert involved or another opinion. As [mundane] as that sounds, it is, of course, one of the hardest things in medicine and the key to so many things!”

The encouraging news is that although a chronic condition like atopic dermatitis cannot be cured, symptoms and flare-ups can be effectively managed. Today, the field of dermatology has a range of effective treatments for all forms of eczema. For most patients, relief and hope are always in sight.

References