

YOUR VISIT

EOSINOPHILIC ESOPHAGITIS

APRIL 2023

WORKBOOK
Tools for today's
appointment



COMPLIMENTARY COPY
TAKE ONE HOME

RECORD YOUR
SYMPTOMS IN
**A DAILY
DIARY**

page 16

SCAN ME

Access this
content online. Use
your mobile phone
camera to activate
the QR code.



CHECKLIST TO TRACK YOUR TREATMENT page 23

QUESTIONS TO ASK

USE THIS GUIDE TO HELP YOU GATHER THE INFORMATION YOU NEED FROM YOUR DOCTOR.

► What tests will you use to figure out the source of my inflammation?

► Will I need to go on an elimination diet?

► What treatments are available for EoE?

► At what point is surgery necessary?

► When should I call you?

► Treatments I've tried:

	WHAT TYPE AND DOSE/AMOUNT?	HOW WELL DID IT WORK?	DID YOU HAVE SIDE EFFECTS/ PROBLEMS?
MEDICATION DOSE			
OTHER TREATMENTS/ LIFESTYLE CHANGES			

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THE LATEST ON

EOSINOPHILIC ESOPHAGITIS (EoE)

4 in 10

NUMBER OF ADULTS WHO achieve remission from EoE when they give up wheat and dairy.

SOURCE: *Frontiers in Pediatrics*

A Magic Pill

Bacteria in the gut, among its many other health benefits, can protect against the types of food allergies that may trigger diseases like eosinophilic esophagitis. These good bacteria seem to be missing from the guts of people who have food allergies. Now scientists are working on a pill containing these microbes. When the bacteria land in your gut, they could reverse food allergies. It's still early days, but in lab experiments so far, the pill has reversed peanut allergies. The researchers hope to come up with bacteria pills that will ward off multiple allergies in real people and prevent allergic diseases.

SOURCE: American Chemical Society

Halting A Hyperactive Gene

Scientists recently discovered that people with EoE have an overactive gene in their esophagus that promotes inflammation. To learn whether this discovery could lead to a new treatment for the disease, they explored the gene's function in mice. In mice with an overactive gene, they saw all the symptoms of EoE, including inflammation and abnormal cells in the esophagus. In mice who didn't have the suspect gene, researchers saw no signs of the disease. In human esophageal cells in a lab, the culprit gene once again wrought all sorts of havoc. The findings of this study could lead to new medicines that block the activity of this hyperactive gene.

SOURCE: *Journal of Immunology*

Does Bmi Affect Treatment?

Swallowed steroids are the first line of defense against EoE, but they don't work for everyone. New research may have uncovered one reason why. In a study of 296 people taking steroids for EoE, those who were not obese were more likely to respond to the medicine. They saw more improvement in their symptoms and their endoscopy results and a greater reduction of eosinophils in their esophagus than obese people. As BMI (body mass index) increased, the odds of a response to the drug went down. Obese people had only a 40% chance of benefiting from steroids.

SOURCE: *Clinical Gastroenterology and Hepatology*



1 in 2,000 ESTIMATED NUMBER OF PEOPLE who have EoE.

SOURCE: National Organization for Rare Disorders



DUPIXENT IS THE FIRST & ONLY FDA-APPROVED
TREATMENT FOR EoE
(EOSINOPHILIC ESOPHAGITIS)

A breakthrough treatment for ages 12+ years
who weigh at least 88 lb (40 kg)

- DUPIXENT was proven to reduce **DIFFICULTY SWALLOWING**
- DUPIXENT reduced eosinophils in the esophagus, which contribute to inflammation
- DUPIXENT targets an underlying source of inflammation, which is a cause of EoE

INDICATION

DUPIXENT is a prescription medicine used to treat adults and children 12 years of age and older, who weigh at least 88 pounds (40 kg), with eosinophilic esophagitis (EoE). It is not known if DUPIXENT is safe and effective in children with eosinophilic esophagitis under 12 years of age and who weigh at least 88 pounds (40 kg).

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 a parasitic (helminth) infection.
- are scheduled to receive any vaccinations. You should not receive a “live vaccine” right before and during treatment with DUPIXENT.
- are pregnant or plan to become pregnant. It is not known whether DUPIXENT will harm your unborn baby.
 - A pregnancy registry for women who take DUPIXENT during pregnancy collects information about the health of you and your baby. To enroll or get more information call 1-877-311-8972 or go to <https://mothertobaby.org/ongoing-study/dupixent/>.
- 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.

Especially tell your healthcare provider if you are taking oral, topical, or inhaled corticosteroid medicines or if you have EoE and asthma and use an asthma medicine. **Do not** change or stop your corticosteroid medicine or other asthma medicine without talking to your healthcare provider. This may cause other symptoms that were controlled by the corticosteroid medicine or other asthma medicine to come back.

IMPORTANT SAFETY INFORMATION cont'd

DUPIXENT can cause serious side effects, including:

- **Allergic reactions. DUPIXENT can cause allergic reactions that can sometimes be severe.** Stop using DUPIXENT and tell your healthcare provider or get emergency help right away if you get any of the following signs or symptoms: breathing problems or wheezing, swelling of the face, lips, mouth, tongue or throat, fainting, dizziness, feeling lightheaded, fast pulse, fever, hives, joint pain, general ill feeling, itching, skin rash, swollen lymph nodes, nausea or vomiting, or cramps in your stomach-area.
- **Joint aches and pain.** Some people who use DUPIXENT have had trouble walking or moving due to their joint symptoms, and in some cases needed to be hospitalized. Tell your healthcare provider about any new or worsening joint symptoms. Your healthcare provider may stop DUPIXENT if you develop joint symptoms.

The most common side effects in patients with eosinophilic esophagitis include injection site reactions, upper respiratory tract infections, cold sores in your mouth or on your lips, and joint pain (arthralgia).

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 by your healthcare provider. It's an injection given under the skin (subcutaneous injection). Your healthcare provider will decide if you or your caregiver can inject DUPIXENT. **Do not** try to prepare and inject DUPIXENT until you or your caregiver have been trained by your healthcare provider. In children 12 years of age and older, it's recommended DUPIXENT be administered by or under supervision of an adult.

Please see Brief Summary of Prescribing Information on next page.

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What is DUPIXENT?

- DUPIXENT is a prescription medicine used:
 - to treat adults and children 12 years of age and older, who weigh at least 88 pounds (40 kg), with eosinophilic esophagitis (EoE).
- DUPIXENT works by blocking two proteins that contribute to a type of inflammation that plays a major role in EoE.
- It is not known if DUPIXENT is safe and effective in children with EoE under 12 years of age and who weigh at least 88 pounds (40 kg).

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.
- have a parasitic (helminth) infection.
- are scheduled to receive any vaccinations. You should not receive a “live vaccine” right before and during treatment with DUPIXENT.
- are pregnant or plan to become pregnant. It is not known whether DUPIXENT will harm your unborn baby.
 - **Pregnancy Exposure Registry.** There is a pregnancy exposure registry for women who take DUPIXENT during pregnancy. The purpose of this registry is to collect information about the health of you and your baby. Your healthcare provider can enroll you in this registry. You may also enroll yourself or get more information about the registry by calling 1-877-311-8972 or going to <https://mothertobaby.org/ongoing-study/dupilumab/>.
- 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.

Especially tell your healthcare provider if you:

- are taking oral, topical, or inhaled corticosteroid medicines
- have EoE and asthma and use an asthma medicine

Do not change or stop your corticosteroid medicine or other asthma medicine without talking to your healthcare provider. This may cause other symptoms that were controlled by the corticosteroid medicine or other asthma medicine to come back.

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 and pre-filled pens.**

- Use DUPIXENT exactly as prescribed by your healthcare provider.
- Your healthcare provider will tell you how much DUPIXENT to inject and how often to inject it.
- DUPIXENT comes as a single-dose pre-filled syringe with needle shield or as a pre-filled pen.
- 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 children 12 years of age and older, it is recommended that DUPIXENT be given by or under supervision of an adult.

- **If your dose schedule is every week and you miss a dose of DUPIXENT:** Give the DUPIXENT injection as soon as possible and start a new every week dose schedule from the time you remember to take your DUPIXENT injection.
- If you inject too much DUPIXENT (overdose), get medical help or contact a Poison Center expert right away at 1-800-222-1222.
- Your healthcare provider may prescribe other medicines to use with DUPIXENT. Use the other prescribed medicines exactly as your healthcare provider tells you to.

What are the possible side effects of DUPIXENT?

DUPIXENT can cause serious side effects, including:

- **Allergic reactions. DUPIXENT can cause allergic reactions that can sometimes be severe.** Stop using DUPIXENT and tell your healthcare provider or get emergency help right away if you get any of the following signs or symptoms: breathing problems or wheezing, swelling of the face, lips, mouth, tongue, or throat, fainting, dizziness, feeling lightheaded, fast pulse, fever, hives, joint pain, general ill feeling, itching, skin rash, swollen lymph nodes, nausea or vomiting, or cramps in your stomach-area.
- **Joint aches and pain.** Joint aches and pain can happen in people who use DUPIXENT. Some people have had trouble walking or moving due to their joint symptoms, and in some cases needed to be hospitalized. Tell your healthcare provider about any new or worsening joint symptoms. Your healthcare provider may stop DUPIXENT if you develop joint symptoms.

The most common side effects of DUPIXENT in patients with atopic dermatitis include:

injection site reactions, upper respiratory tract infections, cold sores in your mouth or on your lips, and joint pain (arthralgia). The following additional side effects have been reported with DUPIXENT: facial rash or redness. 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.

How should I store DUPIXENT?

- Store DUPIXENT in the refrigerator at 36°F to 46°F (2°C to 8°C).
- Store DUPIXENT in the original carton to protect from light.
- DUPIXENT can be stored at room temperature up to 77°F (25°C) up to 14 days. Throw away (dispose of) any DUPIXENT that has been left at room temperature for longer than 14 days.

- **Do not** heat or put DUPIXENT into direct sunlight.
- **Do not** freeze. **Do not** shake.
- **Keep DUPIXENT and all medicines out of the reach of children.**

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 brief summary of the most important information about DUPIXENT for this use. 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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STATS & FACTS


By Sonya Collins | Reviewed by Neha Pathak, MD, WebMD Lead Medical Editor


7 in 10 
NUMBER OF PEOPLE WITH EOSINOPHILIC ESOPHAGITIS (EoE)
 who are male.


>6 in 10
NUMBER OF PEOPLE WITH EoE
 who benefit from swallowed topical steroids.

>6 in 10 
NUMBER OF ADULT WOMEN WITH EoE
 who also have acid reflux disease.

 **40 to 44**
MOST COMMON AGES WHEN WOMEN develop EoE.

35 to 39 
MOST COMMON AGES WHEN MEN develop EoE.

1 in 2 
NUMBER OF PEOPLE WITH EoE who benefit from acid reflux drugs called proton-pump inhibitors.

>6 in 10 
NUMBER OF ADULT WOMEN WITH EoE who also have acid reflux disease.

SOURCES: *Annals of Allergy, Asthma and Immunology, Journal of Asthma and Allergy, Clinical Gastroenterology and Hepatology*

WHAT YOU SHOULD KNOW

ANSWERS TO YOUR COMMONLY ASKED EoE QUESTIONS

By Sonya Collins | Reviewed by Neha Pathak, MD, WebMD Lead Medical Editor

Mark Holbreich, MD, an allergist in Indianapolis, IN, shares some basic information about eosinophilic esophagitis.

Q. What is eosinophilic esophagitis (EoE)?

It's considered a rare disease, but it's probably more common than we think. It happens when white blood cells called eosinophils build up in the esophagus and cause inflammation. If left untreated, it progresses and slowly narrows the esophagus over many years and causes difficulty swallowing solid food.

Q. What is the treatment for EoE?

First, you might try an acid reflux medicine called a proton pump inhibitor. They reduce inflammation in the esophagus for about 50% of people who have EoE, so they just take it for the rest of their life.

The next option is a swallowed steroid you get through an asthma inhaler or in liquid form.

Third is an elimination diet. A diet that removes eggs, dairy, wheat, peanuts, soy, fish, and shellfish helps 40% to 50% of people. But every time you add a food back in to see if you can tolerate it, you have to do an endoscopy to make sure it's not affecting the esophagus. That's six to seven endoscopies within a year. So now we tell people to try to eliminate just gluten and dairy. If they do well, they can stay on it. If not, we can try something else.

Q. What causes EoE?

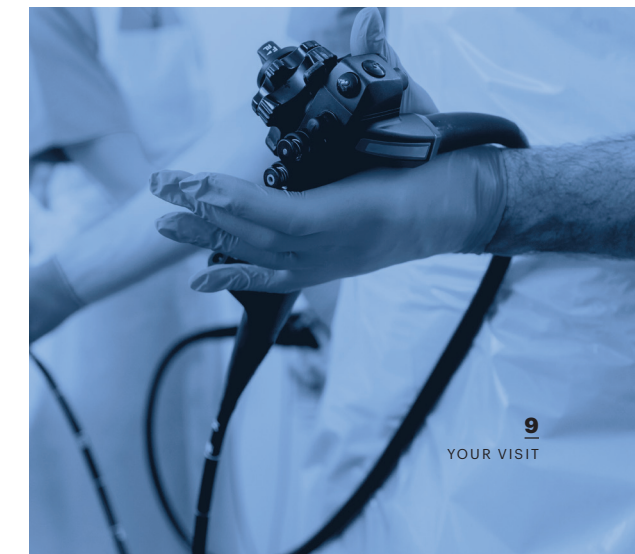
The whole picture is still unclear. It's likely a combination of genetics and things that you are exposed to in the environment and certain foods. The general consensus as to what ultimately triggers the disease is an allergic reaction.

If other treatments fail, we have a new FDA-approved drug. It's a biologic agent used to treat several allergic diseases. And it's a weekly injection you give yourself at home.

Q. What are the symptoms?

The hallmark of the disease is difficulty swallowing solid food and choking on food. For a few years, you may just write it off as "I just didn't chew my food carefully," "I ate too fast," "I should drink some water." Then you start accommodating so you can eat problematic foods—usually foods that go down in a glob like meat, rice, and bread. You cut it into smaller pieces. You chew more carefully.

Eventually, eating becomes so uncomfortable that you seek care. Or food gets stuck in your esophagus—it won't go up or down—and you go to the emergency room

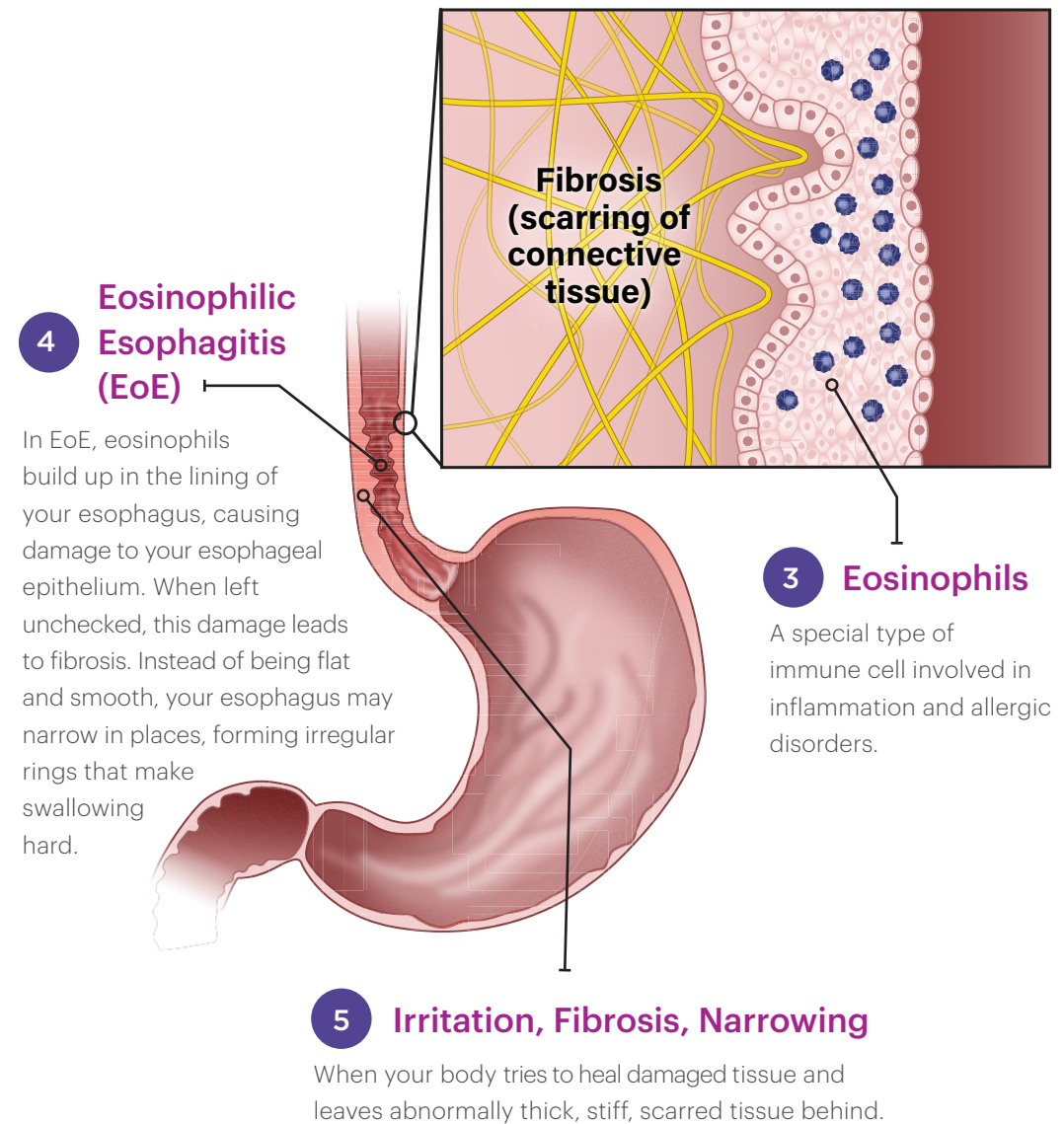
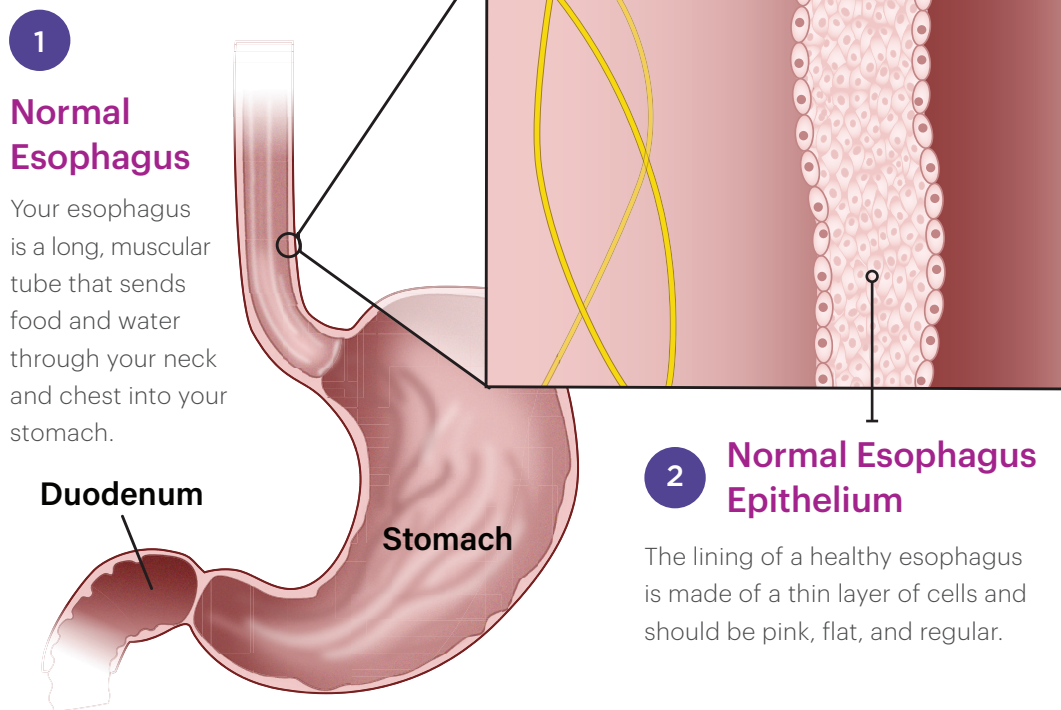


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ARNE TRAUTMANN/EYEEM/VIA GETTY IMAGES

AN INSIDE LOOK AT EOSINOPHILIC ESOPHAGITIS

By Kendall K. Morgan | Reviewed by Neha Pathak, MD, WebMD Lead Medical Editor



IRIS JOHNSON

SOURCES: The Human Protein Atlas, GERD.org, Cincinnati Children's, Mayo Clinic, Cleveland Clinic

SYMPTOMS AND CAUSES

BASIC INFORMATION ABOUT YOUR EoE

By Rachel Reiff Ellis

Reviewed by Neha Pathak, MD, WebMD Lead Medical Editor

Eosinophilic esophagitis, or EoE, is a disorder that affects your esophagus, the muscular tube that connects your throat to your stomach.

When you have it, large numbers of white blood cells called eosinophils build up in your esophagus. These white blood cells build up because of an immune system overreaction.

“The body’s immune system goes into overdrive and lights a forest fire in response to something that is benign, such as food,” says David C. Kunkel, MD, a gastroenterologist and associate clinical professor of medicine at the University of California, San Diego. “And the forest in this case happens to be your food pipe.”

How do you get it?

Although researchers don’t know the exact mechanism that causes EoE, there are certain factors that influence it. One of these factors is genetics.

“Some people have a genetic piece that predisposes them to have an

immune system that’s really raring to go and operating with a trip wire that’s set just too low,” Kunkel says.

Another factor is triggers such as asthma, or certain proteins in food that cause an allergic reaction. Some people notice their EoE symptoms get worse during the spring and summer when they have seasonal allergies.

What symptoms does it cause?

The symptoms you feel from EoE aren’t like typical allergic reactions that cause itching or red splotches on your skin.

“It’s not the kind of allergic reaction that involves hives or trouble breathing,” says Shahwali Arezo, MD, a gastroenterologist at Riverside Health System in Williamsburg, VA.

Instead, you’re more likely to have trouble swallowing, which is a hallmark symptom of EoE. You may drink a lot of fluids to help swallow food and get full quickly and not be able to finish meals.

Sometimes food gets stuck in your esophagus because it’s narrower, and you may have to go to the emergency room.

You may also feel pain in your chest or severe acid reflux that can feel like a heart attack. Usually you can’t relieve this pain with

an antacid, Arezo says.

“Some percentage of people with EoE respond to protein-pump inhibitors [medication for acid reflux], and may get misdiagnosed with GERD because of it,” he says.

Stomach pain and vomiting are common, as is regurgitation.

“That’s where things are coming back up into the mouth, which isn’t normal,” Kunkel says. “It should generally be a one-way street.”



DUSANPETKOVIC/VIA GETTY IMAGES

RISK FACTORS

Your chances are slightly higher of getting EoE if:

- + You have atopic dermatitis, asthma, or food or environmental allergies
- + You’re a white male
- + You have a family history of EoE

LIVING WITH EoE

HOW MY DIAGNOSIS LED ME TO A NEW CAREER PATH

By Stephanie Ulrich

Reviewed by Neha Pathak, MD, WebMD Lead Medical Editor

When I was 36, I started having trouble swallowing food. I would also have weekly choking and coughing spells when I drank liquids. Initially, I brushed it off, but after about a month of being able to eat only broth and well-cooked zucchini, I was down 20 pounds, I had constant chest and stomach pain, heartburn, and was completely exhausted.

Finally, one weekend after a trip, I developed severe pain in my stomach, back, and chest. I thought I might be having a heart attack. At urgent care they ruled out any heart issues, which was a relief, but they referred me to a GI doctor—a specialist in the digestive tract.

Finding a diagnosis

The GI doctor gave me an endoscopy, and the results looked suspicious. He followed up with a biopsy and it confirmed my EoE diagnosis. I was surprised—I hadn't really heard of EoE, nor could I spell or pronounce it. It's a fairly rare disease, affecting only 1 out of every 2,000 people.

As a child, I had lots of environmental allergies along with bad asthma. In my late 20s, I developed my first food allergy. All of these factors are comorbidities of EoE. My swallowing issues had been allergic reactions to all kinds of foods. I had always thought of food allergies as involving hives, difficulty breathing, or anaphylaxis, but EoE symptoms aren't like that. Instead, it impacts your ability to swallow food due to inflammation in the esophagus.

Finding a treatment course

My first GI doctor didn't believe in taking a dietary approach, and instead pushed medication. I tried a swallowed steroid, but it caused some bad side effects. I had been doing some research since my diagnosis and asked him about an elimination diet, but he wasn't on board.



Get the recipe for this parsnip and Tuscan kale winter soup at TheOpenCookbook.com.

I switched to another doctor who helped me start the six-food elimination diet, and I also found an allergist. But even after removing the top food allergens, I was still reacting to food. It was so frustrating not to be able to get it under control.

That same year, I attended an American Partnership for Eosinophilic Disorders (APFED) patient conference, and it was there that I learned there are doctors who specialize in EoE. I found one at Mount Sinai in the city, and she became my doctor.

At the time, I could eat only about five foods and still wasn't in remission. She helped find a different kind of steroid that worked for me, which I still take today. My diet is still restricted, but the

medication has allowed me to expand my diet to about 50 foods.

Finding connection

It was really hard initially to find other adults who live with EoE. I did meet someone at the APFED conference who I'm still in contact with today. Having someone who gets it is really special.

It was a quest for community and overall wellness after my diagnosis that ultimately led to a shift in my career path. I had been working as a landscape architect, and it was a very stressful work environment. I decided to leave that job for health reasons, and after having some time to focus on my health, I was able to start reintroducing more foods into my diet.

I started experimenting with alternative grain-free flours and dairy-free swaps while creating fun and interesting safe meals that made me excited to eat again. I created a recipe website and Instagram page called The Open Cookbook. Through it, I met many more people with EoE.

Eventually, I decided to follow my passion for nutrition and go back to school. Now, I work as a nutritional therapy practitioner, and I support people with autoimmune disease as a health coach.

FOOD PHOTOGRAPHY BY STEPHANIE ULRICH; INSET PHOTO COURTESY OF STEPHANIE ULRICH

STEPHANIE'S TIPS



- + Keep a food journal to learn triggers.
- + Cooking is your friend for safe, tasty food.
- + Be patient with yourself as you come to terms with having EoE.

KEEP A RECORD

USE THIS SYMPTOM TRACKER TO GIVE YOU AND YOUR DOCTOR A BETTER OVERALL SNAPSHOT OF YOUR CONDITION.

“When monitoring your EoE, you want to pay attention to how difficult it is to swallow food and liquid at each meal,” says Bryan G. Sauer, MD, gastroenterologist in the Digestive Health Center at UVA Health in Charlottesville, VA. “How often do you have trouble swallowing? Are you doing anything to get foods down easier? Are you avoiding certain foods or social situations because of your symptoms? This overview helps your doctor get a clearer picture of how best to treat you.”

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
EoE SYMPTOMS							
MEDICATION SIDE EFFECTS							
ANXIETY LEVEL							
FOODS I'VE EATEN							
ACTIVITIES							
MOOD							

SCAN OR COPY THIS PAGE BEFORE YOU FILL IT IN TO USE FOR TWO OR THREE MONTHS



“THROUGH YEARS OF RESEARCH, WE NOW KNOW THAT MILK OR DAIRY IS THE MOST COMMON TRIGGER FOR EoE. This is followed by egg and wheat in most studies.”

JAY LIEBERMAN, MD, ALLERGIST AT LE BONHEUR CHILDREN'S HOSPITAL IN MEMPHIS, TN, AND CHAIR OF THE AMERICAN COLLEGE OF ALLERGY, ASTHMA, & IMMUNOLOGY'S FOOD ALLERGY COMMITTEE

GROCERY LIST

HERE'S WHAT YOU SHOULD PICK UP AT THE STORE

By Kendall K. Morgan
Reviewed by Neha Pathak, MD,
WebMD Lead Medical Editor

Here's a good list to keep you eating well and help you replace some of what you're missing:

One of the most common ways to treat eosinophilic esophagitis (EoE) is to take the foods that trigger it out of your diet. You might do tests to find out which foods bother you specifically. Sometimes people also try an elimination diet, in which they remove up to six foods that commonly trigger EoE.

These foods to avoid may include:

- Dairy products
- Wheat
- Eggs
- Soy
- Peanuts and tree nuts
- Fish and shellfish

If you need to cross certain foods off your grocery list, what should you buy at the store?

- Coconut milk
- Rice milk
- Oat milk
- Hemp milk
- Pea milk
- Rice
- Oats
- Corn
- Quinoa
- Millet
- Buckwheat
- Gluten-free flour
- Beef
- Chicken
- Pork
- Beans, lentils, and chickpeas
- Rice
- Potatoes
- Fruit
- Vegetables
- Coffee
- Tea
- Daily multivitamin
- Vitamin D and calcium-fortified orange juice

You can find lots of resources online for meals and snacks that suit your new diet. Remember when you're at the store to check food labels for any packaged items on your list to make sure they don't contain allergens or ingredients you're eliminating. Don't rely on claims on the front of a package that say a food is dairy-, nut-, or wheat-free.

ALEXANDER SPATARI/VIA GETTY IMAGES

DIET IS KEY

THESE FOODS COULD BE SETTING OFF YOUR EoE SYMPTOMS

By Rachel Reiff Ellis

Reviewed by Neha Pathak, MD, WebMD Lead Medical Editor

For the majority of people with EoE, cutting certain foods out of your diet is an effective method for treating your symptoms. Although it can be time-consuming and at times overwhelming, it's a low-risk choice that can deliver positive results and move you toward a better quality of life.

"Not all people with EoE have food allergies that contribute to their symptoms, but at least 80% of cases are induced by food allergens," says Deepa M. Grandon, MD, an allergist/immunologist at Cleveland Clinic Abu Dhabi, UAE.

Your health care team will help you figure out your trigger foods in a specific way so you know what may be safe and what needs to go for good.

Target food groups

When EoE symptoms happen because of a food allergy, it means certain proteins from those foods trigger an allergic inflammatory response in your esophagus. Certain food groups are more likely to cause this reaction than others.

The most common method for food elimination is the six-food elimination diet (SFED). On this diet, you cut the common culprits such as wheat, milk, eggs, nuts, soy, fish, and shellfish completely out of your diet. After 6 weeks, your doctor does an endoscopy and biopsy to see if your

WHO YOU'LL SEE

Here are three specialists who can help you as you navigate dietary changes.

- + Allergist/Immunologist
- + Nutritionist
- + Gastroenterologist



YAGI STUDIO/VIA GETTY IMAGES

inflammation has gone down.

It can be challenging to give up so many foods at once, so some doctors instead try a modified approach where they focus on only a couple of top offenders first.

"We're finding more and more that patients are more willing to do a step-up type of diet where they eliminate milk and wheat first and then see if their inflammation resolves over time," says Derek A. Damin, MD, assistant professor of clinical medicine at Vanderbilt University Medical Center in Nashville, TN.

Grandon says that for people who fit the criteria for food elimination, 43% will respond to this smaller change alone.

When to reintroduce

Once the elimination period has passed, your doctor will have you start eating one of the foods you cut out. Then they'll do certain tests to see how your body responds. Over time, you'll continue to test each food you've eliminated.

"Typically, [you] can find the culprit food within the first meal of reintroduction," Grandon says.

Your doctor does this by doing an endoscopy and taking a small sample of tissue from your esophagus. Then they check the sample to see if your level of eosinophils—the immune cells that trigger inflammation—has gone down.

"Many times one of the best indicators for a food causing an individual's inflammation is in their history," Damin says. "They'll say, 'I think dairy has been bothering me over the past months or years,' and then that will be the culprit."

WAYS TO ELIMINATE

Deepa M. Grandon, MD, shares the three main dietary restriction strategies for EoE.

- 1. Empiric elimination diet:** Take out two to six foods and gradually add back in.
- 2. Test-directed diet:** Based on skin or blood allergy test results.
- 3. Elemental diet:** Liquid meal replacement.

TIPS FOR MANAGING COSTS

HOW TO HANDLE YOUR EoE-RELATED EXPENSES

By Rachel Reiff Ellis

Reviewed by Neha Pathak, MD, WebMD Lead Medical Editor

After an EoE diagnosis, you want the best treatment plan to keep your symptoms under control. And although you want to do what's necessary, you may also be wondering what these treatments will cost.

Your expenses will vary based on your plan and insurance coverage, but there are ways to approach the financial part of your care with savvy.

Know the numbers

Your doctor may start with medications such as proton-pump inhibitors (PPIs) or inhaled steroids, or a biologic, or they may suggest an elimination diet. These options range in cost, and you may try several before finding what works.

Over-the-counter PPIs are inexpensive but generally the least effective treatment for EoE. Prescription steroids are more expensive.

"Typically, one inhaler is more than \$300 and you may need two of them per month," says Evan S. Dellon, MD, MPH, professor of medicine and adjunct professor of epidemiology at the



University of North Carolina School of Medicine at Chapel Hill. Other options can be as much as \$1,000.

Biologics are the most effective treatment, but costly. You get them from a specialty pharmacy and take them as weekly injections. Although the price can be steep, Dellon says there are forms of help available.

"There are copay assistance programs with the company [that makes the drug]," he says. "It's actually quite generous, but they're still the most expensive possible option right now."

Expect hidden costs

Most people with EoE respond well to dietary therapy. In a study, Dellon found that people

following the six-food elimination diet (SFED) added nearly \$700 to their yearly grocery bill.

"It's expensive if all your foods have to be wheat-, dairy-, and egg-free," he says. "And those estimates were from 2010, so that number might be doubled by now with inflation."

You may be able to cut some of these costs by talking to a nutritionist, says Elizabeth T. Jensen, MPH, PhD, associate professor of epidemiology and prevention and associate professor of gastroenterology at Wake Forest University School of Medicine in Winston-Salem, NC.

"They can provide information and resources about how to adhere to the diet in a way that is simple and not as costly for you," she says.

Compare plans

One of the best ways to save is to take a hard look at your insurance coverage and see if moving to another plan could reduce overall costs.

"You may need something with a higher

monthly premium that's going to be a lower deductible with better pharmacy coverage," Dellon says.

Even if you have to pay an extra \$100 to \$200 a month, it can pay off if you're facing multiple endoscopies and more expensive medications.

Check clinical trials

EoE treatment research is ongoing, and as a result, there are many clinical trial options. Your doctor can help you see if you qualify for any open studies.

"If you're underinsured or not insured, it's a great way to get treatments," Dellon says. "Everything—the endoscopies and medications and all of your care is paid for."

Connect with others

There are people out there who may have good advice about how to manage therapy costs.

"A lot of patient advocacy groups have a very active social media presence, which can be a way to connect with other families experiencing this and get ideas from their process," Jensen says.

ELEMENTAL DIET COVERAGE

States where insurance covers liquid replacement diets for people with severe EoE:

- | | |
|-----------------|----------------|
| + Arizona | + New Jersey |
| + Connecticut | + New York |
| + Illinois | + Oregon |
| + Maine | + Pennsylvania |
| + Maryland | + Rhode Island |
| + Massachusetts | + South Dakota |
| + Minnesota | + Texas |
| + Nebraska | + Washington |
| + New Hampshire | |

WHO CAN HELP?

These organizations can assist.

- | | |
|--|--|
| + American Partnership for Eosinophilic Disorders:
APFED.org | + Patient Access Network Foundation:
PANFoundation.org |
| + Campaign Urging Research for Eosinophilic Disease:
CUREDFoundation.org | |

BJARTE RETTEDAL/VIA GETTY IMAGES

WHAT IS YOUR EoE IQ?

TAKE THIS TRUE/FALSE QUIZ TO FIND OUT

By Kendall K. Morgan
Reviewed by Neha Pathak, MD, WebMD Lead Medical Editor

1. THE MAIN PROBLEM WHEN YOU HAVE EOSINOPHILIC ESOPHAGITIS (EoE) IS WITH YOUR ESOPHAGUS, THE TUBE THAT CONNECTS YOUR MOUTH AND THROAT TO YOUR STOMACH.

False ▶ EoE symptoms do show up in your esophagus. But EoE is a chronic immune system disorder. It happens mainly when your immune system reacts badly to foods that you're eating. The key to treating EoE is to limit the immune response either with medicine or by eliminating foods that trigger it.

2. EoE CAN BE CURED.

False ▶ EoE is a chronic disorder of the digestive system. It's a major cause of illness that can make it hard to swallow and eat. Doctors are diagnosing EoE more now than ever before at rates that keep going up.

3. EoE IS RELATED TO ACID REFLUX.

False ▶ Acid reflux happens when acid from your stomach comes up into your esophagus. EoE happens from inflammation caused by immune cells called eosinophils. Both conditions can make it hard to swallow and eat. If you have what you think is heartburn but it doesn't go away with heartburn medicine, you could have EoE. Even though acid isn't the main problem in EoE, medicines that lower acid in your stomach sometimes can help with EoE. But those medicines don't really fix the main problem.



4. A DOCTOR CAN'T TELL IF YOU HAVE EoE BY LOOKING AT YOUR ESOPHAGUS.

True ▶ Your doctor can't tell if you have EoE just by passing a camera and light in a flexible tube down your throat to look at your esophagus in a procedure called an endoscopy. But they will need to do an endoscopy of your esophagus to take biopsy samples. They'll use a microscope to check for immune cells called eosinophils and other signs of inflammation in small bits of your esophageal tissue.

5. THE ONLY WAY TO TREAT EoE IS BY AVOIDING FOODS THAT TRIGGER IT.

False ▶ Diets that take out major food allergens or foods you have specific sensitivities to can help and are a good way to treat your EoE. But medical treatment may also help manage the condition.

VLADIMIR BULGAR/SCIENCE PHOTO LIBRARY/VIA GETTY IMAGES

NEXT STEPS

Treatment plan:

▶ MEDICATIONS

DRUG			
DOSE			
WHEN TO TAKE IT			
HOW TO TAKE IT			

▶ LIFESTYLE CHANGES

DIET CHANGES	
EXERCISE PLAN	
ANXIETY REDUCTION	
OTHER CHANGES	

My next appointment is:

I should call between visits if:

“It’s important to receive proper treatment for your eosinophilic esophagitis because over time, **THE ALLERGIC REACTION CAN CREATE PERMANENT SCAR TISSUE AND CAUSE NARROWING—ALSO CALLED A STRICTURE—IN YOUR ESOPHAGUS.**”

HOUMAN REZAIZADEH, MD,
ASSOCIATE PROFESSOR OF MEDICINE AND DIRECTOR OF THE ESOPHAGEAL DISEASE PROGRAM AT UCONN HEALTH IN FARMINGTON, CT

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