

Allergic Rhinitis Allergy and Immunology Awareness Program



Allergy and Immunology Awareness Program (AIAP)

@ AIAP@hamad.qa
http://aiap.hamad.qa

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Allergic Rhinitis

This is the chronic inflammation of nasal passage that happens after being exposed to an allergen(s) and it causes many annoying symptoms. Patients, especially children, usually are unaware of the symptoms and parents often do not consider it as allergic rhinitis. Thus, a child may suffer without receiving adequate therapy. The symptoms could be mild (not interfering with a patient's daily activities), moderate or severe (affecting the patient's quality of the life).

The symptoms are:

- A runny nose with stuffiness
- Excessive tearing or itchy eyes
- Sneezing
- Itchy nose or throat
- Feeling pressure behind the nose or on either side of it Swollen and dark skin under the eyes

Allergic rhinitis occurs according to allergen exposure. Sometimes the symptoms can come and go with seasons – seasonal allergic rhinitis – and sometimes they can last for the whole year – perennial allergic rhinitis.

Allergens

They are regular things around us (airborne substances) that do not cause allergic symptoms normally. However, if people are susceptible to allergy, their bodies will overreact when they exposed to the allergen. They are classified as indoor and outdoor allergens.

Indoor Allergens:

- **Dust mites:** Dust mites are insects, not able to be seen with the naked eye, that survive in bedding, carpets, stuffed furniture, old clothing and stuffed toys. They survive primarily on human dander. Dust mites are common in humid climates.
- **Mold spores:** These are part of a fungus. They can be found in a lot of homes. Mold chooses to grow in humid places like bathrooms or kitchens.
- **Cockroach particles:** Cockroaches can live in small cracks in homes without ever being seen. You will more likely to find them in the kitchen where food is exposed.
- **Animal dander and feathers:** This is the bits of dead skin or hairs that naturally fall off any animal.



Dust mites



Mold spores

Outdoors Allergens:

These are present outside. The commonest one is pollen from trees, shrubs, grasses and weeds. Pollen may travel many kilometers. Therefore trees, grasses and weeds in your general area can cause allergy symptoms.

How does Allergic Rhinitis Happen?

A person is more likely to get allergic rhinitis if their parents have it too. This is also true if the parents or any family member have other allergies like skin allergies, asthma or even food allergies. These diseases tend to run in families.

Everybody's defense system is in charge of checking the things that come into contact with it. It labels normal things as safe and harmful things (like viruses), as unsafe.

Then, the immune system will make antibodies (IgE – as an example) as well as chemical substances – act as inflammatory mediators, such as histamine, to attack the harmful things specifically.

Sometimes, the defense system will make a mistake by attacking a safe substance like tree pollen through those antibodies and mediators. This is what gives a person allergic rhinitis and other allergic reactions.

Conditions Associated or Complicated with Allergic Rhinitis

There are many complications and diseases that could be associated with allergic rhinitis. Complications affect the daily performance and quality of life such as sleep disturbance, daytime tiredness, headaches and poor concentration. This can include:

- **Otitis Media:** Inflammation of the middle ear usually due to dysfunction of Eustachian (auditory) tube. It commonly happens as a result of viral or bacterial infection. Children have higher tendency to develop otitis media because their auditory tubes are small, soft and horizontal. This make the infection spread easily from the adjacent structures like nose or throat.
- **Rhino-sinusitis:** Inflammation of the sinuses. Same as ears, the sinuses are also connected with the nose, so they could be affected by nose diseases.
- **Nasal polyps:** These are benign, fleshy swelling growths from the mucous membrane of the sinuses or nose. They cause a profound feeling of nasal blockage.
- **Allergic conjunctivitis:** This is the inflammation of the conjunctiva that occurs because of allergy.

Associated diseases:

- **Bronchial asthma:** This occurs mainly due to the inflammation and swelling of the airways, plus secretion of mucus that can cause obstruction and promote further breathing difficulties.
- **Atopic dermatitis:** An allergy that causes skin rash.

Diagnosis

It is very difficult to diagnose allergic rhinitis in the first two to three years of life. The prevalence of allergic rhinitis peaks in the second to fourth decades of life and then gradually diminishes.

Initially, your doctor will ask questions to find out when and where you get the symptoms (for example during a particular season, after exposure to a dog or cat). Are the symptoms associated with other infections or skin rash? Also they will check if you had been taking specific medication which may cause these symptoms. Does anyone in your family have allergy?

Next, the doctor examines your nose as well as ears, throat, eyes, lungs and skin. After that, he might ask for a blood or skin test specific for allergy detection to confirm the diagnosis. And he may request radiographic imaging if rhino-sinusitis is suspected. Allergy tests should only be done by an allergy/immunology specialist.

Management

If the allergy toward a specific allergen is confirmed, the best management is to avoid it.

Medication

There are different kinds of medication which are used to control the symptoms. Your physician will prescribe the appropriate one according to the severity and duration of the attacks.

These types are:

- **Corticosteroids:** Intranasal glucocorticoids are generally the most effective therapy. They reduce swelling inside the airways and may also decrease mucus production. They must be used under physician consultation.
- **Leukotriene Modifiers:** Some inflammatory cells produce chemical signals called 'leukotrienes', which is an inflammatory mediator like histamine. They lead to more tissue swelling. Leukotriene modifiers are long-term control medications. They decrease congestion, but they are less effective than inhaled steroids.
- **Anti-histamines:** They are formed as tablets and nasal sprays. Sprays appear to have some anti-inflammatory effect as well as can improve nasal congestion. They have rapid onset of action (less than 15 minutes) and can be administered on demand.
- **Decongestants:** Be aware you should use them for maximum five days otherwise they will worsen the nasal block. Moreover, adults people with high blood pressure and pregnant ladies have to use them with precautions.

Allergy Shots (Immunotherapy)

This immunotherapy consists of a series of injections with solutions containing the allergens. The purpose is to decrease sensitivity, which in turn will reduce symptoms. Treatment usually begins with shots of a weak solution given once or twice a weekly. Then, concentration is gradually increased until the strongest dosage is reached. After that they will be given on a monthly basis. Injections should be given in a hospital, where trained staff can manage any life threatening reactions. They do not produce a direct outcome. A period of six months to one year may be necessary prior to improvement is being seen. A normal path of treatment with these shots is three to five years. Although, some people may benefit from a longer course, not everyone responds well.

Nasal Irrigation (Rinse)

Nasal irrigation is rinsing nasal passages with large amount of saline solution (salt water). Several studies showed the effectiveness of this approach in relieving nasal congestion, rhinorrhea as well as sleep disturbance. The aim of nasal rinsing is to clear the nasal mucosa and rid possible allergens and irritants out, thus reducing the nasal blockage. Moreover, research has shown medication sprays are more effective when patients performed nasal rinsing before using them. This involves different kinds of devices, including syringes, pots, bottle sprayers and saline.



How to use nasal sprays

1. Blow your nose.
2. Shake the bottle.
3. Tilt your head slightly forward
4. Using your right hand spray the medicine into your left nostril, aiming for the outer wall of the nostril.
5. Repeat the same for your right nostril using your left hand.
6. Spray as many times as prescribed.

For more information, please contact us at: AIAP@hamad.qa

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