# eczema matters





# BIODERMA SOLUTION FOR VERY DRY, SENSITIVE SKIN WITH ECZEMA

inflammatory reaction itching ed patches Irritated Skin genetic factor Atopic Skin extreme dryness



# A PHARMACIST AND AN IDEA

BIODERMA story began in the 1970s, when Jean-Noël Thorel, a pioneer pharmacist, came up with a radically different approach to dermocosmetics, thanks to his privileged exchanges with the world's top biology and dermatology experts. He developed its first patents and established the foundations of the BIODERMA philosophy: biology at the service of dermatology.

# A UNIQUE CONCEPT, BIOLOGICAL **MIMICRY**

Based on total respect for the skin, BIODERMA products imitate its natural biological mechanisms through their components and their models of action. To formulate them, BIODERMA selects the purest active ingredients, using molecules naturally found in the skin for better tolerance. Depending on the malfunction, BIODERMA products preserve, activate or restore the skin's natural processes.



1L (33.8 FL.OZ) / \$19.90 500ML (16.7 FL.OZ) / \$24.90 HYPOALLERGENIC | PARABEN FREE | ALCOHOL FREE

# ATODERM, FOR DRY, VERY DRY AND SENSITIVE SKIN WITH ECZEMA

With its ATODERM range, BIODERMA offers a different solution for dry, very dry, irritated to inflamed sensitive skin and eczema. Thanks to its patented formulas, Atoderm provides biological and long-lasting restoration of the hydrolipid skin film in need of hydration and

The patented SKIN BARRIER THERAPY™ for sensitive, very dry, irritated to atopic skin, this patented product limits the agravation of

The LIPIGENIUM™ Complex: for very dry, irritated to atopic skin, with biolipids naturally present in the epidermis, this complex immediately physically recreates a protective film on the skin's surface and provides lasting restoration of the skin barrier.



Improves the whole family's quality of life

**-86**% **-89**% Itching Scorad

- 1. I cleanse with Atoderm Cleansing Oil
- 2. I treat with Atoderm Intensive Balm

# DERMATOLOGICAL SOLUTION FOR **ECZEMA**

ATODERM Cleansing Oil is an ultra-nourishing and anti-irritation cleanser for very dry to atopic skin. It increases the skin's resistance and reduces itchiness.

ATODERM Intensive Balm is a repairing treatment that protects dry, very dry and atopic skin from itchiness. It encourages repair of the skin barrier, reduces the urge to scratch and moisturizes immediately and for 24 hours.

For more information about BIODERMA, visit www.bioderma.us or contact us at info@bioderma.us or dispensing@us.naos.



Bioderma, a X N A O S brand MADE IN FRANCE



BIOLOGY AT THE SERVICE OF DERMATOLOGY

# eczema matters

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# **OUR MISSION**

The National Eczema Association (NEA) improves the health and quality of life for individuals with eczema through research, support and education.

**NATIONAL ECZEMA ASSOCIATION** is a national nonprofit patient advocacy organization dedicated to eczema education and research. The association was founded in 1988 in Portland, Oregon, by individuals with eczema, nurses, physicians and others concerned with the enormous social, medical and economic consequences of this disease. NEA is governed by a volunteer Board of Directors and advised on medical issues by a volunteer Scientific Advisory Committee. The association is supported by individual and corporate donations. Advertising is accepted for publication if they are relevant to people with eczema and meet certain standards.

Eczema Matters provides health information from a variety of sources, but this information does not dictate an exclusive treatment course and is not intended as medical advice. Persons with questions regarding specific symptoms or treatments should consult a professional health care provider who has the appropriate training and experience. Opinions expressed by Eczema Matters do not necessarily reflect the views of the National Eczema Association, its Board of Directors, its Scientific Advisory Committee or its contributors.



have good news and bad news. The bad news is that you or someone you care for has eczema, one of the most complicated inflammatory skin diseases to treat. That's because eczema is actually an umbrella term used to describe a variety of skin conditions that can show up on different parts of the body for different reasons at different stages of our lives.

Trying to figure out which type of eczema it is and what triggered the skin to flare-up in the first place can be maddening! In this issue's Ask a Doctor on page 11, Dr. Rupam Brar walks us through the diagnostic and treatment challenges of eczema.

The most effective way to treat eczema is to prevent it from happening. Easier said than done, right? The trick is to identify and avoid the things that trigger our eczema to flare. There's just one problem: this disease affects everyone differently. What soothes some people's eczema may cause another person's skin to erupt in a hot, itchy rash.

That's the case for Paige Goff, who says her skin "hates" aloe and coconut oil—two common over-the-counter therapies for soothing eczema flares. Goff and two allergy experts talk more in depth about tracking triggers on page 4. We also asked the eczema community via social media to share unexpected triggers in this issue's Scratch Pad on page 3.

And now for the good news. Even though we can't always prevent our skin from flaring, there are myriad treatment options on the rise. Flip to page 21 for our annual treatment roundup of available medications along with promising, new drugs making their way through the development pipeline. Doctors Katherine Shi and Peter Lio walk us through some alternative and complementary treatment options on page 18.

While scientists haven't found a cure for eczema just yet, I have all the hope in the world that they will. We're in the Golden Age of Eczema, and the future has never looked brighter!

Yours,

Julie Block President & CEO

# What are some surprising or unexpected triggers that have caused your eczema to flare?





Breastfeeding and anxiety. - taylirc

Got a bad allergic reaction one time just by cutting up garlic.
– ashleyannlora

Unbeknownst to me, my daughter had sprayed her couch with Febreze. I was babysitting and took a nap on the couch. I had such a bad reaction I ended up in the hospital for three days. – origchoccitycc

I wore latex-free gloves when I was preparing dinner. After a few minutes, my hands were burning, and my fingers were swollen with white lumps all over! – sqtnquye

My skin has a mind of its own. And just when I think I have figured it out, I am reminded that I obviously haven't.

– ccrayne

Menopause has been an unexpectedly negative force in my flares as of late. Who knew?! – tracthomaspdx

I get terrible eyelid eczema only during the winter months! I have to wear sunglasses or cover my face anytime I go outside. – quartziepoo

There are times where so many unexpected flare-ups happen, I don't even know what caused them. That's when it gets scary and my brain starts to overthink! – iharrydo

Consuming too much sugar. - valerie.21x

Strawberry seeds, pineapple, full cream cow's milk, temperature and all of the dust storms lately. - neshy\_2271

When I'm trying to make decisions! - Emma J.

Stress is the biggest factor for me and cold, dry winter weather. – Julie Z.

Everything about spring and summer are my triggers. – Andrea R.

Winter weather, artificial heat (radiators), spicy food, negative job stress and depression. – Lun L.

Spicy food is one of my triggers. - Rebecca V.

Sweaters, anxiety and overheating. - Rita B.

Anxiety, ragweed and cold weather. - Tracey S.

Stress, winter, summer, tomatoes and bananas for me. – Alma R.

Cleaning products, rubber gloves, cold weather, peeling oranges, peeling potatoes and tearing lettuce. – Carol S.

I'm from Norway, and here it is for sure the weather, but also stress, peeling vegetables, other people's perfume and sweating. – Siv B.

Dairy, Sugar and hormonal changes during PMS are my enemies. – Shelly E.

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pire.com/groups/national-eczema-association

# TIPS FOR TRACKING TRIGGERS

Because eczema triggers vary from individual to individual, recognizing and avoiding them can be challenging—but doable.

BY MARGARET W. CRANE

aige Goff has been living with atopic dermatitis (AD) since age 6. It started with itchy outbreaks in the inner crease of her elbows and behind her knees. During her teens, when she was at her most self-conscious, her eczema moved to her face—most visibly on her upper lip and the bridge of her nose.

Goffalso has two comorbidities (or related health conditions) of AD: food allergies and asthma. These conditions each come with their own set of triggers and vary from individual to individual.

The weather is a major disrupter of Goff's skin, from cold, dry air in the winter to heat and humidity in the

summer. Her eczema also tends to flare in response to irritants in personal care and household products.

"Product additives are far more plentiful today than they were in the past," said Dr. Lynda Schneider, director of the Allergy Program at Boston

Children's Hospital and professor of pediatrics at Harvard Medical School.

The sheer number of products on the market—along with what's in them—has skyrocketed. This makes it difficult for people with eczema to identify which ones might be problematic for them or for their children with the condition, she explained.

What's more, Schneider added, many of today's product ingredients are plant-based—in other words, "natural." But "plant products are anything but innocent. In fact, when you see the words 'all natural' on a product label, that's the time to double down and do your homework."

# GET INTO THE READING HABIT

Schneider encourages her patients to get into the habit of reading labels, especially before spending money on a product that might end up aggravating their eczema.

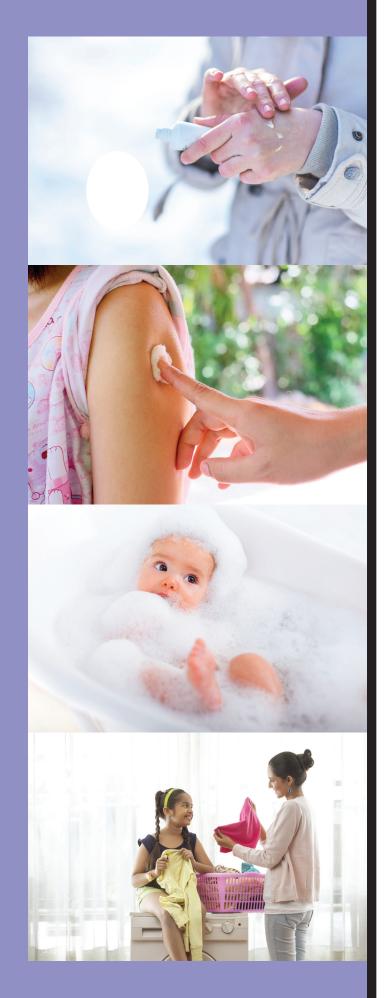
Now 28, Goff developed the reading habit in her late teens, when she discovered that she was allergic to a plant ingredient known for its healing properties: aloe. "Aloe is in everything, so I'm always on the lookout for it in the products I buy," she said. "My skin hates coconut oil too.

"I never assume that a product is OK, even if it's organic and even if it comes highly recommended," Goff continued.

Spot-checking is another "must" when trying out a new product, Goff said. "Just apply a little on a trouble spot, wait a couple of days, and see whether you have a reaction." She also does her best to isolate a potential trigger, never trying more than one new lotion, detergent or food at a time.

The problem, she said, is that you can't know how your body will react to new things unless you actually try them. For her, living a full life involves a certain amount of risk, whatever the state of her eczema. Finding the right balance between risk and caution has become a lifelong pursuit for Goff.

"I refuse to become a prisoner of my skin," she said. "I want to experience life, and I can't do that if I become so fearful that I avoid everything all the time." ▶



# 8 TIPS FROM A TOP PEDIATRIC ALLERGIST

Schneider, a pediatric allergist, urges parents to be vigilant when it comes to identifying and eliminating irritants and other triggering factors that might cause their child's eczema to flare. Here are eight of her top tips:

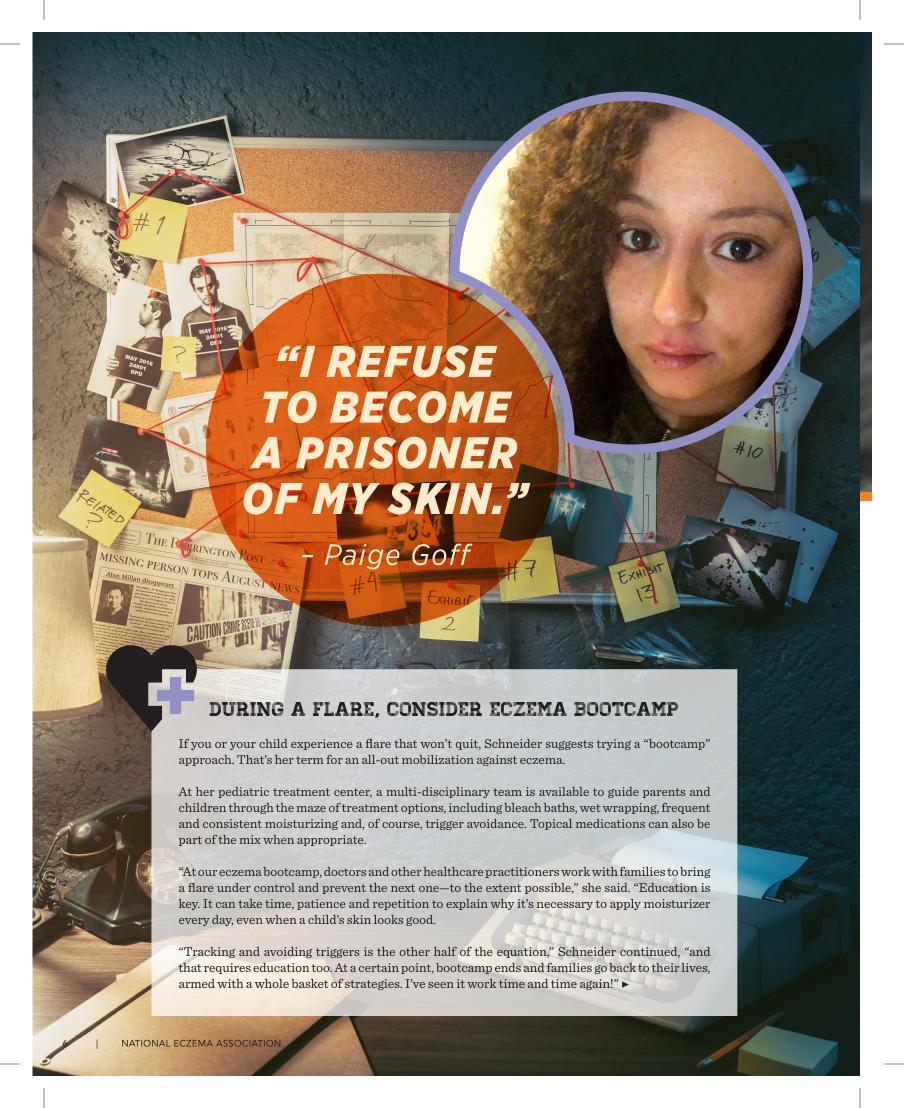
- Beware of cold, dry air. Whatever you do to protect your child's skin during the other seasons, double or even triple your efforts during the cold winter months.
- Make sure your child gets a flu shot every year. Viral infections like the flu and even the common cold can trigger a flare.
- Many commercial baby soaps, shampoos and wipes contain irritants such as fragrance, dyes and preservatives.
   Take the time to read labels carefully and avoid products that contain any potentially problematic ingredients.
- Consult the National Eczema Association's Eczema Product Directory at https://nationaleczema.org/eczema-products.
- Double-rinse your laundry to remove any detergent residue.
- Consider taking your child to an allergist for patch-testing, a reliable method for identifying substances that cause an inflammatory reaction on the skin.
- Keep a trigger diary, where you can record your exposure to potential triggers, especially when your eczema starts to flare up.
- Find a skincare regimen that works and create a written plan to help keep you on track.

Schneider also urges patients of all ages to practice good stress management. For parents of young children, this means practicing good sleep hygiene for the whole family. And for parents of older children, it's about making enough time for play and rest. Teens also need time to relax.

"I highly recommend using sleep tapes," she said. "They're remarkably effective in all AD patients, except the very youngest children. And adults should ideally practice some form of mindfulness or meditation to reduce their stress."

Above all, she said, stick with what works. That goes for products, routines, diets and keeping household allergens at bay.

However, keep in mind that AD is a notoriously unpredictable disease, and its triggers can change over time as well. Despite your best efforts to avoid the irritants and allergens on your list, your AD can still "decide" to flare any time. ▶





# LESS RECOGNIZED TRIGGERS

Beyond personal and household products, Goff works overtime to avoid her other eczema triggers—for example, sweat. She deals with it by showering quickly and moisturizing immediately afterwards.

"I love hot showers, but they don't love me back," Goff said. "A lukewarm one will do the job without stressing my skin."

According to Dr. Matthew Zirwas, a dermatologist in Columbus, Ohio, with a long-standing research interest in AD, several studies have shown that some people with the condition are actually allergic to their own sweat.

"More specifically," he said, "they may be allergic to biproducts made by a type of yeast called Malassezia that lives on their skin and thrives in sweat.

"Of course," he continued, "people can't say, 'I'm never going to sweat again!' I put some of my patients with a 'sweat allergy' on glycopyrrolate, a drug that reduces sweating. It's not the answer, but it can be of benefit. And some of my patients, especially those who exercise a lot, do well on high doses of an antihistamine, such as generic Claritin, taken an hour before a workout."

Another common but poorly understood eczema trigger, he added, comes in the form of airborne allergens. These cause eczema to flare not because people are technically allergic

to pollen, dust mites, pet dander, cockroaches or mold, but because these substances produce proteases—enzymes that break down proteins in skin cells.

In other words, airborne allergens don't directly trigger an immune reaction in the skin. They cause trouble by thwarting the skin's ability to protect itself in people who are genetically prone to AD.

Airborne triggers are among the hardest to avoid, much less treat, Zirwas said. He advises his patients whose eczema reacts to these substances to stick with the basics of daily bathing and moisturizing, especially after spending time outdoors. He also recommends household cleaning techniques designed to reduce airborne triggers inside the home.

In Goff's experience, it's easier to avoid indoor triggers than outdoor ones. When her family moved from Pennsylvania to North Carolina—she was a teenager at the time—she developed an allergy to dogwood, which happens to be North Carolina's state flower.

"It's pretty hard to avoid a tree that's in your face all the time," she said. While not an eczema trigger in her case, dogwood aggravated two of her related health conditions: asthma and rhinitis.

Having recently moved to the Seattle area, Goff has adopted a wait-and-see attitude. So far, the West Coast's air, water and plant life seem to agree with her. ▶

# THE BASICS OF LIFE: WATER, FOOD AND SUN

In several population studies in the United Kingdom and Japan, the hardness of water has been documented as a factor that may drive eczema, especially in infants and young children, Zirwas said.

Although there is insufficient scientific evidence on the subject, he said he's seen significant improvement in his patients' eczema when a family moves to a municipality with softer water. Adding a small amount of water softener to a child's bathwater can be effective as well, Zirwas added.

And then there's food. For the most part, food is rarely a direct eczema trigger, Zirwas said, especially in people over age 5. Patients tend to believe that certain foods cause their eczema to flare, but the relationship between eczema and food allergies flows differently, he explained.

"Eczema actually aggravates food allergies, not the other way around," he said, referencing a recent randomized placebocontrolled study of food and AD. In the study, a variety of foods were tested in a group of eczema patients, but none made their eczema worse.

Zirwas also identified a lack of sun as a driver of eczema, especially in infants and young children. He cited a population study completed in January 2019 that found that children who developed eczema had half as much sun exposure as did children who didn't develop the condition.

While inconclusive, the findings strengthened his decision to encourage patients and their families to get more sun—not to the point of burning but to derive the full benefits of sunlight and vitamin D synthesis.

"In the study, vitamin D3 supplementation alone failed to prevent AD," Zirwas explained. "To stop the disease in its tracks, we all need the real thing."

It's important to remember that eczema is a disease that impacts people differently. What's helpful to some may be harmful to others. The National Eczema Association recommends that adult patients and parents of young patients consult with their medical providers to determine their individual needs and risks. \*

# WATCH OUT FOR THESE COMMON TRIGGERS

Here are some everyday things that can trigger allergies or an eczema flare or make them worse.

# **ALLERGENS:**

- Pollen
- Pet dander
- Mold
- Dust mites

# PHYSICAL:

- Stress
- Sweat
- Hormones
- Infection
- Excessive scratching or rubbing of the skin

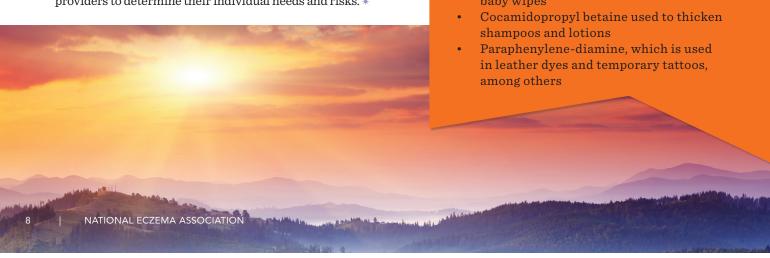
# **CLIMATE:**

- Cold, dry weather
- Long, hot baths or showers
- Low humidity

# IRRITANTS:

- Metals, in particular, nickel
- Cigarette smoke
- Soaps and household cleaners
- Fragrances
- Certain fabrics such as wool and polyester
- Antibacterial ointment like neomycin and bacitracin
- Formaldehyde, which is found in household disinfectants, some vaccines, glues and adhesives
- Isothiazolinones, an antibacterial that is found in personal care products like baby wipes







# ELP HEAL YOUR SKIN

DUPIXENT, the first eczema treatment of its kind, is not a steroid. It is a biologic treatment that helps manage the inflammation deep beneath the surface that causes the flare-ups you see and feel on your skin-and keeps working, even when your skin

## In Two Clinical Trials with DUPIXENT\*

- Nearly half of patients saw 75% skin improvement and some even saw 90% improvement
- Almost 4 times more patients taking DUPIXENT saw clear or almost clear skin as compared with those not taking DUPIXENT -37% taking DUPIXENT as compared with 10% not taking DUPIXENT
- Patients experienced significant itch reduction, some patients as early as 2 weeks \*16-week trials compared to placebo.



Learn more. Talk to your eczema specialist. Visit DUPIXENT.com, or call 1-844-DUPIXENT (1-844-387-4936).

## **INDICATION**

DUPIXENT is a prescription medicine used to treat adults with moderate-to-severe atopic dermatitis (eczema) that is not well controlled with prescription therapies used on the skin (topical), or who cannot use topical therapies. DUPIXENT can be used with or without topical corticosteroids. It is not known if DUPIXENT is safe and effective in children with atopic dermatitis under 18 vears of age

# **IMPORTANT SAFETY INFORMATION**

Do not use if you are allergic to dupilumab or to any of the ingredients in DUPIXENT.

Before using DUPIXENT, tell your healthcare provider about all your medical conditions, including if you:

- · have eye problems
- have a parasitic (helminth) infection
- · are taking oral, topical, or inhaled corticosteroid medicines. **Do not** stop taking your corticosteroid medicines unless instructed by your healthcare provider. This may cause other symptoms that were controlled by the corticosteroid medicine to come back.
- · are scheduled to receive any vaccinations. You should not receive a "live vaccine" if you are treated with DUPIXENT.
- · are pregnant or plan to become pregnant. It is not known whether DUPIXENT will harm your unborn baby.
- · are breastfeeding or plan to breastfeed. It is not known whether DUPIXENT passes into your breast milk.

Tell your healthcare provider about all the medicines you take, including prescription and over-the-counter medicines, vitamins and herbal supplements. If you are taking asthma medicines, do not change or stop your asthma medicine without talking to your healthcare provider.

# DUPIXENT can cause serious side effects, including:

- · Allergic reactions (hypersensitivity), including a severe reaction known as anaphylaxis. Stop using DUPIXENT and tell your healthcare provider or get emergency help right away if you get any of the following symptoms: breathing problems, fever, general ill feeling, swollen lymph nodes, swelling of the face, mouth and tongue, hives, itching, fainting, dizziness, feeling lightheaded (low blood pressure), joint pain, or skin rash.
- Eye problems. Tell your healthcare provider if you have any new or worsening eye problems, including eye pain or changes in vision.

The most common side effects include injection site reaction, eye and eyelid inflammation, including redness, swelling and itching, pain in the throat (oropharyngeal pain) and cold sores in your mouth or on your lips.

Tell your healthcare provider if you have any side effect that bothers you or that does not go away. These are not all the possible side effects of DUPIXENT. Call your doctor for medical advice about side effects. You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.fda.gov/medwatch, or call 1-800-FDA-1088.

Use DUPIXENT exactly as prescribed. If your healthcare provider decides that you or a caregiver can give DUPIXENT injections, you or your caregiver should receive training on the right way to prepare and inject DUPIXENT. Do not try to inject DUPIXENT until you have been shown the right way by your healthcare provider.

Please see accompanying Brief Summary on next page.

SANOFI GENZYME • REGENERON

# You may be eligible for a \$0 copay<sup>†</sup> for DUPIXENT.

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### Brief Summary of Important Patient Information about DUPIXENT® (dupilumab) Rx Only (DU-pix'-ent)

# injection, for subcutaneous use

## What is DUPIXENT?

- DUPIXENT is a prescription medicine used:
  - to treat adults with moderate-to-severe atopic dermatitis (eczema) that is not well controlled with prescription therapies used on the skin (topical), or who cannot use topical therapies. DUPIXENT can be used with or without topical corticosteroids.
- with other asthma medicines for the maintenance treatment of moderate-to-severe asthma in people aged 12 years and older whose asthma is not controlled with their current asthma medicines. DUPIXENT helps prevent severe asthma attacks (exacerbations) and can improve your breathing. DUPIXENT may also help reduce the amount of oral corticosteroids you need while preventing severe asthma attacks and improving your breathing.
- DUPIXENT works by blocking two proteins that contribute to a type of inflammation that plays a major role in atopic dermatitis and asthma.
- DUPIXENT is not used to treat sudden breathing problems
- It is not known if DUPIXENT is safe and effective in children with atopic dermatitis under 18 years of age.
- It is not known if DUPIXENT is safe and effective in children with asthma under 12 years of age.

## Who should not use DUPIXENT?

**Do not use DUPIXENT** if you are allergic to dupilumab or to any of the ingredients in DUPIXENT. See the end of this summary of information for a complete list of ingredients in DUPIXENT.

### What should I tell my healthcare provider before using DUPIXENT?

# Before using DUPIXENT, tell your healthcare provider about all your medical conditions, including if you:

- have eye problems (if you also have atopic dermatitis)
- have a parasitic (helminth) infection
  are taking oral, topical, or inhaled corticosteroid medicines. Do not stop taking your corticosteroid medicines unless instructed by your healthcare provider. This may cause other symptoms that were controlled by the corticosteroid medicine to come back.
- are scheduled to receive any vaccinations. You should not receive a "live vaccine" if you are treated with DUPIXENT
- are pregnant or plan to become pregnant. It is not known whether DUPIXENT will harm your unborn baby.

  • are breastfeeding or plan to breastfeed. It is not known whether
- DUPIXENT passes into your breast milk.

Tell your healthcare provider about all of the medicines you take including prescription and over-the-counter medicines, vitamins, and herbal supplements. If you have asthma and are taking asthma medicines, do not change or stop your asthma medicine without talking to your healthcare provider.

- How should I use DUPIXENT?
   See the detailed "Instructions for Use" that comes with **DUPIXENT** for information on how to prepare and inject DUPIXENT and how to properly store and throw away (dispose of) used DUPIXENT pre-filled syringes.
- Use DUPIXENT exactly as prescribed by your healthcare provider.
  DUPIXENT comes as a single-dose pre-filled syringe with needle shield.
  DUPIXENT is given as an injection under the skin
- (subcutaneous injection).
- If your healthcare provider decides that you or a caregiver can give the injections of DUPIXENT, you or your caregiver should receive training on the right way to prepare and inject DUPIXENT. **Do not** try to inject DUPIXENT until you have been shown the right way by your healthcare provider. In adolescents with asthma 12 years of age and older, it is recommended that DUPIXENT be administered by or under supervision of an adult.
- If you miss a dose of DUPIXENT, give the injection within 7 days from the missed dose, then continue with the original schedule. If the missed dose is not given within 7 days, wait until the next scheduled dose to give your DUPIXENT injection.

- If you inject more DUPIXENT than prescribed, call your healthcare provider right away.
- Your healthcare provider may prescribe other medicines to use with DUPIXENT. Use the other prescribed medicines exactly as your healthcare provider tells you to.

Stop using DUPIXENT and tell your healthcare provider or get emergency help right away if you get any of the following symptoms: breathing problems, fever, general ill feeling, swollen lymph nodes, swelling of the face, mouth and tongue, hives, itching, fainting, dizziness, feeling lightheaded (low blood pressure), joint pain, or skin rash.

# What are the possible side effects of DUPIXENT? DUPIXENT can cause serious side effects, including:

- Allergic reactions (hypersensitivity), including a severe **reaction known as anaphylaxis.** Stop using DUPIXENT and tell your healthcare provider or get emergency help right away if you get any of the following symptoms: breathing problems, fever, general ill feeling, swollen lymph nodes, swelling of the face, mouth and tongue, hives, itching, fainting, dizziness, feeling lightheaded (low blood pressure),
- joint pain, or skin rash.

   Eye problems. If you have atopic dermatitis, tell your healthcare provider if you have any new or worsening eye problems, including eye pain or changes in vision.
- Inflammation in your blood vessels: Rarely, this can happen in people with asthma who receive DUPIXENT. This may happen in people who also take a steroid medicine by mouth that is being stopped or the dose is being lowered. It is not known whether this is caused by DUPIXENT. Tell your healthcare provider right away if you have: rash, shortness of breath, persistent fever, chest pain, or a feeling of pins and needles or numbness of your arms or legs.

  The most common side effects of DUPIXENT include: injection site

reactions, pain in the throat (oropharyngeal pain) and cold sores in your mouth or on your lips. Eye and eyelid inflammation, including redness, swelling and itching have been seen in patients who have atopic dermatitis. Tell your healthcare provider if you have any side effect that bothers

you or that does not go away.

These are not all of the possible side effects of DUPIXENT. Call your doctor for medical advice about side effects. You may report side effects to FDA. Visit www.fda.gov/medwatch, or call 1-800-FDA-1088.

# General information about the safe and effective use of DUPIXENT.

Medicines are sometimes prescribed for purposes other than those listed in a Patient Information leaflet. Do not use DUPIXENT for a condition for which it was not prescribed. Do not give DUPIXENT to other people, even if they have the same symptoms that you have. It may harm them.

This is a summary of the most important information about DUPIXENT. If you would like more information, talk with your healthcare provider. You can ask your pharmacist or healthcare provider for more information about DUPIXENT that is written for healthcare professionals.

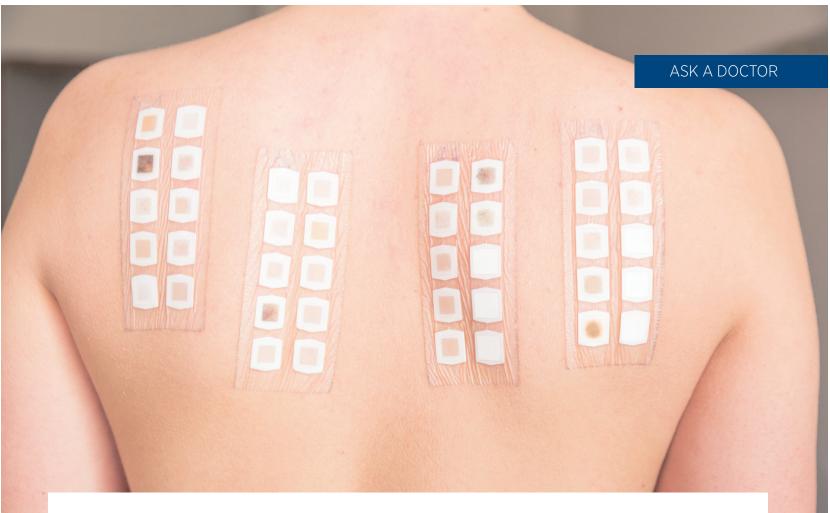
For more information about DUPIXENT, go to www.DUPIXENT.com or call 1-844-DUPIXENT (1-844-387-4936)

# What are the ingredients in DUPIXENT? Active ingredient: dupilumab

**Inactive ingredients:** L'-arginine hydrochloride, L-histidine, polysorbate 80, sodium acetate, sucrose, and water for injection

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US-DAD-14946



# Feeling triggered? Diagnostic challenges of eczema

Eczema affects everyone differently. What helps one person's eczema might actually trigger another person's skin to flare up. This can make it challenging for health care providers to diagnose and treat symptoms of this disease. We asked Dr. Kanwaljit (Rupam) Brar to discuss the best ways to identify and treat eczema triggers. Please note that portions of this Q&A have been edited for clarity and brevity.

# Patch testing is an important process to determine eczema triggers. What does that involve?

What that typically involves is a clean back that actually has not been moisturized that morning because that will make it hard for the patches to stick. They are removed after 48 hours, and at the site of each kind of allergen, we look for a reaction. The interpretation can also be done at 72 hours, 96 hours or even seven days.

Keep in mind that you should not be going to CrossFit because if you sweat, the patches could fall off, and it would not be a meaningful test. If someone's being treated with oral immunosuppressants like cyclosporine or prednisone—those can interfere with the patch test results. So, it's important to discuss what medications you're taking with the doctor before doing patch testing and follow their instructions carefully.

# What kind of tips would you give to women who want to wear makeup but have eczema on their face?

Patch testing helps because it allows me to identify which ingredients they need to avoid. And we always encourage you to do a small test on your skin before you use anything. While these should not be interpreted as endorsements, I often recommend Bare Minerals and Beautycounter products. But I'm always in favor of wearing no makeup whenever possible.

# Is patch testing the only definitive way to diagnose contact dermatitis?

If someone strongly suspects they have contact dermatitis, I will often tell them to avoid the allergen regardless. Patch tests aren't always 100 percent accurate. If someone does not want to go through with patch testing, you can always do an open ▶

application test on yourself with the product on suggested areas of the skin—either on the elbow or behind the ear. If you see dermatitis erupted in those areas, then it's not a product that's safe for you to use.

# When is a biopsy warranted?

A biopsy would be warranted if the diagnosis is in question or if distribution of the eczema is not typical. You often see creases of the skin involved in adolescents and adults. If I see eczema over the top of the elbows as opposed to the inside of the elbows, I might want to consider something like dermatitis herpetiformis.

If something is happening suddenly to your skin at an age where it's not typical... for instance, if an adult were to suddenly have a bright red, scaling rash, you would want to make sure that it's not skin cancer. In the pediatric population, sometimes when they first present, you can see this eczema/psoriasis overlap, and later, it will declare itself a little better. Those are all situations where a biopsy may be helpful.

# Let's say you have eczema on the scalp but have severe reactions to topical steroids. What other treatments would you recommend?

Topical calcineurin inhibitors (TCI) are an alternative to topical steroids that can sometimes be used for treating mild to moderate eczema on the head and neck. If you know you have severe eczema and topicals aren't working, it might be an option for adults to consider oral immunosuppressants. I also might recommend oils knowing that there are some oils that are better than others. Sunflower oil is considered anti-inflammatory, so that's a good oil to try.

# What's the timeframe or milestone where a provider would consider leveling up to something other than a topical?

My timeline at National Jewish Health is to start with the wet wraps and then consider other options. I might use something like a triamcinolone ointment, which has a petroleum base, and combine it with wet wrap therapy. If it's something more severe, I might do a culture for staph infection and treat with oral antibiotics if necessary.

In a couple of weeks, once their skin is no longer open and is a little more healed, I would then transition to a topical calcineurin inhibitor. If they're not responding to that topical calcineurin inhibitor, my next step would be then to start doing paperwork for escalation of therapy to oral immunosuppressants. But the problem with oral immunosuppressants is they have a lot of side effects, including nephrotoxicity problems with their kidneys. \*



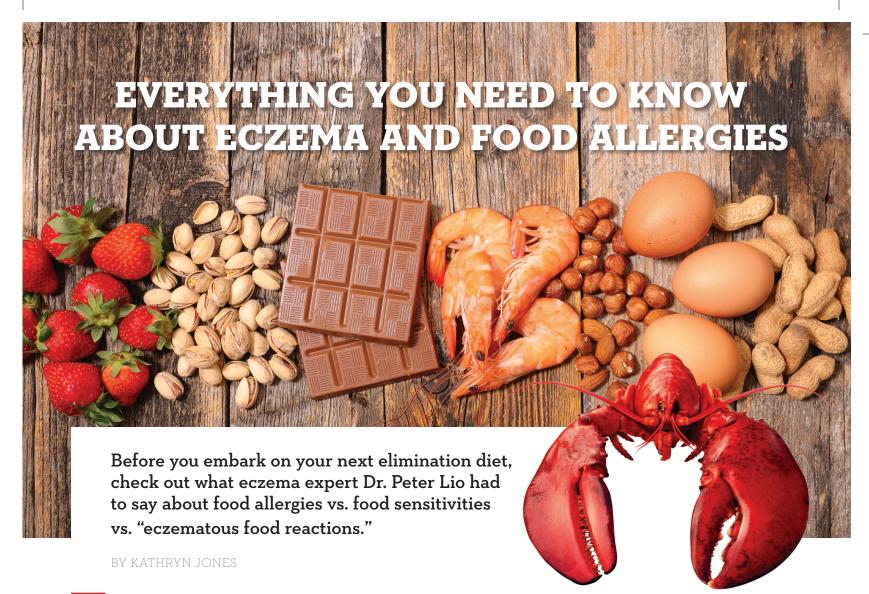
# **WANT MORE?**

# Watch the archives!

NEA Webinar Wednesdays feature world-class medical experts discussing the latest in disease management, research, treatments and related information you need to live well with eczema. Each webinar is an hour and includes time for Q&A from the audience. Watch at https://nationaleczema.org/resources/webinar-wednesday-archives/.



Dr. Kanwaljit (Rupam) Brar is an assistant professor of pediatrics, and a pediatric allergist and immunologist in the Division of Pediatric Allergy and Immunology at National Jewish Health in Denver. As a parent of a child with allergies and asthma, she understands the stresses of managing these conditions.



ven though 19-year-old Brandon Hipps of Avon Park, Florida, loves to go fishing with friends and family, he can't eat what he catches.

In addition to living with moderate to severe atopic dermatitis, Hipps is allergic to seafood, peanuts and dairy. These foods, along with eggs, sugar, alcohol or gluten, tend to top the "do not eat" list among people with AD, who swear that consuming certain foods will trigger their skin to break out in an eczema rash. But is there really a correlation between eczema and food allergies?

According to Dr. Peter Lio, assistant professor of dermatology and pediatrics at Northwestern University in Chicago, founding director of Chicago Integrative Eczema Center and member of NEA's Scientific Advisory and Board of Directors, the answer is yes.

Food allergies are considered an official comorbidity (related health condition) of atopic dermatitis alongside asthma, allergic rhinitis (hay fever) and depression. Researchers have found that up to 30 percent of people with AD also have food allergies, Lio said.

For some people, exposure to a single peanut becomes a lifethreatening emergency that can lead to anaphylaxis and death without the intervention of an EpiPen. For others, eating certain foods like sugar, eggs or dairy won't necessarily

kill them, but causes their skin to erupt in a raging eczema flare.

As a result, they believe that if they could just cut certain foods from their diet, such as gluten or dairy, their eczema will go away. Unfortunately, said Lio, it's not that simple. "The No. 1 question my patients ask is 'Could this be related to food?' And my response is generally this: 'I wish it were!'

"For patients who have dermatitis herpetiformis (the specific skin condition related to Celiac disease caused by a specific reaction to gluten), it's often very straightforward. If they avoid the gluten, the skin generally stays clear. But we're not that lucky for eczema patients as they, by definition, don't have this condition." Lio said. ▶

Dr. Peter Lio

# Food allergies vs. food sensitivities

To better understand the relationship between eczema and diet, it is helpful to know the difference between food allergies vs. food sensitivities or intolerances.

A food sensitivity, or food intolerance, occurs when a person has trouble digesting certain foods. This can lead to gas, bloating, abdominal pain or diarrhea, for instance. A food allergy, on the other hand, provokes an immune system reaction that affects numerous organs in the body and can cause a range of symptoms, some of which are life-threatening.

"The key thing about bonafide food allergies is that they tend to be immediate (i.e., within minutes) of eating the food, and tend to be urticarial (hives) or anaphylaxis (swelling, vomiting, etc.)," Lio said.

However, that line between food allergies and food sensitivities tends to blur a little bit for people with inflammatory diseases such as AD, Lio noted. Eating certain foods may not lead to anaphylaxis or organ

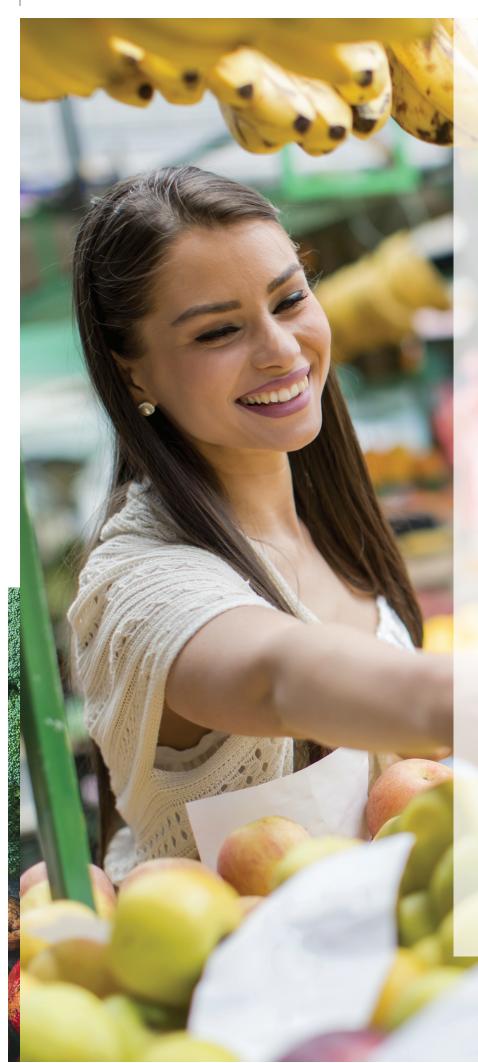
failure, but it triggers an immune system reaction nonetheless, whether it's eczema, asthma, allergies or arthritis.

"While there is no doubt a group who has an 'eczematous' food reaction that can take days to manifest, these seem to be pretty rare and are actually super hard to diagnose since there is such a time delay," he said. "They tend to occur within hours (or at least within a day or two) of the food, and often seem to manifest as more of an eczematous flare-up rather than the specific hives."

Adding to the mystery is the fact that there are some foods that seem to have an allergic-like effect but don't show up on allergy tests, Lio said. "These triggers can be very tough to identify since sometimes patients report that when they are really flared up, almost anything they eat seems to make their eczema worse. I have seen cases in babies where it seems that the act of eating and digesting itself may have a triggering effect on the eczema, perhaps via some type of neuronal circuit.

"Interestingly, for many of these patients, once their inflammation goes down and their skin clears up, they can eat some or even all of the foods that were acting triggers before," Lio continued "My thinking here is that when the skin is really inflamed, their threshold to flare is really low and many things can set them off. Once better, we can get a clearer picture of the more substantial triggers and continue to avoid them while





# The dangers of elimination diets

From Atkins, Paleo and Keto to vegan, glutenfree and dairy-free, people with AD are not afraid to explore the latest dietary trends in hopes this will bring relief to their itchy or painful eczema rashes—often to no avail, Lio said.

"The internet seems full of folks who seem to have 'cured' their eczema with dietary change, and I am so happy for those folks! But sadly, I can swear on a stack of bibles that it does not help everyone and, unfortunately, those tend to be the folks who come see me," he said.

"I've seen people do extremely restrictive diets for many months—sometimes so restrictive that they have other health issues—and their eczema persisted. I've seen babies that were fed only rice milk and began to develop kwashiorkor protein deficiency and still scratch and rub their skin."

So, are people with AD wasting their time if they wish to make changes to their diet? Not necessarily, according to Lio. "Despite what might sound like cynicism here, I truly believe that a healthy diet is critical to good health and can be transformative for some patients," he said.

"I think that dairy products and simple carbs (including all the wonderful things that contain gluten) and sugars can contribute to inflammation in a lot of folks. I think that eliminating dairy and carbs, processed foods in general, and eating mostly vegetables/plant-based foods with some meat and fish is probably very healthy for many people."

The biggest takeaway when it comes to eczema and food allergies is to always consult with a trusted health care provider before making any drastic changes to your diet, Lio said.

"Many patients find that when they eat a 'cleaner' diet, everything gets better—not clear, mind you—but better, which is great," he said. "With this as a background, maybe for a month or two to stabilize, I think that adults can then experiment with excluding foods that they think may be contributing to flares." \*



# GeT THE FACTS: APPLE CIDER VINEGAR

If you're thinking of treating your eczema with fermented apple juice, you may want to read this first.

BY KATHRYN JONES

rom deep-cleaning your hair to salad dressing extraordinaire, it only takes a quick Google search to know there is no shortage of uses for apple cider vinegar (ACV).

Apple cider is basically fermented apple juice. When we add yeast to apple juice, it turns the fruit sugar into alcohol—a process known as fermentation. Bacteria then turns the alcohol into acetic acid, which is what gives apple cider vinegar its sour taste and strong smell.

Although ACV doesn't have much nutritional value, we see it pop up in quite a few recipes, particularly soups, sauces and salad dressings. Apple cider vinegar also has a hefty history outside of the kitchen as a folk remedy in the health and beauty realms.

Vinegar has been used as a remedy since the days of Hippocrates, when the ancient Greek doctor used it to disinfect and treat wounds. Other than that, ACV pretty much remained an elusive old wives' tale for centuries until it regained traction in the 1970s as a means to promote weight loss, regulate blood sugar and, yes, even treat eczema.

# Does apple cider vinegar Help eczema?

Before we answer that, it should be noted that there is little to no scientific evidence proving the health benefits of ACV. When consumed in large quantities, ACV can actually be harmful.

Due to its high acidic content, it could potentially injure the soft tissues of the mouth, throat, stomach and kidneys. Women who are pregnant are discouraged from consuming large amounts of ACV.

As to whether ACV helps eczema, the answer is ... possibly. Healthy skin is protected by an acidic barrier. Scientists theorize that people with eczema have elevated skin pH levels. Anything under a pH of 7.0 is acidic, and anything above 7.0 is alkaline. Healthy skin has a natural pH level under 5.0. People with eczema typically have higher pH levels than those without.

Because people with eczema have elevated pH levels, the acidic skin barrier doesn't function as it should. Without a proper functioning skin barrier, moisture escapes and irritants ▶





5 NEW-ISH COMPLEMENTARY, ALTERNATIVE TREATMENTS FOR ECZEMA

HONEY, L-HISTIDINE, EAST INDIAN SANDALWOOD OIL, VITAMIN E AND MELATONIN ARE AMONG THE LATEST COMPLEMENTARY AND ALTERNATIVE TREATMENTS FOR ECZEMA UNDERGOING CLINICAL RESEARCH.

BY DR. KATHERINE SHI AND DR. PETER A. LIO

omplementary and alternative medicine is a controversial topic in the medical field for a variety of reasons.

The main point of contention is the fact that these treatments (almost by their very definition) lack sufficient clinical research to adequately assess their risks and benefits. This is, of course, excluding the treatments that do have sufficient evidence to prove that they are unsafe or ineffective.

But as friends, family members and internet reports can easily attest, there are many complementary and alternative treatments with anecdotal support for their efficacy in treating eczema.

The problem is, randomized placebo-controlled clinical trials are the gold standard for evaluating therapeutic treatments of any kind. And the majority of these treatments have not been rigorously proven to possess therapeutic benefit and to be without harmful side effects in randomized placebo-controlled

# UNCONVENTIONAL ECZEMA TREATMENTS ON THE RISE

The last several decades have seen a rise in studies evaluating some of these treatments, but even then, the sample sizes are typically too small, or the study designs do not adequately account for confounding variables, making it hard to draw a definitive conclusion.

Nonetheless, a few treatments have started to gain some traction. These include sunflower seed oil, primrose oil and topical vitamin B12.

More recently, there have been a couple of others that have shown some therapeutic benefit. In this article, we'll explore the use of honey, L-histidine, East Indian Sandalwood oil (EISO), vitamin E and melatonin for treating symptoms of eczema.

# HONEY STUDIED AS POSSIBLE ECZEMA TOPICAL TREATMENT

Historically, honey has been known to possess broad antimicrobial and wound healing properties, as well as ▶

clinical trials.

an ability to affect specific aspects of immune system function. There have been two studies (both published in 2017), which have looked at the application of honey in eczema.

One evaluated the use of topical Manuka honey and showed that overnight application on the affected areas for just seven days resulted in significant symptom reduction. Another study assessed the effect of a medical honey eardrop treatment three times daily for two weeks on eczema of the external ear.

This study also showed significant improvement in symptoms, particularly itching, redness and scaling and discomfort. Though both studies had a small sample size of 15-16 participants, there were no side effects reported. However, these promising results warrant further investigation and validation in a larger study.

### L-HISTIDINE EXPLORED AS AN ORAL ECZEMA TREATMENT

L-histidine is an amino acid that the human body cannot make and therefore can only be obtained by diet. It is an essential part of the skin barrier and contributes to maintaining skin hydration, both important in preventing and treating eczema.

A study conducted in 2017 showed that 4grams of L-histidine taken by mouth daily for eight weeks reduced eczema symptom severity, and that effect was comparable to a mid-level topical steroid.

The symptom reduction also persisted eight weeks after ending supplementation, and no side effects were found. Although there has only been one study with only 24 participants enrolled, the results suggest that L-histidine may potentially have a very profound impact on eczema therapy.

# EISO SHOWS PROMISE AS AN ECZEMA TOPICAL TREATMENT

EISO is believed to have anti-inflammatory and antioxidant properties as well as antimicrobial activity.

A 2017 clinical trial studying three topical EISO formulations with 0.1 percent colloidal oatmeal showed significantly reduced eczema severity in a group of 25 children with mild to severe eczema.

In eight weeks, 87.5 percent of the group saw a 25 percent reduction. Seventy-five percent saw more than a 50 percent reduction in eczema severity scores with 18.8 percent achieving full remission.

The results are compelling, but it should be noted that a portion of the effect seen may be attributed to the colloidal oatmeal. Also, baseline eczema severity was not described, so the percent reduction may exaggerate the absolute magnitude of symptom reduction. ▶

# VITAMIN E MAY HAVE 'SHORT-TERM RESCUE EFFECT' ON ECZEMA

Vitamin E—an essential nutrient—is thought to have effects on the immune system and antioxidant properties. A 2015 study conducted on 70 participants with mild to moderate eczema compared use of 400 IU of vitamin E to a placebo for four months.

Treatment with vitamin E showed greater improvement compared to placebo for itching, redness, swelling, excoriation and skin thickening. However, this effect was not sustained three months after ending treatment. In fact, a similar proportion of patients relapsed between the vitamin E and placebo groups, 25 percent (7.28) and 22.2 percent (6/21), respectively.

Vitamin E may have a short-term rescue effect for eczema. It may be effective with intermittent use, much like how topical steroids are used in conventional eczema treatment.

There were no side effects reported in this study, but there have been documented reports of contact dermatitis, burning and itching with the topical vitamin E use.

### MELATONIN COULD IMPROVE SLEEP TROUBLES LINKED TO ECZEMA

Melatonin is a natural hormone that the body produces when it wants to tell us that it is time to sleep. Skin barrier function, inflammation and blood flow all operate in a rhythmic pattern.

High levels of inflammation, itching and abnormal melatonin production at night can lead to disturbances in sleep, which translate to low energy, mood disturbances and shifts in the immune system toward a state that further perpetuates eczema.



Higher nighttime melatonin levels are naturally associated with better sleep and, interestingly, also with less severe eczema symptoms in children.

A 2016 study on 48 children with eczema and difficulty falling or maintaining sleep showed that oral melatonin was better than placebo in shortening time to sleep and reducing eczema severity.

This effect may be attributed to an alteration in the immune system towards a state that does not facilitate inflammation or reduced scratching opportunities from the increased sleep time.

A decrease in scratching is important in preventing further breakdown of the skin barrier and environmental exposures that perpetuates inflammation and the itch-scratch cycle that exacerbates eczema flares.

There were no side effects reported in this study, and melatonin is an over-the-counter supplement frequently used by the general population to help facilitate sleep. It may prove to be useful as an adjunctive treatment in eczema, especially for those that also experience difficulties with sleep due to their eczema symptoms.

# REMEMBER, MOST UNCONVENTIONAL TREATMENTS ARE NOT PROVEN SAFE AND EFFECTIVE

Even though more than half of patients with eczema have tried or currently use complementary and alternative medicines, many medical providers hesitate when it comes to discussing these treatments with their patients—and understandably so, as many of them have not been proven to be effective and safe.

However, the preliminary results for some treatments, such as L-histidine, are so promising that some dermatologists have introduced their use as a complementary therapy for their eczema patients.

It is important to note that there are no guidelines when it comes to recommending incorporation of these nontraditional treatments. But we believe this is a valid point of discussion between the patient and provider, and that the decision should be made together.

From a medical community standpoint, at minimum, these treatments warrant closer attention and further study. \*

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# ECZEMA

# IT'S TIME FOR OUR ANNUAL AD TREATMENT ROUNDUP

In the "Golden Age of Eczema," people with atopic dermatitis have more treatment options than ever before, with even more drugs making their way to pharmacy shelves.

MEDICAL REVIEW BY PETER LIO, MD

oday, people living with atopic dermatitis (AD) are being greeted with more treatment options than ever before. A thrilling array of new drugs are on the way—not just for adults but for children and adolescents as well.

Ever since the U.S. Food and Drug Administration (FDA) approved Dupixent (dupilumab) in March 2017, it signaled the beginning of the "Golden Age of Eczema," said Dr. Emma Guttman-Yassky, professor of dermatology and immunology at the Icahn School of Medicine at Mount Sinai in New York City.

Dupixent is a biologic, an injectable drug that is an antibody used to treat a disease at the immune system level. The human body uses certain types of signaling molecules called interleukins, or ILs, which help our immune system fight off harmful viruses and bacteria.

But for people with atopic dermatitis, their immune system tends to overreact and trigger certain ILs to produce inflammation. Dupixent blocks IL-4 and IL-13 from binding to their cell receptors, which keeps the immune system from overreacting, thereby lowering inflammation and decreasing symptoms of AD.

Until recently, Dupixent was only approved for adults with moderate to severe AD and for patients with

moderate to severe asthma over the age of 12. In March 2019, the FDA approved Dupixent for adolescents with moderate to severe AD between the ages of 12 and 17.

Dupixent was the first biologic therapy approved for moderate to severe AD, "but it won't be the last," said Guttman-Yassky.

LEO Pharma's new biologic, tralokinumab, is currently in phase III. Instead of blocking two molecular targets—IL-4 and IL-13—the drug blocks IL-13 alone. So far, researchers have reported tralokinumab to be highly effective in treating AD in a number of patients.

An entirely new class of drugs targeting the Janus kinase (JAK) family of enzymes, which have been seen to drive abnormal immune responses, also are on the way. Pfizer's candidate, PF-04965842, a oncedaily oral JAK-1 inhibitor for moderate to severe AD, is now in phase III. The FDA flagged the drug as a "breakthrough therapy," a designation that will accelerate its path to approval.

And baricitinib, Eli Lilly and Incyte's drug that inhibits both JAK-1 and JAK-2, has recently met its endpoints in two phase III trials. That means it's en route to FDA approval for the treatment of AD in adults, and if approved, en route to your pharmacy. ▶

# Promising new treatments in phase II clinical trials

Guttman-Yassky defines "promising" in two ways. A promising drug candidate either has a new mechanism of action—a new target or a new way of targeting it—or:

- It's easier to administer (oral vs. injectable).
- If it's injectable, it's taken less often.
- It has longer-term efficacy.

As researchers continue to uncover the underlying factors that drive AD, new targets have come to light. We asked Guttman-Yassky to discuss the top targeted treatments that are currently in phase II. Here's what we learned.

Several JAK inhibitors have caught the attention of doctors and patients alike. Upadacitinib, engineered by AbbVie Inc., is a once-a-day oral agent that targets JAK-1. Per the data thus far, Guttman-Yassky said, it is proving effective in relieving itch, improving sleep and reducing disease severity.

Asana BioSciences' JAK inhibitor targets the entire JAK family of enzymes, along with another inflammatory molecule called spleen tyrosine kinase (SYK). The company's candidate, an oral agent called ASN002, is the only dual inhibitor in the group, meaning it's designed to block two targets at once, potentially boosting its efficacy.

A second promising AD drug target is the protein OX40. A member of the tumor necrosis factor (TNF) receptor family, OX40 plays a key role in regulating immune function—except when it goes haywire, as it does in AD. Two companies, Glenmark Pharmaceuticals and Kyowa Kirin Pharmaceutical Development, Inc., are conducting phase II trials of their respective OX40 inhibitors.

Epithelial cytokine inhibitors are a third novel class of drugs in phase II. They aim to interrupt the relationship between the cytokine IL-33 and the skin barrier defect that characterizes AD by blocking yet another cytokine called IL-17C.

A driver of inflammation in both psoriasis and AD, IL-17C has been described as a "unique cytokine" that's produced by skin cells themselves. Bacteria appear to increase its production and reproduction. Novartis is currently testing an agent that has shown promise in curbing IL-17C in AD.

"What all these new agents have in common is that they take longer to work than Dupixent," Guttman-Yassky said. "That's because they target factors that are 'upstream,' meaning higher up in the inflammatory response. It takes a while for such a drug to actually reach its target. However, their effectiveness in clearing AD symptoms could make it worth the wait."

Keep in mind that the drugs listed in this article are just a fraction of the treatments currently in the development pipeline. For brevity and space reasons, we focused on the drugs that are for moderate to severe AD and in the later phases of clinical trials, and therefore closer to reaching FDA approval.

There are myriad potential or possible FDA-approval treatments in the early stages of research that explore other potential causes and symptoms of eczema. NEA will continue to keep you posted as these innovative treatments advance through the development pipeline. For a complete listing of drugs at various stages of investigation, including orals, injectables and topicals, visit https://nationaleczema.org/research/eczema-treatment-research.

Guttman-Yassky considers the new drug targets potentially revolutionary, and she greets the arrival of new treatments for AD with enthusiasm. That said, she expressed several caveats, particularly that people with AD should have reasonable expectations about treatments.

For starters, Guttman-Yassky emphasized there is still no cure for eczema at this time. A treatment that works for some patients may not work for all patients all the time.

It's a well-known fact among medical professionals that treatments for other skin conditions, such as psoriasis, tend to clear the skin for a while—even for years, in some cases. However, eventually the body can become immune to their effect, and at a certain point, they may stop working.

The reality is that moderate to severe AD, a condition that is as unpredictable as it is difficult to treat, requires a flexible attitude. Instead of viewing an eczema treatment as a quick fix, Guttman-Yassky said, "think of it as an important part of a combined approach that will likely need to be adjusted over time." ▶



Don't forget the essentials of eczema care!

- 1. Always consult with your doctor before trying any new product or treatment.
- 2. Be on the lookout for side effects or even for inadequate effects so that your provider can make adjustments to your treatment as needed.
- 3. Learn how to identify and avoid triggers. For more information on tracking triggers, turn to page 4.
- Don't slack on your skincare regimen. Keeping your skin clean and moisturized is the first step to keeping your eczema in check.



If you need a refresher on treatments already available for managing symptoms of atopic dermatitis, don't worry! NEA has it covered.

BY MARGARET W. CRANE

# **Topical Steroids**

Corticosteroids, or "steroids" for short, are drugs that fight inflammation by dialing down the immune system. Steroids can bring short-term relief for the itch, inflammation and dryness that are the hallmarks of the disease. But, if used inappropriately, they can cause a variety of side effects, such as increased blood vessel formation, thinning of the skin and immune system complications. Topical steroids range from weak to extremely potent, and their chemical structure varies as well. Your medical provider will determine the optimal type of steroid for your needs and should monitor you closely for side effects.

# Topical calcineurin inhibitors

The topical calcineurin inhibitors (TCIs) tacrolimus and pimecrolimus tackle the full range of AD symptoms—itch, inflammation and dryness—but with fewer side effects than steroids. However, they come with an FDA black box warning regarding an increased risk of cancer associated with their long-term use. According to a 2015 study published in JAMA Dermatology, the warning was based on data linked to the oral calcineurin inhibitors used in organ transplantation. TCIs don't deserve the black box warning, the authors argued, as many specialists consider these topicals a safer alternative to steroids.

# Topical PDE4 inhibitors

Eucrisa (crisaborole) is a phosphodiesterase (PDE4) inhibitor approved by the FDA in December 2016 for mild to moderate eczema. Eucrisa is a topical that works to ease the effects of PDE4, an enzyme believed to be overactive in the skin cells of people with AD. By blocking the PDE4 enzyme, it reduces inflammation on and below the surface of the skin.

# Topical antibiotics

Doctors often prescribe antibiotic and antiseptic creams and ointments to deal with bacterial infections. But they do so within strict parameters, mainly due to issues related to antibiotic resistance. Mupirocin, an antibiotic that's administered topically, is the first line of defense against secondary infection in AD. As with other treatments, the decision to use them depends on a physician's judgment and the needs of the individual patient.

# Prescription skin barrier protectors

These medications often contain lipids such as ceramides, which are natural components of the skin made from fats, oils and waxes. People with eczema have a deficiency of natural lipids, which contributes to dry skin and itching. Prescription skin barrier protection medications help combat moisture loss and prevent irritants from entering the skin. ▶

# Phototherapy

Phototherapy, which harnesses the power of ultraviolet (UV) light, has long been used as a treatment for inflammatory skin conditions, including psoriasis and eczema. There are two types of phototherapy: UVA and UVB. UVA needs to be combined with psoralen, a light-activated oral medication. It may increase the risk of skin cancer if used long-term. Narrowband UVB therapy is believed to have a better safety profile. The current guidelines recommend phototherapy as a second-line treatment, to be used when topical treatments fail.

# Oral medications

Oral prednisone, a commonly prescribed systemic steroid, can improve the skin's appearance dramatically. But once patients stop taking it, their eczema tends to rebound and their symptoms may be harder to control than before they started on the drug. Specialists may prescribe a short course of prednisone to ease the transition between one treatment and another—say, from a topical steroid to phototherapy. The key is to taper off it gradually to minimize the rebound effect and other undesired reactions.

Note from NEA: Routine use of oral or injectable steroids is generally discouraged and should be reserved for special circumstances.

# **Immunosuppressants**

These powerful drugs are recommended for short-term usage. Even then, patients who take them should be monitored closely for side effects. While some doctors still prescribe them for AD patients, others avoid doing so due to harmful side effects.

- Cyclosporine, for example, may raise blood pressure and cholesterol.
- Methotrexate, considered relatively safe at low doses, is known to interact with a variety of common medications, and may cause potentially serious lung and liver side effects.
- Azathioprine interferes with DNA synthesis. As a result, it can cause a dangerous buildup of an important enzyme in the body of people with AD.
- Mycophenolate mofetil, also known as CellCept, can cause gastrointestinal issues, along with bone marrow and liver toxicity.

# **Biologics**

Biologic drugs or "biologics" are engineered from proteins derived from living cells or tissues and are taken by injection. The biologic Dupixent (dupilumab) works by targeting a part of the immune system thought to contribute to the symptoms of moderate to severe atopic dermatitis. By reducing the immune system reaction, Dupixent reduces inflammation, which in turn reduces skin redness, itch, and rash associated with atopic dermatitis. \*



# **DISCOVERY ZONE**

The latest news, research and discoveries about eczema

BY MARGARET W. CRANE

# Colorado researchers urge raising the bar for the treatment of severe eczema

he U.S. Federal and Drug Administration (FDA)'s approval of Dupixent (dupilumab) in 2017 transformed the lives of numerous people with atopic dermatitis (AD), and additional biologic medications are on the way. However, a team of researchers warn that biologics may not be the be-all and end-all in AD treatment.

The researchers, based at the University of Colorado College of Nursing and National Jewish Health, stressed the need for comprehensive guidelines that will provide a solid frame of reference for clinicians. Without such guidelines, they wrote, clinicians might skip "crucial conventional steps" in treating severe AD, such as regular, appropriate skincare and wet wraps, among other basics.

In their paper, which was online in January 2019 in the Journal of Allergy and Clinical Immunology: In Practice, they noted several obstacles that have blocked the development of one clear set of guidelines.

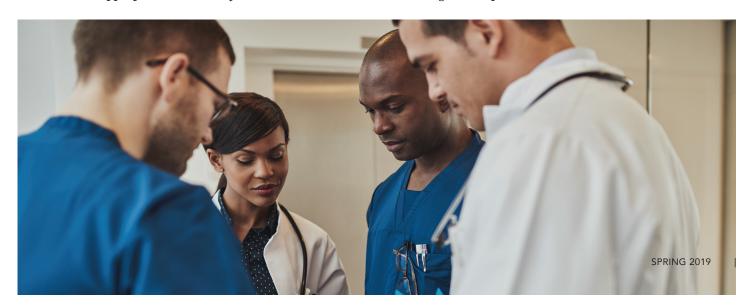
AD treatment guidelines vary widely from country to country. Furthermore, the authors noted, available guidelines are often misunderstood or not even used. As a result, some clinicians treat their patients reactively as opposed to proactively during an AD flare. This can lead to inappropriate use of systemic corticosteroids

and immunosuppressants that aren't FDA-approved for treating AD.

The Colorado team reviewed existing guidelines from many countries and culled their most relevant shared recommendations. These treatment steps follow a logical sequence, but in real life, they're often pursued simultaneously by physicians and patients alike:

- Make a proper diagnosis and define the severity of the disease.
- Identify irritants and allergens.
- Treat infections.
- Treat the psychosocial aspects of AD.
- Develop an action plan.
- · Consider wet-wrap therapy during a flare.
- Consider hospitalization.

While Dupixent and other biologics in the pipeline signal a dramatic improvement in AD treatment, the researchers said there are plenty of things that clinicians can and should do before and after prescribing one for their patients with moderate to severe AD. The guidelines proposed in the new review article should help doctors combine basic skincare techniques with cutting-edge treatments to maximize the well-being of their patients. \*





Multi-center study identifies a link between AD and suicidal thoughts, behavior

he authors of a new study published in JAMA Dermatology pooled the data from 15 international studies and found that people with AD were approximately 44 percent more likely to harbor suicidal thoughts than those without the disease. AD was also seen to put patients at 36 percent higher risk for making a suicide attempt.

However, completed acts of suicide were not significantly more widespread among people with AD than non-AD patients. That's why Dr. April Armstrong, senior author of the study, called the findings inconsistent and therefore inconclusive. She and her co-authors stressed the need for further research into the complex relationship between AD and suicidal behaviors.

The researchers pointed to the psychosocial challenges that children with AD face in their everyday lives at school, often leading to poor academic performance compared with other children their age. Adults with severe eczema face comparable challenges, such as poorer job performance and fewer career opportunities.

Anxiety and depression also are prevalent in people with AD at any age, and the study's authors urged dermatologists to always be on the lookout for the need to treat mental health conditions when the need arises. If a patient's routine mental health screening reveals suicidal thoughts, doctors shouldn't hesitate to refer that patient to a mental health provider, they wrote.

The researchers further explained that inflammatory cytokines such as interleukin-4 (IL-4) and interleukin-13 (IL-13) drive both the physical and psychosocial aspects of the disease. High levels of these molecules are characteristic of AD, and they're also seen in the spinal fluid of patients who have attempted suicide.

AD affects mental health through a patient's lived experiences as well as through the disease's molecular underpinnings. Medications that target IL-4, IL-13 and other molecular factors may relieve a mood disorder by easing the visible symptoms of the disease and thwarting the psychological impact of these inflammation-promoting molecules at the same time.

Meanwhile, Dr. Aaron Drucker, dermatologist at Women's College Hospital and a scientist at Women's College Research Institute in Toronto also investigated the subject of AD and suicidality risk in a study funded by the National Eczema Association. Drucker's article, published late 2018, used data about suicides over several years in Ontario from the Institute for Clinical Evaluative Sciences.

The study will compare a group of patients who committed suicide with a similar group that did not. The team will then identify which patients in each group visited a doctor frequently for atopic dermatitis. If there are higher rates of severe atopic dermatitis in the group that committed suicide, these patients may need closer screening for mental health concerns, Drucker said.

Armstrong's research team recommended that doctors monitor their AD patients closely for suicidal thoughts and ideations. Primary care physicians and dermatologists can turn to a variety of screening tools for this purpose. They can also ask patients simply and straightforwardly whether they've thought about committing suicide. If a patient reveals an actual suicide plan, that's the time to make a referral to the emergency room, the authors stated. In non-emergency situations, doctors can refer patients to a suicide prevention hotline or an informational brochure.\*

# The FDA is rethinking the timing of pediatric clinical trials

or many years, children have been the last age group of AD patients to participate in clinical trials of promising drug candidates. The disease is often most active, severe and widespread among the youngest patients, yet they remain largely excluded from the early stages of the drug development process.

In recent years, the FDA has been discussing the reversal of a policy that was originally designed to protect children. The organization issued a new guidance—a document that represents its latest thinking—regarding how early in the AD drug development process to conduct studies in children.

Historically, the FDA's guidelines require that pediatric studies occur only after approval of a drug for adult use. But in 2015, the FDA's Dermatologic and Ophthalmic Drug Advisory Committee argued in favor of conducting pediatric trials earlier in the process.

In the new document, the FDA's rationale for its revised recommendations include the following major points: Researchers who apply for approval to conduct a clinical trial in children should include information on how to use the drug safely and effectively in younger age groups. Once safety and efficacy data are available, AD trials should start as early as possible in the drug development process.

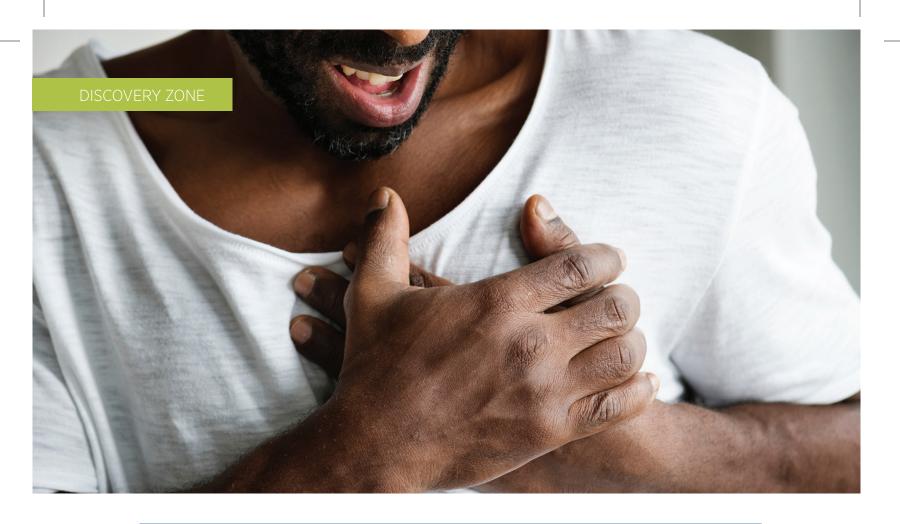
All pediatric age groups should be included in drug trials, including children 2 years old and younger. But before studying the youngest group, safety data from trials in older children may be important and necessary.

The burden of AD in children and the lack of treatment options for this group of patients have been motivating these changes in FDA policy.

However, as an FDA guidance, the new document does not specify policy changes that are legally binding. Rather, they represent the agency's current thinking. The document's contents should be viewed as recommendations only, the operative word being "should," not "must."

The FDA guidance is available online at www.fdanews. com/10-02-18-AtopicDermatitis.pdf.  $\ast$ 





# British study finds people with severe AD at increased risk for cardiovascular disease

he link between psoriasis, another inflammatory skin disease, and cardiovascular (CV) disease is well established, but where eczema and CV risk are concerned, the data have been mixed.

A large-scale, cohort study in the United Kingdom has broken new ground. The British investigators followed a group of people—a cohort—with severe, active AD over a period of years. They compared 387,439 patients with AD to more than 1.5 million patients without the disease, taking into account the varying severity of AD as well as its intermittent character.

After five years of patient follow-up, the researchers said they identified a relationship between severe AD and CV disease. Approximately 20 percent of the patients in the cohort were at increased risk of stroke. About 40 to 50 percent were at increased risk of myocardial infarction, atrial fibrillation, unstable angina and CV death. And roughly 70 percent were at increased risk of heart failure.

AD that was active more than 50 percent of time also appeared to increase patients' CV risk.

The British team incorporated key CV lifestyle risk factors into their analysis such as smoking, obesity and alcohol use.

Largely omitted from earlier studies, these variables helped the researchers distinguish at-risk patients from those with little or no CV risk.

The study's authors said they found no link between mild or moderate AD and CV disease.

Based on their findings, the authors urged doctors to screen their patients with severe eczema for common CV risk factors and that they do so early. \*

# THERE'S MORE TO DISCOVER ONLINE!

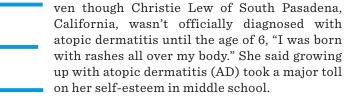
Scientists are making tremendous strides in conducting groundbreaking research needed to bring us better treatments and a cure. For the latest on eczema-related research, visit

> nationaleczema.org /category/discoveries

# STITCHES FOR ITCHES

Two cousins living with eczema and allergies start a lucrative business making hairbows and headbands to raise funding for eczema awareness.

BY KATHRYN JONES



It's hard enough to make friends and feel accepted by your peers at that age, she said, but it can be even more challenging when you have a skin condition like eczema.

"Growing up, the hardest thing for me was making friends because a lot of people at my school would judge me based on how I look. They would make fun of me because I didn't look like the normal, average person. I'd have rashes, and they thought it was weird for a young girl to look like that," Christie said.

Now 18 years old, the high school senior looks back on this moment as a pivotal point in her impressionable, young life.

"To this day, I remember entering sixth grade really nervous and scared that people would not accept me because of the way I looked," she said. "I sat down in my first class of the day, Spanish 101, when a girl sat next to me.

"We went through class without talking, but I noticed that the entire time, she was staring at my skin and would not take her eyes off me," Christie continued. "At the end of class, she finally said something to me. I thought I had made a new friend until she said, 'What's wrong with you? Why do you look like that?"" ▶





# Family ties

Meanwhile, Christie's 9-year-old cousin, Kara, grew up with similar struggles.

"For as long as I can remember, I have always had itchy skin," she said. "My parents have to be careful about what I eat and how long I am in the sun. My mother still sleeps with me to stop me from scratching during the night. Many times, I have scratched so hard that I bleed, and then it hurts in the shower."

Even though Christie and Kara were born nine years apart, "Christie is one of my best friends," Kara said. "We both have allergies to food, to nature, and all that stuff. I think that is one reason why we are so close."

Both girls love taking advantage of their proximity to the sunny beaches of southern California, but the Pacific Ocean doesn't exactly love them back. "Swimming in the ocean stings my wounds," Christie said. "At the beach, right after I got out of the ocean, I'd have to rinse off and shower. While the rest of my family were having a picnic, I'd be in the shower.

"The constant irritation from eczema not only leaves permanent scars, but also prevents me from doing everyday things that normal kids can do," Christie continued. "I fell in love with swimming and tennis at a very young age. Unfortunately, at around the same time, my eczema got progressively worse to the point where my doctors told me I had to quit playing sports and find another passion."

Kara agreed. "It's hard to swim in a pool because of the chlorine, but the same thing happens at the beach. The saltwater will sting my cuts and stuff. I am also allergic to fish and can't eat all the things I want to," she said.

# A brand is born

"Sometimes, I'll have really bad allergies on my finger," Kara said. "I'll wrap it, and then the other kids at school will ask me about it. I don't really like it when people ask me about my skin."

Christie didn't want Kara to face a similar experience as she had in that sixth-grade Spanish class. Although the girl's words were hurtful at the time, Christie understood that her remarks came from a place of ignorance. "That's why I think awareness of allergies and eczema is very important," she said.

In 2017, Christie and Kara started Stitches for Itches. It began as a blog to "bring awareness to a younger demographic" but evolved into a business that sells handmade bows and headbands online to raise money for eczema awareness.

According to the two cousins, Kara was the one who started making the bows and headbands in second grade, and ultimately came up with the concept of selling them online. Christie helped turn that concept into reality by building the website and using it to raise funds for eczema awareness.

"Now that I'm in high school, not as many people judge me as they did when I was younger," Christie said. "But a lot of students still don't understand what it's like living with eczema or having allergies. Both Kara and I can work together to raise funds and also awareness so that everyone can have a better understanding about eczema and allergies." ▶





as a community, spending their holidays and free time to put a special touch" on their popular hair accessories.

"I hope that one day we can live in a world without allergies," Kara said. "When I grow up, I hope to be a scientist to help cure allergies. I hope that I can raise enough money so that we can beat this disease."

Stiches for Itches has raised about \$2,000 since its inception with all proceeds donated to the National Eczema Association. For more information about Stitches for Itches, and where to buy these hair accessories, visit https://stitchesforitches.weebly.com. \*



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# PREPARE TO BE ENCHANTED AT ECZEMA EXPO 2019

BY KATHRYN JONES

Join NEA for a spellbinding four days of eczema education and all-ages entertainment.

Register for Expo '19. Get your tickets today before they magically disappear.

icture a magical place where no one looks at you funny because you have eczema... where you can strip down to your swimsuit at the pool without having to explain your flares... where having eczema means you're just like everyone else.

Imagine an enchanted universe where the menu is free of the top eight allergens, the fitness classes are low-sweat, the spa menu is flare-friendly and judgement-free, and cutting-edge eczema education is delivered by world-class ecz-perts.

This wondrous world does exist. It's called Eczema Expo, and it's taking place July 18-21, 2019, at the Hyatt Regency Resort and Spa at Gainey Ranch in Scottsdale, Arizona.

National Eczema Association's Eczema Expo is a four-day gathering for the eczema community, uniting patients of all ages, caregivers, and medical and industry professionals. Expo '19 will focus on empowering people with eczema to live their best life, with an emphasis on holistic health and wellness.

# Get the scoop on what's new at Expo this year

This year, there's even more to love about Eczema Expo. We are welcoming the littlest eczema warriors to Expo Camp (now for ages 0-17). For the first time, Expo will offer care for children aged 4 and under, welcoming young children with eczema, their siblings and children of Expo attendees. As with our other Expo Camps in 2019 and throughout the years, mini warriors will be in the caring, capable hands of Corporate Kids Events.

To get the most out of Expo, we recommend you attend our orientation session on Thursday, July 18. NEA's staff will be on hand to help you get acquainted with the Expo schedule, activities and venue. Then, join one of our Thursday night meetups to connect with other families, teens or Expo first-timers.

We'll fill your spellbooks with plenty of eczema care and treatment information from leading medical experts in our general sessions. We listened to your feedback from Expo'18 and extended our afternoon breakout sessions from 30 minutes to





 $50\ \mathrm{minutes}$  to give eczema warriors ample time to enjoy these small group discussions.

In addition to our general sessions and breakout sessions, Expo workshops will be offered on Thursday, July 18, and Sunday, July 21, to help attendees celebrate their skin and take their Expo experience to the next level. This year's workshops will focus on identity, transformation and action.

Who doesn't love S.W.A.G.? (Yes, that's an actual acronym. It stands for "Stuff We All Get.") All attendees will receive an Expo'19 backpack, Expo themed buttons and luggage tag. Be

sure to stop by our sample buffet or visit our Expo Exhibitors in between sessions to sample new products and therapies designed to help you live your best life with eczema.

# We upped the fun factor for the whole family

You probably assumed we couldn't make Expo 2019 even more spectacular than last year's event in Chicago. That's fair. After all, Expo 2018 was amazing. But you have to remember that anything is possible in the magical world of Eczema Expos. For 2019, we plan to make a huge splash, so don't forget your swimsuit!▶

Our stunning desert venue is set amidst flowering cacti and framed against the majestic McDowell Mountains. On site is a 2.5-acre water playground with 10 pools, 20 fountains, 45 waterfalls and a three-story, high-speed waterslide that is illuminated at night with cosmic lights.

There will be plenty of chances to hit the pool or take cover in one of the complimentary Expo cabanas. Transport yourself to the waterways of Venice aboard a beautifully-crafted gondola, while classically-trained singers serenade you in Italian as you cruise the resort's lake. On Friday, July 19, we'll host a "Dive-in Movie" where you can watch a film while floating in the pool. Grab an innertube and enjoy the show!

On the evening of Saturday, July 20, as our Expo campers settle in for a pizza party and movie night, the grownups should get ready to party, NEA-style. Celebrate the organization's 30th anniversary at the Eczema Ecz-travaganza, a delightful evening of dinner, drinks and dancing. (Trust us, you don't want to miss the chance to see the folks at NEA boogie down.)

# Indulge in an eczema-friendly spa experience

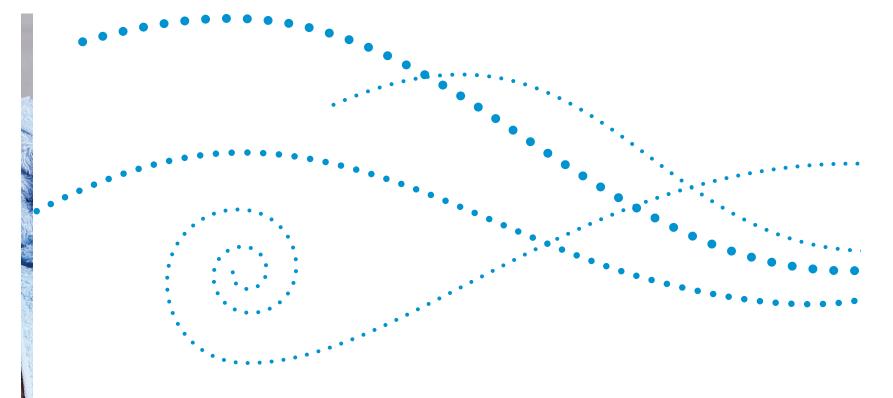
All eczema warriors deserve to feel pampered. NEA collaborated with Dr. Jeff Yu, a contact dermatitis specialist, and the Hyatt Regency's luxurious onsite spa, Spa Avania, to create a custom menu of flare-friendly treatments. Our goal in developing this menu was to give people with eczema an opportunity to enjoy the aesthetic and psychologic benefits of spa treatments without fear of flares or judgement.

Spa practitioners will be briefed on eczema and our amazing community of eczema warriors. They will know that eczema is not contagious and that the skin of people with eczema must be handled with care. The spa menu will include an Expo-exclusive, low-friction massage called Touch Therapy & Relaxation. Massage and nail care clients may choose from the spa's standard lotions or lotions with NEA's Seal of Acceptance™. All linens will be laundered with gentle, fragrance-free detergent and given an extra rinse.

Treatments include access to Spa Avania's French-Celtic mineral pool, relaxing lotus pond, trellis covered outdoor relaxation areas, steam room, sauna, hot and cold plunges. All Expo attendees will receive 10 percent off standard Spa Avania pricing. Plus, we have arranged for the addition of 30-minute massage sessions to better fit into the schedules and budget of Expo attendees.

For more information and to register for Expo 2019, visit https://nationaleczema.org/eczema-expo.\*





# Pfizer is proud to support National Eczema Association



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# How atopic dermatitis inspired me to become a nurse

A severe allergic reaction sent me to the emergency room, where the staff inspired me to become a nurse. Today, I specialize in caring for patients with AD.

BY KAREN TRUJILLO

have decided to share my story because I know firsthand—being diagnosed at age 2 and working as a nurse with patients who suffer from atopic dermatitis (AD)—that we like to know we are not alone. I also feel that it has significantly impacted my career as a registered nurse (RN).

I've had AD since I was 2 years old. That's 29 years of my life! I grew up in a small town on a beautiful horse ranch in New Mexico with acres of alfalfa that surrounded my family home. I am the middle child of five. We all worked on the ranch moving irrigation pipe, bailing hay and taking care of the animals.

Unfortunately, the farm life was not a good environment for someone with AD to live in. I could not participate in many family activities. Along with my head-to-toe rash, I also suffered from asthma and allergies. I was allergic to the horses on our ranch, the hay and even the trees.

I also had a lot of food allergies. My first food allergy scare sent me to the hospital, nearly killing me at the age of 7. My parents did not know what to do with me. We traveled to many doctor appointments. I tried everything, including a visit to a medicine woman on the Indian reservation.

Some of the earliest memories of having eczema was waking up in a bed full of scabs and blood. My mom would literally have to wrap my arms with rags and tie my hands down at night so that I would not scratch. I would scream in pain and have anxiety attacks many nights. Not only was it painful, it was embarrassing. Kids didn't want to play with me because they thought it was contagious. As I got older, my AD got

medications on the market. I still suffered during my teenage years with the embarrassment of having it on my face. But I had better methods of getting through an itch attack.

High school was not fun for me. My insecurities as a young child had stuck with me through the years, and I made poor decisions with the people I hung out with. Luckily, I had my mind set on going to college and becoming a nurse. ▶



a little better due to new

# How eczema inspired me to become a nurse

I always wanted to be a nurse for as long as I can remember. I think having eczema and going to many doctor appointments played a role in that. The night I was rushed to the ER for the severe allergic reaction, I could remember a nurse that was so nice to me. She made me feel so calm in that very scary situation. I told my parents I wanted to be a nurse like her when I grew up. During my college years, I had good control of my allergies, eczema and asthma. I almost thought I had "grown out of it." When I finally became a RN, I took a job in California.

It was a few years into my nursing career when I noticed my allergy to latex had gotten worse. I started to flare up on my hands even when I avoided the latex. My eczema came back in full force, head-to-toe rash and allergies worse than ever.

I was back in that routine of steroids, infections and anxiety. Once again, I tried everything—allergy shots, holistic medicine and even a clinical trial. I believe this is what started my interest in dermatology and why I would eventually go on to care for other patients with eczema.

I ended up working in the dermatology department at a university hospital. I was an Excimer RN treating atopic dermatitis and other skin diseases. I loved working with patients that had eczema, and they loved the fact that I could understand what they were going through.

But my hands were suffering. It is not fun being a nurse with eczema on her hands. The harsh hand sanitizer and hospital soap killed my hands. The open sores put me at such high risk of infection, especially due to the contagious diseases that come through the dermatology department.

# How I found my dream job as a nurse with AD

Fortunately, I finally found a job that was perfect for me. I started working remotely as a telehealth nurse caring for patients who have AD. Although I do miss the in-person patient contact, I don't miss the eczema on my hands.

I still get to educate my eczema patients and listen to their stories. I know that I am so lucky to still get to do what I love doing. If I didn't find this job, I am not sure how much longer I could have stayed in the field working directly with patients.

I still suffer with flare-ups, but I have a more positive outlook on life. I find comfort knowing there is more research and more awareness. I share my experiences living with AD as often as I can. I let people know it can be a serious condition that can lead to serious complications.

People with eczema know how much it can control their daily activities. It is not just an itchy rash that will go away if you stop scratching. Eczema is more than just physically painful. It can cause depression, anxiety and have a major impact on our lives. I will continue to do what I can to bring awareness to this disease and to help others living with it.

Karen Trujillo is an Eczema Warrior and registered nurse living in Huntington Beach, California. \*



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