Unraveling Eosinophilic Granulomatosis With Polyangiitis
Patient-Clinician Discussion Reference Guide
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Table of Contents

Key Aspects of EGPA: An Overview for People Living With EGPA ................................................................. 3
Understanding EGPA .......................................................................................................................................... 3
Causes of EGPA and Affected Populations ..................................................................................................... 4
Symptoms .......................................................................................................................................................... 4
Outlook ............................................................................................................................................................. 5
Treatment Goals and Options .......................................................................................................................... 6
Managing EGPA Together: Forming a Strong Patient-Clinician Partnership .............................................. 7
Questions and Key Information You May Want to Share With Your Clinician Following a Diagnosis of EGPA ................................................................................................................................................. 8
References ......................................................................................................................................................... 9

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**Introduction**

Effective patient-clinician communication is essential to managing eosinophilic granulomatosis with polyangiitis, or EGPA. This reference guide is provided to facilitate productive discussions among people living with EGPA and their physicians and other healthcare professionals. It addresses 5 important aspects of EGPA, including key points for patients to bear in mind. It also highlights ways that patients and clinicians can form effective partnerships, suggests questions or information that patients who have recently received a diagnosis of EGPA may want to share with their clinicians, and provides reliable sources of information for learning more about EGPA.

**Key Aspects of EGPA**

**An Overview for People Living With EGPA**

**Understanding EGPA**

Let’s start by defining the words in the condition’s full name: eosinophilic granulomatosis with polyangiitis.

Eosinophils are a specific type of white blood cell that play a role in fighting infections. When a condition is marked by higher-than-normal levels of eosinophils in the blood or in body tissues, it is described as an eosinophilic condition, as in eosinophilic granulomatosis.

Granuloma are areas of inflammation that are filled with immune-system cells. When a person has granulomas, the condition is described as granulomatosis. The nose, sinuses, trachea (windpipe), and lungs are common sites of granulomas in EGPA. The kidneys, heart, and other organs can also be involved, particularly in more severe cases or during later stages of the disease.

Polyangiitis refers to inflammation of blood vessels, which can cause serious organ damage and significant symptoms. In the case of EGPA, medium-sized and small-sized blood vessels are affected.

Putting it all together, EGPA is a condition marked by elevated levels of eosinophils and areas of inflammation in different organs, along with inflammation of blood vessels. Beyond that description, it is important to understand that EGPA is rare, chronic, highly variable, and potentially serious.

- **Rare**—5000-plus people in the United States are believed to have EGPA, although the exact number is not known. Because it occurs so infrequently, we don’t know as much about EGPA as we would like, but our understanding of the condition is increasing rapidly.
- **Chronic**—EGPA cannot be cured, but it can be effectively managed. Many people with EGPA who adopt a healthy lifestyle and take their medications as prescribed can go for years without experiencing serious acute problems—known as disease flares. Even if people don’t have flares, regular monitoring is important to determine whether the condition has had an impact on previously unaffected organs.
• Highly variable—The initial and later symptoms of EGPA can differ significantly from one person to the next.
• Serious—EGPA can be life-threatening, in some cases, and may pose serious risks to organ function. However, as we’ll discuss in greater detail below, there is much that physicians and patients can do to reduce the impact of EGPA and the risks it poses.

Key Point for Patients
Because EGPA can show up in so many different ways and affect different organs, it is important to pay attention to your body and to contact your clinician sooner rather than later if you notice a new symptom, development, or concern. Even if something seems clearly unrelated to your EGPA, such as an apparent case of the flu or some other common cold–type sickness, inform your clinician so you can decide together how to deal with the situation.

Causes of EGPA and Affected Populations
The causes of EGPA are not fully understood but are the focus of intense research. The available evidence indicates that EGPA develops from a complex interaction between “environmental” factors—such as exposure to allergens and similar substances, infections, and perhaps certain medications—and a person’s genetic make-up (Figure). However, the role of specific environmental factors remains unproven and even controversial.2,3

Similarly, although research continues to explore which genes may place a person at elevated risk for developing EGPA, currently, we believe that genetics plays a much smaller role in the development of EGPA than they do in many other, more common conditions.

Eosinophilic granulomatosis with polyangiitis typically develops in middle-aged adults. In 3 recent studies, the mean age at diagnosis was 49 years to 50 years.4–6 Men and women seem to be at about the same risk for experiencing EGPA.3,7 There is not clear evidence on whether EGPA occurs more often in some racial or ethnic groups than others.3

Key Point for People Living With EGPA
EGPA is not an inherited condition. People don’t “get” EGPA from their parents or “give” it to their children. While it, theoretically, is possible for 2 people in the same family to develop EGPA, this would be a very rare occurrence.

Symptoms
Asthma is the most common symptom of EGPA, affecting about 90% of patients.4 In people with EGPA, asthma often develops in adulthood or, if EGPA is diagnosed in childhood or adolescence, it often becomes significantly worse in adulthood.

One of the largest studies to date of people with EGPA, involving more than 380 patients, found that several other symptoms were common (Table 1).4

Further, about 28% of people with EGPA have cardiovascular manifestations of the disease, 23% have related gastrointestinal problems, and 22% have kidney issues.4 Although these symptoms occur less frequently than do those listed in Table 1, they are among the most serious manifestations of the disease, as discussed below.

The EGPA symptoms people experience may depend in part on whether they have antibodies called antineutrophilic cytoplasmic antibodies (ANCA). Antibodies are blood proteins that the immune system produces to counteract another substance. Typically, an antibody recognizes and acts on an antigen, which is a foreign substance, such as a bacteria or virus. However, autoantibodies target a component of the body’s own tissues, in this case the inside (cytoplasm) of neutrophils, which are a type of white blood cell. About 40% of people with EGPA are ANCA-positive, meaning that their blood contains these autoantibodies.4 Beyond affecting what symptoms a person experiences, ANCA status appears to influence the course of EGPA and which complications a person may experience (Figure).4

### Table 1. Common Symptoms of Eosinophilic Granulomatosis With Polyangiitis

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Percentage of Patients Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peripheral neuropathy</td>
<td>51</td>
</tr>
<tr>
<td>Weight loss not resulting from dieting</td>
<td>49</td>
</tr>
<tr>
<td>Mononeuritis multiplex, a neurologic condition causing pain in different parts of the body</td>
<td>46</td>
</tr>
<tr>
<td>Sinusitis/nasal polyps</td>
<td>42</td>
</tr>
<tr>
<td>Rashes, hives, purple-colored spots (purpura), and other skin symptoms</td>
<td>40</td>
</tr>
<tr>
<td>Fever</td>
<td>39</td>
</tr>
<tr>
<td>Muscle aches (myalgia)</td>
<td>39</td>
</tr>
<tr>
<td>Joint pain (arthralgia)</td>
<td>30</td>
</tr>
</tbody>
</table>
Key Point for People Living With EGPA
Talk with your clinician about how she/he plans to monitor your health and treat your EGPA based on your ANCA status and other biomarkers, and talk about whether you should watch for any particular symptoms.

Outlook
A patient’s outlook—or prognosis, in medical terms—is affected not only by the treatment they receive, but also by factors such as age and how EGPA manifests—whether the disease has affected the heart, kidneys, or gastrointestinal system. Clinicians sometimes use a method called the Five Factor Score, or FFS, which considers those characteristics to assess a patient’s outlook and formulate a treatment plan.

In one recent study of 72 people with EGPA who had a favorable prognosis based on the FFS, the 1-year survival rate was 100% and the 5-year survival rate was 97%. In another study, which looked at 48 patients with a poor prognosis, the 8-year survival rate was 92%. These survival rates are likely to improve even further as clinicians learn more about which approaches to managing EGPA are most effective and as new therapies become available.

At the same time, it is important to remember that EGPA remains a serious and potentially life-threatening disease. Cardiac conditions, including heart failure and heart attack, remain the leading causes of death for people with EGPA, with kidney failure and severe uncontrolled asthma attacks (status asthmaticus) also being common causes of death.

Key Point for People Living With EGPA
Talk with your clinician about your specific risks for heart disease, kidney disease, and other serious medical issues and how you can reduce those risks. Remember, protecting your health includes not only managing EGPA, but also taking steps to optimize your overall well-being, such as preventing or controlling high blood pressure and diabetes, maintaining a healthy weight, engaging in physical activity in a manner approved by your clinician, and practicing stress management.
Treatment Goals and Options
The goals of treatment in EGPA are broad.
• Address acute problems by controlling disease “flares” and return to baseline health status (aka inducing remission)
  - Asthma exacerbations
  - Acute kidney inflammation (glomerulonephritis)
  - Urgent cardiac, neurologic, or rheumatologic problems
• Avoid or reduce the severity of any further acute problems or relapses
• Prevent organ damage and dysfunction
• Protect overall health and prevent death
• Avoid or limit side effects of treatment
• Maintain or enhance quality of life

Prednisone, which is a steroid, is the cornerstone of EGPA treatment. It has played a major role in reducing deaths from the condition. Prednisone is used both to control flares and to prevent relapses once someone has achieved remission. However, along with its considerable benefits, prednisone can have a negative impact on immune function, bone health, glucose metabolism, weight, and other aspects of health. These side effects can be particularly problematic when prednisone is used over the long term.11

Once a patient’s symptoms have improved on prednisone or on a multidrug treatment regimen that includes prednisone, clinicians engage in a delicate balancing act. They seek to gradually reduce, or taper, the dose of prednisone so that patients are taking just enough of the steroid to avoid a recurrence of EGPA symptoms while also avoiding or minimizing side effects. In many cases, this approach involves adding other medications to the treatment regimen so that clinicians can reduce the prednisone dose while still maintaining disease control. These other medications may include cyclophosphamide, methotrexate, azathioprine, and mycophenolate mofetil, among others.11

Which medications, if any, are added to prednisone, depends on several considerations, including whether the clinician is trying to induce or maintain remission, the nature and severity of a specific patient’s symptoms, how well the patient tolerates different medicines, and the patient’s overall health. All of these medications, although beneficial when used in properly selected patients, have their own side effects. Some patients are able to discontinue prednisone altogether, but many more need to remain on steroids over the long term. For many people, a low dose of prednisone is all that is required to maintain disease control, whereas, for others, a combination of medications is needed.

In recent years, researchers have focused on treating EGPA with medications that target interleukin-5 (IL-5), an immune system protein that plays a role in the production of eosinophils. In 2017, the anti–IL-5 medication mepolizumab became the first therapy that the US Food and Drug Administration (FDA) approved specifically for the treatment of EGPA.12 The FDA granted this approval based on the results of a study involving more than 130 patients whose EGPA symptoms did not respond sufficiently to initial treatment or who had relapses. Study participants received either prednisone plus mepolizumab or prednisone plus a placebo. The prednisone-plus-mepolizumab group was more likely to achieve remission, had a lower relapse rate, was more often able to reduce the prednisone dose, and had other favorable outcomes, as compared with the prednisone-plus-placebo group.13 Other medications that target IL-5 and other immune-system components are also being studied to see if they can be used to treat EGPA, although none besides mepolizumab has yet been approved by the FDA for this use. Although anti–IL-5 agents are generally safe and well-tolerated, it is important for patients and clinicians to consider all benefits and risks of each medication included in a treatment plan.

Key Point for People Living With EGPA
Before starting any medication, talk with your clinician about how it works (its “mechanism of action”), why she or he is recommending it for you, the benefits it offers, and the risks it entails. In particular, know which side effects have been reported with the medication so that you can contact your clinician promptly should you experience any of them. Also confirm that your clinician knows what other medicines you are taking for other conditions and any over-the-counter medicines, dietary supplements, vitamins, herbs, or other substances or preparations you are taking.
Managing EGPA Together
Forming a Strong Patient-Clinician Partnership

Effective communication between patients and clinicians is important in managing all medical conditions, but it takes on incredible significance in dealing with a condition as complex, serious, and multifaceted as EGPA. Table 2 outlines several ways patients and clinicians can help forge a strong therapeutic partnership.

Not surprisingly, patients with EGPA will typically receive care from several different specialists and other healthcare professionals, and it is essential that the therapeutic partnership encompass all of those clinicians. Although the approaches outlined here are applicable to patients’ interactions with each of their healthcare professionals, it also is important for patients to understand how those various clinicians will communicate and collaborate with each other. Patients should not be the only, or primary, means for communicating information about their care from one physician to another, but it is nonetheless worthwhile for patients to confirm that key information has been shared between those clinicians.

Table 2. Key Components of a Therapeutic Partnership in Eosinophilic Granulomatosis With Polyangiitis

<table>
<thead>
<tr>
<th>Patient</th>
<th>Clinician</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educate yourself about EGPA by drawing on information from <strong>reliable</strong> sources.</td>
<td>Educate your patients about EGPA; direct them to reliable sources of information, advocacy organizations, and any appropriate support groups. Also continue to educate yourself on this rare condition and the latest findings on its natural history, diagnosis, and treatment.</td>
</tr>
<tr>
<td>Promptly report any symptoms, potential medication side effects, concerns, and changes in your overall health, including any new medicines you are taking for other conditions.</td>
<td>Thoroughly address patient concerns about symptoms, potential side effects, and changes in their health status, including ordering assessments, consulting colleagues, and making referrals, as necessary. Additionally, communicate key information to other physicians and healthcare professionals involved in the patient’s care.</td>
</tr>
<tr>
<td>Do not be shy about asking questions, particularly when you are unclear about how to take a medication or follow other steps prescribed or recommended by your clinician.</td>
<td>Fully answer the patient’s questions, and proactively explain the purpose and nature of tests, treatments, and other aspects of care.</td>
</tr>
<tr>
<td>Monitor your EGPA symptoms and overall health in a manner that works well for you, such as a daily paper diary or an entry on your smart phone, and inform your clinician if significant changes occur. Also, prepare for upcoming visits by summarizing this information and creating a list of any questions you want to ask.</td>
<td>Empower your patients to be active partners in their care by identifying key health parameters the patient should monitor, such as symptom status, treatment response, changes in weight or energy level, etc. Review this information during visits, making any indicated changes to treatment regimens and management plans.</td>
</tr>
<tr>
<td>Respect your clinician’s expertise, dedication, and time, and recognize that because EGPA is so uncommon and complex, you both are on a learning curve and need to educate each other about the impact of EGPA on your body, health, and life.</td>
<td>Understand and respect the patient’s goals of care, concerns, and priorities, and understand and respect the limits of your familiarity with this rare condition, consulting and referring as warranted.</td>
</tr>
<tr>
<td>Engage in shared decision making with your clinician, ensuring that they have all pertinent information about your health, and then carefully consider the medications and overall management plan the clinician recommends, weighing the benefits and drawbacks of various options, and coming to decisions together.</td>
<td>Engage in shared decision making with your patients, ensuring that you understand their abilities, preferences, and values before arriving at a mutual decision that accords with your expertise, clinical judgment, and professional responsibility. Ensure that your patients have all pertinent information about their health, the benefits and drawbacks of various options, and your agreed-upon treatment regimen and management plan. In particular, contribute to a dynamic in which patients are comfortable sharing information, concerns, questions, and preferences.</td>
</tr>
</tbody>
</table>

In particular, do not stop a medication or change a medication dose or schedule without first talking with your clinician.
Questions and Key Information You May Want to Share With Your Clinician Following a Diagnosis of EGPA

Questions

1. What findings led you to diagnose EGPA, and what are the main things I should know about those findings and what they mean for my health?

2. Based on your findings and diagnosis, are other tests or referrals to other types of specialists needed?

3. How would you characterize my prognosis, and which specific aspects of EGPA are of most concern in my case?

4. Am I ANCA-positive or ANCA-negative; how will my ANCA status affect how you will monitor and treat my symptoms?

5. What treatment plan do you recommend, and what are the benefits and risks of the medication(s) you are prescribing?
   a. What should I expect from those medications, in terms of both the degree and speed of improvement; what are the side effects I should watch for and report?

6. How will you monitor my health going forward, in terms of follow-up visits, imaging studies, lab tests, and other steps?

7. How will you communicate and coordinate with my other physicians?

8. Considering my specific health status and medical history, what are the main steps I can take to enhance my overall well-being?

9. What sources do you recommend for further educating myself about EGPA; do you recommend any support groups, advocacy organizations, or similar organizations?

10. What are the best ways for me to communicate with you? For example, which questions or information warrant a call to the office, and when should I instead ask a question or share information through a patient portal or similar platform?

Key Information

- The impact EGPA has had on your life thus far, including your professional activities, social life, and relationships
- Your main concerns about living with EGPA
- Your main goals in living with EGPA
- What you hope to achieve through treatment
- What you don’t understand about your diagnosis or treatment plan
- Any symptoms, physical conditions, or other developments that may or may not be related to EGPA
- Any other health-related information you want to make sure the clinician knows

Resources for Learning More About EGPA

American Partnership for Eosinophilic Disorders
https://apfed.org/

Vasculitis Foundation
https://www.vasculitisfoundation.org/

National Organization for Rare Disorders
https://rarediseases.org/rare-diseases/churg-strauss-syndrome/

National Institutes of Health
REFERENCES


