



# New therapies for allergic rhinitis

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## ABSTRACT

New therapies for allergic rhinitis are more effective and have fewer side effects than older medications. Antihistamines, decongestants, and cromolyn sodium nasal sprays are often tried first. Second generation prescription antihistamines have fewer side effects than over-the-counter ones. Steroid nasal sprays are extremely effective and safe for the entire range of allergy symptoms. Immunotherapy requires a lengthy course of injections, but it can bring long-term relief for severe allergies.

**A**LLERGIC RHINITIS affects nearly a quarter of all Americans. For many, it is not just a passing inconvenience: 50% of allergy sufferers experience symptoms lasting more than 4 months, and 20% have symptoms lasting more than 9 months. Fortunately, the arsenal of medical therapies has been expanded and improved, offering more and better options than ever before (TABLE 1).

## SYMPTOMS AND HISTORY

**Symptoms.** Allergic rhinitis often begins with clear, runny discharge from the nose, itchy eyes or nose, and sneezing. Later, congestion becomes a problem. If sinus drainage becomes blocked, fluid build-up may cause

pressure or sinus headaches and create an ideal environment for sinus infections.

**Identifying the allergen.** The first step in identifying the culprit allergen is to take a good medical history. Patients with symptoms that recur every spring may be sensitive to the pollen of trees (early spring) or grasses (May and June). Symptoms later in the summer may be caused by ragweed (August through October). Mold spores begin to cause problems in the summer and escalate through fall. Nonseasonal allergens include cat and dog dander, feathers, and dust mites. (FIGURE 1)

Exposure to an allergen causes an immediate reaction, but can also cause a "late-phase reaction" 3 to 4 hours later in about 50% of patients. Thus, patients with chronic symptoms, repeated exposures, or allergies to more than one substance may no longer recognize a cause-and-effect relationship between the allergens and their symptoms.

In those patients in whom a medical his-

**TABLE 1**

## Treatment plans for allergic rhinitis

### Mild symptoms

Antihistamines or antihistamine-decongestant combination  
and/or  
Intranasal cromolyn sodium

### Moderate symptoms

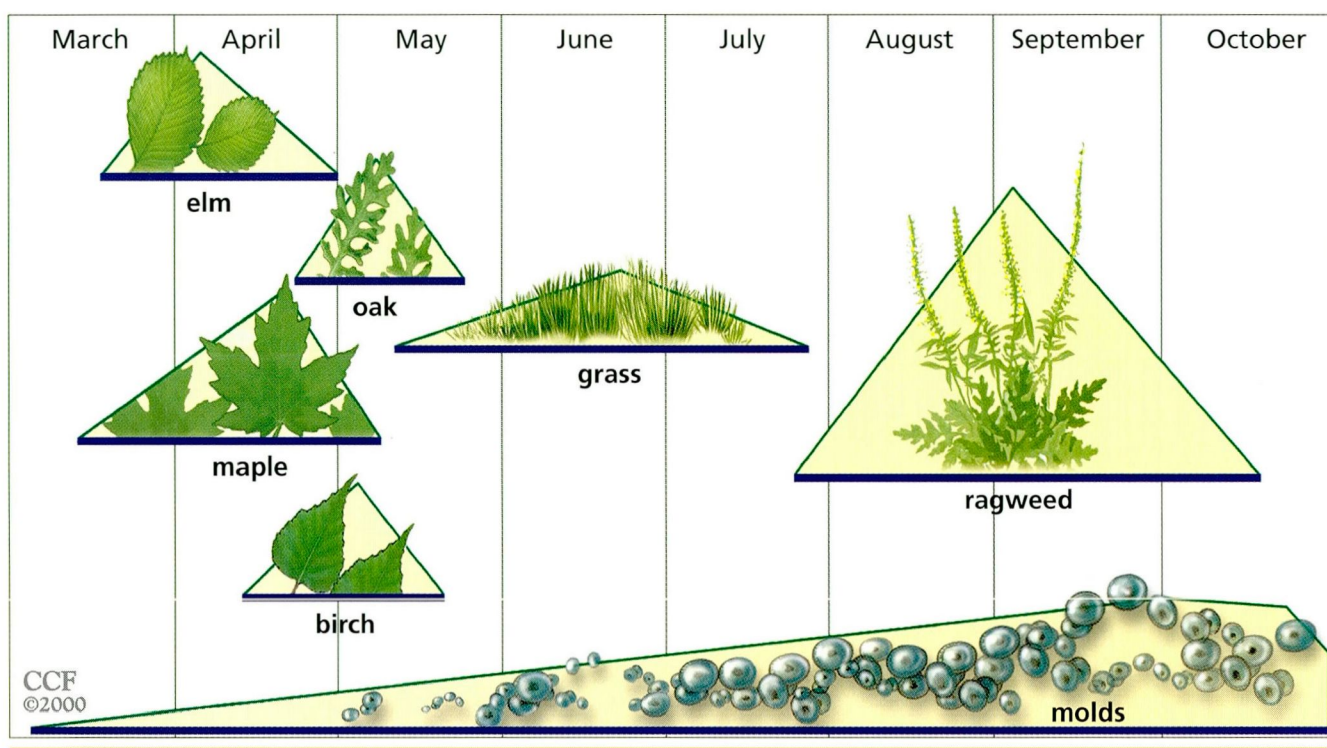
Intranasal corticosteroids  
and/or  
Antihistamine-decongestant combination  
and/or  
Immunotherapy if symptoms persist longer than 2 to 3 months

### Severe symptoms

Intranasal corticosteroids with short course of oral corticosteroids  
and/or  
Antihistamine-decongestant combination  
and/or  
Immunotherapy

\*Disclosure: Dr. Graft serves as a consultant and has conducted research in multicenter trials for Schering-Plough and Hoechst Marion Roussel, and has received honoraria as a speaker for Astra, Glaxo-Wellcome, Hoechst Marion Roussel, Pfizer, and Schering-Plough.

## ■ The seasonal pattern of allergic rhinitis



**FIGURE 1.** Estimates of allergen concentrations and incidence of allergic rhinitis by month in the northern United States.

tory cannot identify an allergen, or when a variety of allergens are suspected, skin tests or radioallergosorbent tests (RAST) may be necessary to identify the allergen or allergens.

### ■ THERAPIES FOR ALLERGIES

#### Environmental control to reduce exposure

The most effective prevention is avoidance of the source of allergens. Avoiding all exposure is impossible with many pollen allergies, but closing house windows in the summer and using air conditioning will help.

If allergic pet owners refuse to give up their pets, excluding pets from the bedroom may provide some relief. The evidence is contradictory about whether shampooing pets reduces dander levels.

Patients allergic to dust mites should enclose mattresses, box springs, and pillows in zippered plastic bags. They should also wash bedding in water 130°F (54.4°C) or hotter, change furnace filters regularly, use a dehu-

midifier, and remove carpeting, especially from the bedroom.

#### Antihistamines

Antihistamines reduce sneezing, itching, and nasal drip, but not congestion (TABLE 2).

Over-the-counter antihistamines are sufficient for many patients but cause drowsiness, dry mouth, urinary retention, or other side effects in about 20%. Rarely, blurred vision, nausea, and vomiting have been reported.

**Newer second-generation antihistamines** have fewer side effects and are safe. Loratadine (Claritin), fexofenadine (Allegra), and cetirizine (Zyrtec) are as effective as older antihistamines with no sedating effect. They also have very little anticholinergic activity, and thus have very low rates of the other side effects.

Terfenadine (Seldane) and astemizole (Hismanal) were taken off the market by their manufacturers because they were sometimes associated with prolonged QTc intervals when

**TABLE 2****Effectiveness of medication classes on symptoms of allergic rhinitis**

| MEDICATION                 | SYMPTOM            |                    |                    |                    |
|----------------------------|--------------------|--------------------|--------------------|--------------------|
|                            | SNEEZING           | RUNNY NOSE         | ITCHING            | CONGESTION         |
| Saline wash                | Slightly effective | Slightly effective | Slightly effective | Slightly effective |
| Antihistamines             | Very effective     | Very effective     | Very effective     | Not effective      |
| Decongestants              | Not effective      | Not effective      | Not effective      | Very effective     |
| Intranasal cromolyn sodium | Effective          | Effective          | Effective          | Effective          |
| Intranasal corticosteroids | Very effective     | Very effective     | Very effective     | Very effective     |
| Immunotherapy              | Very effective     | Very effective     | Very effective     | Very effective     |

taken at high doses or in combination with other medications.

Ocular antihistamine drops can reduce itching in the eyes.

**Decongestants**

In contrast to antihistamines, decongestants reduce congestion but have no effect on runny noses or sneezing. When discussing nasal congestion with patients, determine whether they are troubled by swollen turbinates (best treated with decongestants) or blockages caused by mucus (which are better treated with antihistamines).

In some patients, decongestants such as pseudoephedrine and phenylpropanolamine cause jitteriness, elevated heart rate, insomnia, or rarely, hypertension. Some patients find that taking antihistamines and decongestants in combination cancels out the side effects of each, although others may experience an unpleasant combination of sedation and agitation.

**Cromolyn sodium**

Over-the-counter cromolyn sodium nasal sprays are effective for both runny nose and congestion, and they have no long-term side effects. The spray should be started before allergy season and continued through the whole season. However, some patients may be unwilling or unable to follow the four-times-a-day recommended dosing schedule. Cromolyn sodium can be used in combination with antihistamine-decongestants.

Counsel patients to avoid prolonged use of nasal sprays containing oxymetazoline; they

clear up congestion for a few days but can cause worse symptoms afterwards, in a pattern called rebound congestion.

**Intranasal corticosteroids**

Steroid sprays have revolutionized the treatment of allergic rhinitis. Intranasal steroids treat all allergy symptoms and are the most effective medications for allergic rhinitis. Patients can choose wet sprays or dry ones, according to their preference. Side effects are rare when these medications are used for the duration of an allergy season (usually no more than 8 weeks), although some patients may experience nasal bleeding or a burning sensation.

Patients often have concerns about these sprays which may prevent them from filling or using a prescription. Many have unfavorable impressions of the word "steroid." They should be assured that the sprays do not contain the type of steroids (anabolic) used to build up muscle, and thus will not cause "bulking up" in the body or in the nose. Also, patients should be assured that steroid sprays do not cause dependence by causing rebound congestion, as over-the-counter oxymetazoline sprays sometimes do.

Finally, it is very important to tell patients that these sprays must be used for 3 to 7 days before they will bring any relief, otherwise some patients may stop therapy when they fail to get immediate relief.

Occasionally, users may experience local irritation of the septum and bloody mucus. To avoid this complication, advise patients not to spray the medication at the septum but rather to aim the bottle up into the sinuses.

**Steroid sprays have revolutionized the treatment of allergic rhinitis**



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Some patients with severe allergies may benefit from a short course of oral steroids (prednisone 20 mg twice daily for 3 to 5 days) just before symptom onset. After that, nasal steroid sprays should be sufficient for the rest of the season.

Cromolyn sodium sprays are preferred for children, as nasal steroids have been associated with slowed growth in children.

## Immunotherapy

Immunotherapy (allergy shots) is a gradual process in which increasing doses of allergens are injected at weekly intervals to induce tolerance. To be effective, immunotherapy must use the correct allergen or allergens, which must be identified through skin testing or radioallergosorbency test. Individuals often have positive skin test or RAST to allergens which are not clinically significant. Effective immunotherapy also depends on adequate doses of the allergen. Three to five years of injections may induce prolonged immunity. However, patients must still strive to avoid exposure by modifying their environment, and they should be prepared to use some medications during allergy season.

Serious anaphylactic reactions to immunotherapy are rare, but a physician must be available whenever injections are given and the patient must remain at the physician's office for 30 minutes after the injection so staff can monitor any reaction.

## SUGGESTED READING

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