
Understanding Aspirin-Exacerbated Respiratory Disease (AERD)

Aspirin-exacerbated respiratory disease (AERD) is a long-term (chronic) condition. It's mainly diagnosed in adults. AERD is often called Samter's Triad because it's made up of 3 conditions:

- Asthma
- Sinus disease with growths (nasal polyps) along the lining of the nose or sinuses. These polyps are non-cancerous(benign). But they tend to grow back if they are removed.
- High sensitivity to aspirin, ibuprofen, and other nonsteroidal anti-inflammatory drugs (NSAIDs) that block (inhibit) an enzyme called COX-1 (cyclooxygenase-1). When someone with AERD takes these medicines, it can cause reactions in both upper and lower respiratory tracts. This can cause breathing problems.

Causes of AERD

Experts don't know what causes AERD. There is no clearly understood trigger linked to the cause of the chronic condition. AERD can suddenly occur in adults between ages 20 and 50. But research has reported that Samter's Triad can start at an earlier age, even in childhood. It's often linked to:

- Asthma (severe)
- Low lung function
- Increased need for emergency care due to asthma and low lung function

Symptoms of AERD

Common symptoms of AERD include:

- Chronic sinus infections
- Loss of sense of smell
- Stuffy nose (nasal congestion)
- Nasal polyps that keep coming back (recurring)

With AERD, taking aspirin or other NSAIDs often leads to symptoms, such as:

- Stuffy nose or blockage in the nose
- Headache or sinus pain
- Red or watery eyes
- Sneezing
- Chest tightness

- Wheezing
- Coughing
- Shortness of breath

Other symptoms may include:

- Patches of warm, red skin
- Rash
- Upper stomach pain
- Stomach bloating, gas, or cramps
- Pain below your ribs
- Vomiting

About 3 in 4 people with AERD also have mild or moderate respiratory symptoms after drinking alcohol. This can occur after having less than 1 glass of an alcoholic drink.

Diagnosing AERD

There is no single test that can tell if you have AERD. But if you have asthma, nasal polyps, and a respiratory reaction after taking certain NSAIDs, then you may be diagnosed with AERD. People with AERD also have high amounts of a type of immune cell (eosinophils) in their nasal polyps. They may also have high levels of eosinophils in their blood.

To confirm that your reaction is caused by aspirin or other COX-1-inhibiting NSAIDs, you may need to do an aspirin challenge test. While a healthcare provider is watching, you will slowly be given increasing doses of aspirin. You will be watched to see if you have any breathing problems or a reaction to the medicine.

Treatment for AERD

There is no cure for AERD. But it can be managed with the following:

Staying away from triggers

If you have not yet been desensitized to aspirin, it's key to stay away from aspirin and all types of NSAIDs. This can help prevent reactions. But you may still have common AERD symptoms. That's because you may be more likely to have allergies or other respiratory problems.

Aspirin desensitization

While a healthcare provider is watching, you are given slightly larger doses of aspirin until you show symptoms. You will stay on that dose of aspirin daily until you don't have a reaction. Then this is repeated with a slightly higher dose. This may help you be able to safely take aspirin. Some people with AERD find that long-term daily aspirin therapy helps reduce nasal polyps. It may also reduce the need for steroid medicines. Talk with your provider.

Surgery

You may need surgery to remove nasal polyps. But they often come back after surgery.

Asthma medicines

These medicines are key in treating AERD. There are different types of asthma medicines. You may need to take more than one. Talk with your healthcare provider to be sure you know how to use all of your medicines correctly. Create an Asthma Action Plan with your provider. Update your Action Plan each year or when you see your provider. Asthma medicines used to treat AERD include:

- **Quick-relief (rescue) medicine.** These medicines are fast-acting. They give you quick relief when your symptoms start. They relax and open the airways. Take these medicines only when needed. Always carry this medicine with you.
- **Long-term control (maintenance) medicine.** These medicines help relax the muscles around your airways. They are often taken on a schedule. Don't skip doses unless your healthcare provider tells you to. They are often combined with an inhaled corticosteroid medicine.
- **Inhaled corticosteroids.** These medicines reduce airway swelling and inflammation. These medicines are often taken for more severe symptoms. They open up the airways. They are inhaled right into the bronchial tubes of your lungs.

Other medicines

Your healthcare provider may also advise taking these medicines:

- Nasal steroid sprays or steroid sinus rinses to reduce nasal symptoms
- Steroid shots injected into your nasal polyps to help reduce or remove them
- Steroids by mouth (oral pills) if your symptoms are severe enough

Living with AERD

You may still have some AERD symptoms once you stop taking aspirin or other COX-1-inhibiting NSAIDs. That's because you may be more likely to have allergies or other respiratory problems, even without taking these NSAIDs. But you still should not use any type of NSAID. They can make your underlying health problem worse. Acetaminophen is not an NSAID. But always talk with your healthcare provider before taking it, even if it's a low dose.

When to call your healthcare provider

Call your healthcare provider right away if any of the following occur:

- Feeling dizzy, faint, or weak
- Lasting cough
- Fast heartbeat or pulse
- Having trouble doing normal activities

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- Wheezing when you breathe in or out that is different from your normal breathing
 - Wheezing or chest tightness that gets worse, even after taking medicine

Call 911

Call 911 right away if any of the following occur:

- Trouble walking or talking
- Fingernails or lips turn blue or gray
- Trouble breathing
- Nostrils flare when you breathe
- With each breath you take, your chest, ribs, or neck are pulled in
- You take 30 or more breaths per minute