

Topical Corticosteroids

Steroids, anti-inflammatory medications, can be used to help control inflammation and decrease the number of eosinophils:

- Oral steroids, like prednisone, are effective in treating EE; however, they can cause many side effects and most patients relapse when treatment is stopped.
- Topical corticosteroids, such as fluticasone and budesonide, also have proven to be successful in treating EE, and they have a lower risk of side effects. In order to treat EE, the topical corticosteroids must be swallowed. At this point, not enough information is available to know how safe and effective topical steroids are when used long term. Their most common side effect is thrush, a yeast infection in the mouth or esophagus.

PROGNOSIS

More studies are needed to know exactly what happens over the course of several years in children with EE. If EE is left untreated and the inflammation in the esophagus is not stopped, there is a risk that scarring, or strictures, may form. It is thought that children affected by EE continue with the condition into adulthood, although some children appear to outgrow their food allergies.

As research progresses, we will learn more about the prognosis for EE, so be sure to follow up regularly with your child's allergist.



FOOD ALLERGY PROGRAM

The Food Allergy Program at Children's National Medical Center provides comprehensive services in the evaluation and management of a wide variety of food allergies, including IgE-mediated food allergy, gastrointestinal food allergy, and eosinophilic gastrointestinal disorders.

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RESOURCES

For more detailed information about food allergies, visit:

- The American Partnership for Eosinophilic Disorders (www.apfed.org)

www.childrensnational.org

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ALL about **EOSINOPHILIC ESOPHAGITIS**



EOSINOPHILIC ESOPHAGITIS

Eosinophilic esophagitis (EE) is an allergic inflammatory condition in which there are a high number of eosinophils in the esophagus. Eosinophils are a type of white blood cell that help fight off certain types of infections and also participate in allergic responses. In people with EE, eosinophils inflame the tissue in the esophagus.

We cannot always determine what causes EE, but it is often triggered by a food allergy, especially in young children. Airborne allergens also may play a role. People with EE often have other allergic conditions as well, such as asthma, rhinitis, and/or eczema.

PREVALENCE OF EE

There has recently been a rise in the number of people diagnosed with EE. The increasing number is attributed not only to more people being diagnosed, but also to an increase in the number of EE cases. EE affects people of all ages and ethnicities; however, there is a higher prevalence of EE in males than females.

SYMPTOMS

Symptoms of EE may vary from person to person, but can include:

- **Poor appetite and failure to thrive** (poor growth and/or weight loss)
- **Feeding intolerance**
- **Reflux** that does not respond to typical reflux medications
- **Nausea and vomiting**
- **Difficulty swallowing**, known as dysphagia
- **Food impaction** (food getting stuck in the esophagus)
- **Abdominal or chest pain**
- **Difficulty sleeping**

Typically, younger children present with vomiting, reflux, and poor growth, whereas older children and adults tend to have difficulty swallowing and food impaction.

DIAGNOSIS

Endoscopy

If your child has symptoms of EE and has not responded to reflux medications, your child's doctor might then perform an endoscopy of the esophagus, stomach, and small intestine.

An endoscopy is a procedure in which a small tube with a camera at the end of it is inserted through the mouth. During the endoscopy, biopsies, or small tissue samples, are taken. If the biopsies show a high number of eosinophils throughout the length of the esophagus, this usually suggests that the patient has EE. Gastroesophageal reflux disease also can cause eosinophils in the esophagus, but usually the eosinophils are concentrated in the part of the esophagus closest to the stomach. The endoscopy also may show furrows, rings, or white plaques in the esophagus, which are all signs of the inflammation and scarring seen with EE. Once your child's doctor has confirmed he or she has EE, food allergy testing will be performed.

Food Allergy Testing

In some cases, a food allergy can cause EE. This is not the kind of food allergy where eating a certain food causes immediate symptoms, such as hives, swelling, or wheezing. Instead, in EE, eating the food over time may cause eosinophils to gradually inflame the esophagus, even without any apparent immediate reaction to the food. When a food allergy is causing EE, one of the most effective ways to treat the condition is to avoid the food that is triggering the eosinophils.

Several allergy tests may be done to help identify which foods, if any, are triggering EE. You and your allergist will determine which test is right for your child:

- **A skin prick** test may be used to test for immediate, or "IgE-mediated," allergies to foods. A small amount of the allergen is put on your child's skin (usually the back or forearm), and the skin is pricked. After 15 minutes, it is noted whether or not a wheal, a small reddish bump, is formed. If no wheal appears, it is usually considered a negative skin test. If a wheal appears, it is usually considered a positive skin test.

- **A blood test**, called a RAST, may be performed to check the IgE antibody levels in the blood for specific food allergens.
- **A skin patch test** may be used to test for delayed, or "non-IgE-mediated," reactions. For this test, small amounts of food are placed in a small cup and taped to your child's back for 48 to 72 hours to see if a reaction occurs. The use of food patch testing in the evaluation of EE is controversial, so talk with your child's allergist.

TREATMENT

The goal of treatment in EE is to reduce the number of eosinophils inflaming the esophagus to stop the symptoms and tissue damage. The two main approaches to treating EE are dietary therapies and topical corticosteroids. Together, you and your child's allergist will determine which treatment is best for your child.

Dietary Therapies

To determine what dietary treatments are best for your child, a few elimination diets may be tried. Which diets are tried depends on your child's symptoms, testing results, overall nutritional status, and other factors.

- The targeted elimination diet is recommended if your child tested positive for a certain food or foods during food allergy testing. All "positive" foods are removed from the diet.
- The six food elimination diet removes the six most common food allergies (eggs, milk, peanuts/nuts, shellfish/fish, soy, and wheat) from the diet.
- An elemental diet may be recommended if your child has not responded to the first two diets. This diet removes all sources of protein and uses an amino acid-based formula, such as Neocate® and Elecare®, to ensure your child is still getting adequate nutrition.
- A food trial may be performed if your child's symptoms improve and the eosinophils are cleared. Foods are reintroduced one at a time, to determine what foods your child can or cannot tolerate.