

Allergic rhinitis

Non-Prescription Drugs and Parapharmaceuticals

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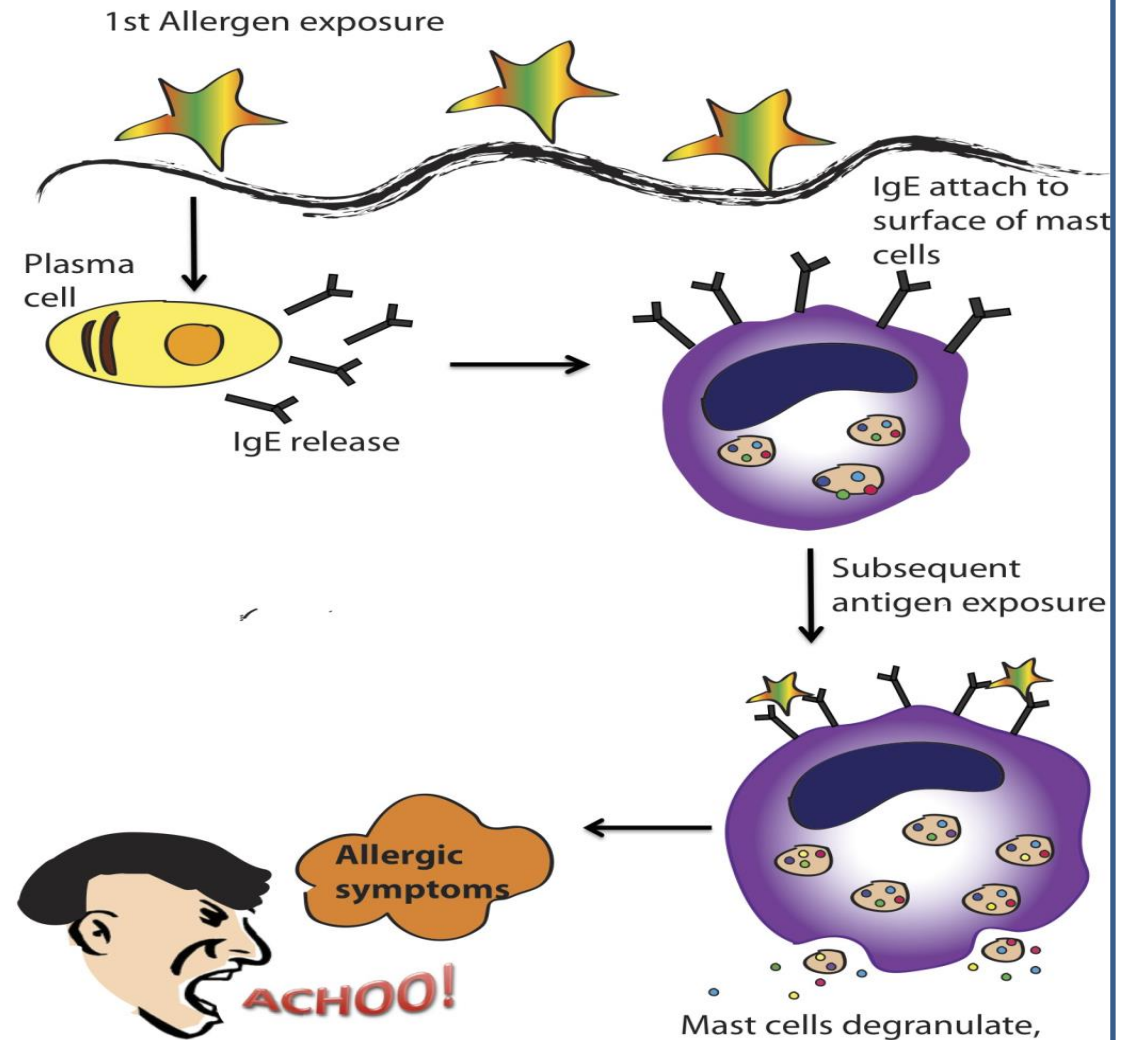
Hashemite University

Allergic Rhinitis

- Allergic rhinitis is systemic disease with prominent nasal symptoms.
- It is a worldwide problem that affects adults and children. An estimated 20% of adults and 40% of children in the United States have this disease.

Pathophysiology

The symptoms of allergic rhinitis occur after an inflammatory response involving **the release of histamine**, which is initiated by allergens being deposited on the nasal and respiratory tract mucosa.



Pathophysiology

Allergens responsible for seasonal allergic rhinitis include:

Grass pollens

Tree pollens

Fungal mold spores.

Allergic rhinitis on exposure to cats or dogs is also relatively common and sometimes horses, rabbits and rodents may trigger symptoms.



Clinical Presentation of Allergic Rhinitis

- Allergic rhinitis has been classified as **seasonal** allergic rhinitis (hay fever) and **perennial** allergic rhinitis.
- New classifications, intermittent allergic rhinitis (**IAR**) and persistent allergic rhinitis (**PER**), were proposed in the late 1990s and are now the more accepted terminology.

Clinical Presentation of Allergic Rhinitis

Perennial allergic rhinitis occurs when symptoms are **present all year round** and is commonly caused by the house dust mite, animal dander and feathers.

Some patients may suffer from a form of perennial rhinitis that becomes worse in the summer months (possibly aggravated by tree or grass pollen allergy).



Allergic Rhinitis

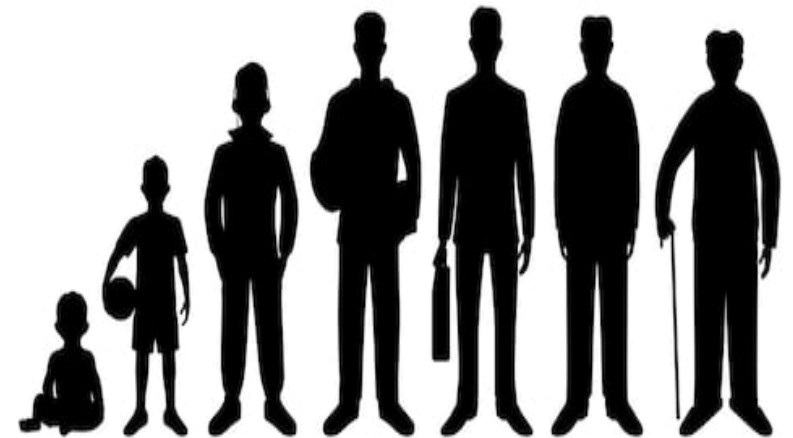
Significance of questions and answers- Age

Symptoms of allergic rhinitis may start at any age. **It is more common in children and young adults.**

There is frequently a **family history of atopy in allergic rhinitis sufferers** (the typical atopy triad is asthma, hay fever and eczema).

Thus, children of allergic rhinitis sufferers are more likely to have the condition. The condition often **improves or resolves as the child gets older.**

Adults are **more likely to have perennial allergic rhinitis.** The age of the patient must be taken into ***account if any medication is to be recommended.***



Allergic Rhinitis

Significance of questions and answers - Duration



Sufferers will often present with seasonal rhinitis as soon as the pollen count becomes high.

Symptoms may start in April when tree pollens appear and the hay fever season may start 1 month earlier (depending on the country).

Hay fever peaks between the months of May and July, when grass pollen levels are highest and spells of good weather commonly cause patients to seek the pharmacist's advice.

Significance of questions and answers- Duration

- Classification depends on the timing and duration of symptoms.
- Symptoms can be further classified as mild or moderate-severe.

TABLE 11-11 Classification of Allergic Rhinitis

Duration	Severity
Intermittent Symptoms occur ≤4 days per week OR ≤4 weeks	Mild Symptoms do not impair sleep or daily activities ^a ; no troublesome symptoms Moderate-to-Severe One or more of the following occurs: impairment of sleep; impairment of daily activities ^a ; troublesome symptoms
Persistent Symptoms occur >4 days per week AND >4 weeks	Mild Symptoms do not impair sleep or daily activities ^a ; no troublesome symptoms Moderate-to-Severe One or more of the following occurs: impairment of sleep; impairment of daily activities ^a ; troublesome symptoms

^a Daily activities include work, school, sports, and leisure.

Source: Reference 39.

Allergic Rhinitis

What you need to know- Symptoms

a. Runny nose

A runny nose is a commonly experienced symptom of allergic rhinitis.

The discharge is often thin, **clear and watery**, but **can change to a thicker, colored, purulent (discharging pus) one.**----- **no need for antibiotic treatment.**



Allergic Rhinitis

What you need to know- Symptoms

b. Nasal Congestion

The inflammatory response caused by the allergen produces vasodilation of the nasal blood vessels and so results in nasal congestion.

- If severe, may lead to → headache, earache, otitis media and sinusitis



Allergic Rhinitis

What you need to know- Symptoms

3- Nasal itching, sometimes with irritation in the roof of the mouth

4- Sneezing:

Common with hay fever

5- Eye symptoms:

- Tearing.
- Itching.
- Redness.



Nonallergic rhinitis

- Is characterized by perennial symptoms of rhinitis that are not a result of IgE-dependent events.

TABLE 11-13 Causes of Nonallergic Rhinitis

Hormonal

Pregnancy, puberty, thyroid disorders

Structural

Septal deviation, adenoid hypertrophy

Drug-Induced

Cocaine, beta blockers, ACEIs, chlorpromazine, clonidine, reserpine, hydralazine, oral contraceptives, aspirin or other NSAIDs, or overuse of topical decongestants

Systemic Inflammatory

Vasomotor, eosinophilic nonallergic rhinitis (NARES)

Lesions

Nasal polyps, neoplasms

Traumatic

Recent facial or head trauma

Differences between allergic rhinitis and nonallergic rhinitis

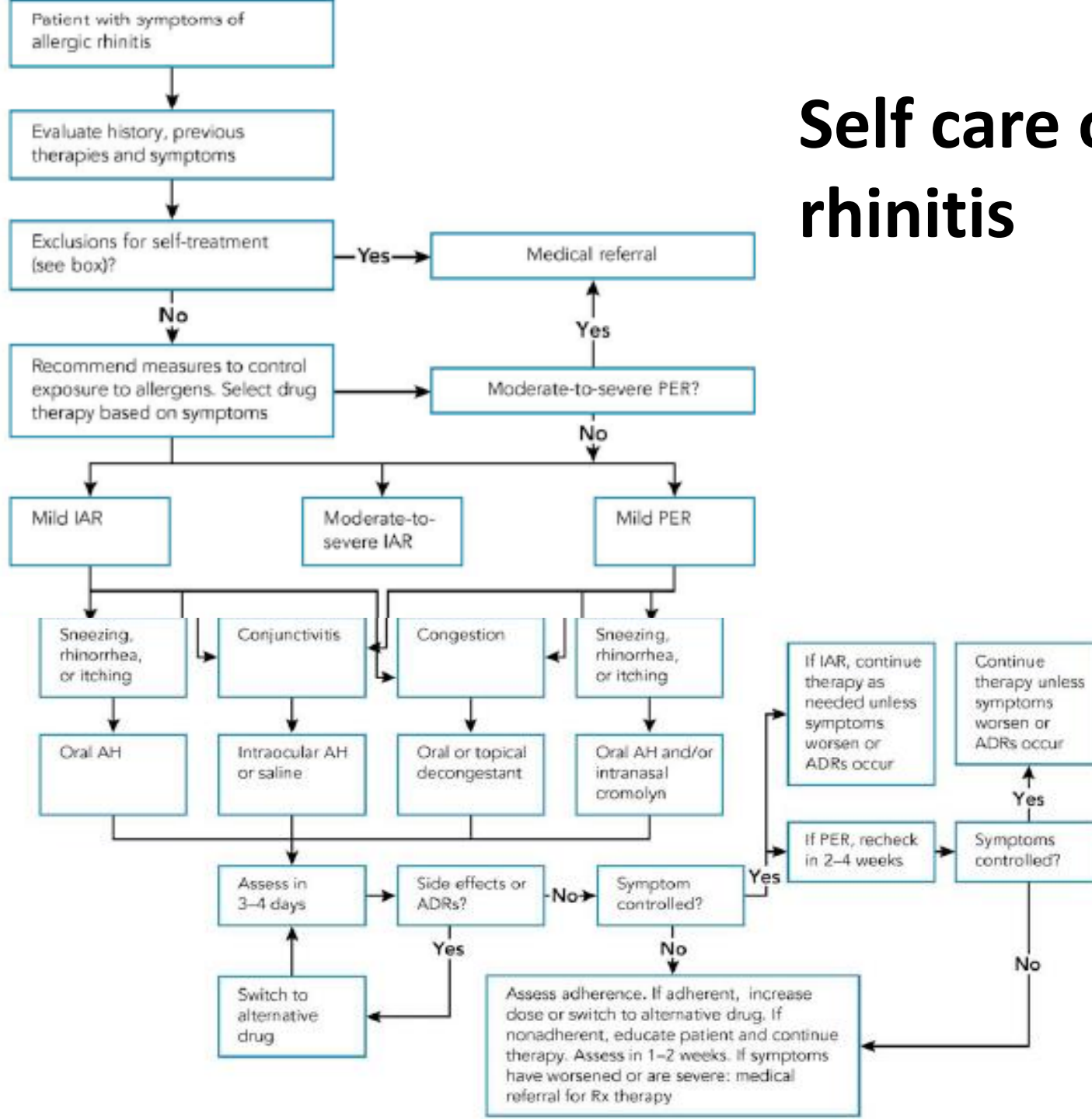
	Nonallergic rhinitis	allergic rhinitis
Temporal pattern of symptoms	perennial	seasonal or perennial with seasonal exacerbations
Type of symptoms	congestion, rhinorrhea, posterior drainage, sinus pressure	sneezing, pruritus, congestion, rhinorrhea, posterior drainage, sinus pressure
Age of onset	70% are older than 20	70% are younger than 20
Precipitating factors	nonspecific irritants	specific antigens± nonspecific irritants
Other atopic disease	not present	frequently present
Family history of rhinitis	not frequent	frequent

Goals of the treatment

1. Improve symptoms
2. Improve the patient's functional status.

Treatment is individualized to provide optimal symptomatic relief and control.

Self care of allergic rhinitis



When to refer to a doctor ?

Exclusions for Self-Treatment

- Children <12 years^a
- Pregnant or lactating women^a
- Symptoms of nonallergic rhinitis
- Symptoms of otitis media, sinusitis, bronchitis, or other infection
- Symptoms of undiagnosed or uncontrolled asthma (e.g., wheezing, shortness of breath), COPD, or other lower respiratory disorder
- Moderate-to-severe persistent allergic rhinitis or symptoms unresponsive to treatment
- Severe or unacceptable side effects of treatment

^a Excluded from self-treatment unless already diagnosed with allergic rhinitis and nonprescription therapy approved by a PCP.

How is allergic rhinitis managed?

- **step 1 : Avoidance & Environmental control**
- **step 2 : Antihistamine, Decongestant, Mast cell stabilizer**
- **step 3 : Corticosteroids**
- **step 4 : Immunotherapy**

Antihistamines

- Both first and second generation, are the mainstay of treatment for allergic rhinitis.
 - Ocular antihistamines may be used for the treatment of ophthalmic conditions associated with allergic rhinitis, though their use has been classified by the FDA as less than effective
- a. First-generation antihistamines (Chlorphenamine, *promethazine*, Diphenhydramine) are the least expensive treatment option at this time, however **limited in continuous treatment of allergic** rhinitis because of???**

Antihistamines

- b. Second-generation antihistamines (loratadine, fexofenadine) are advantageous because of their preferential peripheral H₁ - receptor binding. This allows for minimal CNS effects, minimal sedative effects, and minimal anticholinergic activity.

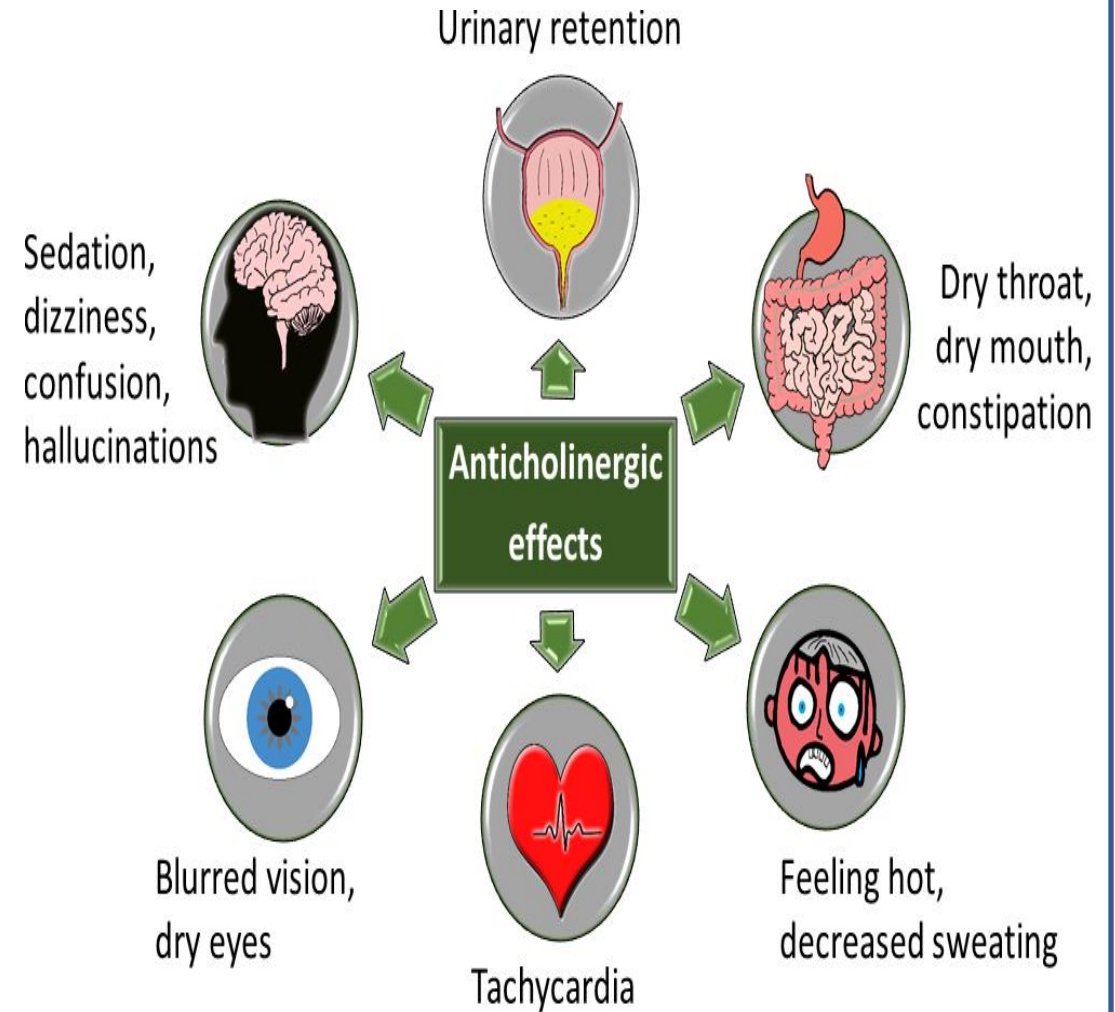


Antihistamines

Adverse Effects:

The problem of using antihistamines, particularly the older types (e.g. *chlorphenamine*), is that they can cause **Drowsiness**.

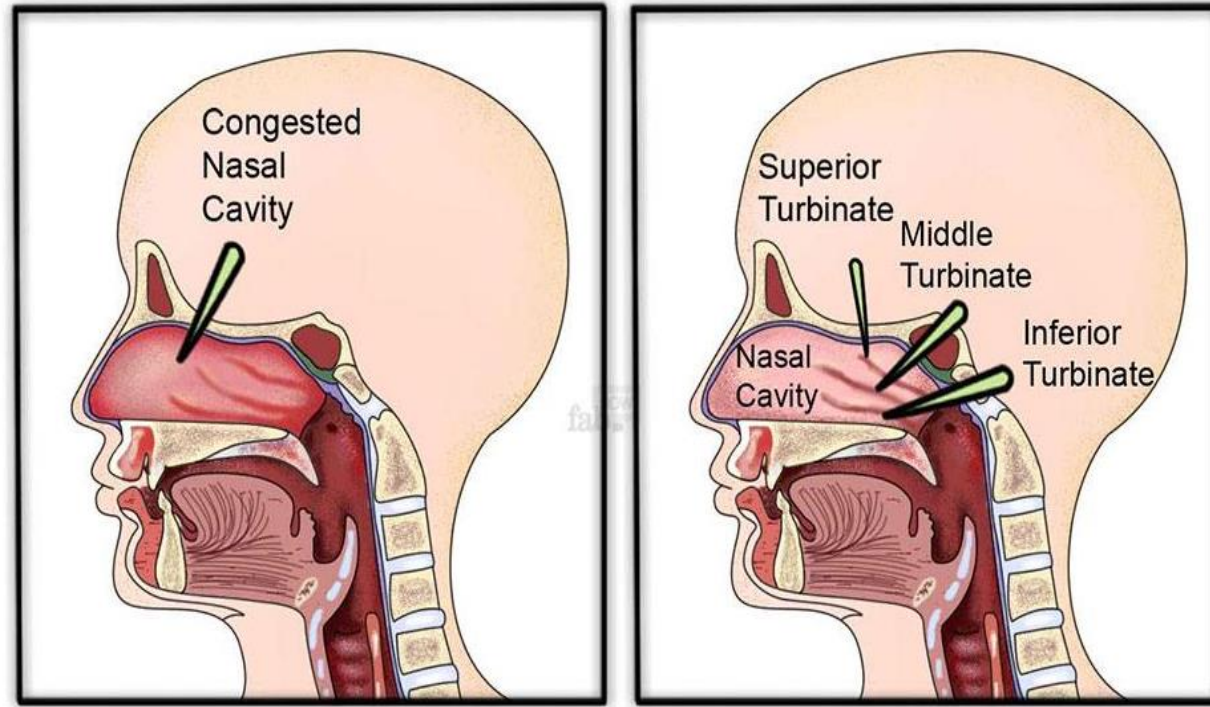
Because of their anticholinergic activity, the older antihistamines may produce the same adverse effects as anticholinergic drugs (i.e. dry mouth, blurred vision, constipation and urinary retention).



Decongestants

Work by constricting the dilated blood vessels in the nasal mucosa

Provide short-term relief for a blocked or stuffy nose (nasal congestion).



CONGESTED NASAL CAVITY

NORMAL NASAL CAVITY

Decongestants

- *E.g Pseudoephedrine, oxymetazoline*
- These medicines can be given **orally** (Tablets and syrups) or **applied topically** (nasal sprays and drops).
- If **nasal sprays/drops** are to be recommended, the pharmacist should advise ***the patient not to use the product for longer than 7 days.***



Steroid nasal sprays

- A corticosteroid nasal spray is the treatment of choice for **moderate-to-severe nasal symptoms that are continuous.**
- The steroid acts to **reduce inflammation** that has occurred as a result of the allergen's action.
- Regular use is essential for full benefit to be obtained and treatment should be continued throughout the hay fever season.

Steroid nasal sprays

- *E.g Beclometasone ,fluticasone.*
- If symptoms of hay fever are already present, the patient needs to know that it is likely to take several days before the full treatment effect is reached.
- **Dryness and irritation** of the nose and throat as well as nose bleeds have occasionally been reported.
- They should not be recommended for pregnant women or for anyone with glaucoma.

Sodium Cromoglicate

- It stabilizes mast cells, thereby preventing mediator release.
- can be effective as a prophylactic if used correctly. **It should be started at least 1 week before the hay fever season is likely to begin and then used continuously.**
- Cromolyn is approved for patients ages 2 years or older; the recommended dosage is 1 spray in each nostril 3-6 times daily at regular intervals.
- There seem to be no significant side effects, although **nasal irritation may occasionally occur.**
- *Cromoglicate eye drops* are usually highly effective for the treatment of eye symptoms

Allergic Rhinitis

Present medication

The pharmacist must establish whether any prescription or OTC medicines are being taken by the patient.

Potential interactions between prescribed medication and allergic rhinitis medications can therefore be identified.

It would be useful to know if any medicines have been tried already to treat the symptoms, especially where there is a previous history of allergic rhinitis.



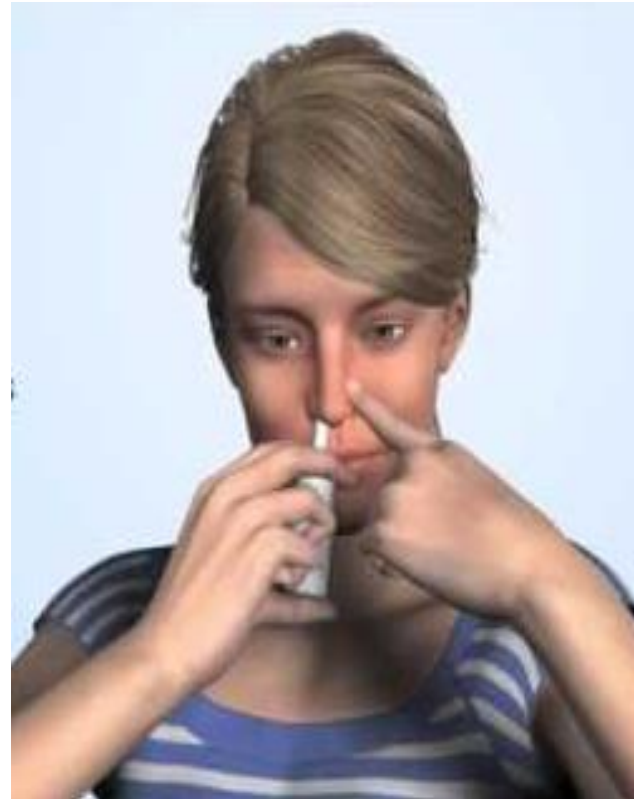
Administration Guidelines for nasal dosage formulations

Nasal Sprays

- Gently insert the bottle tip into one nostril, as shown in drawing A.
- Keep head upright. Sniff deeply while squeezing the bottle. Repeat with other nostril.



A

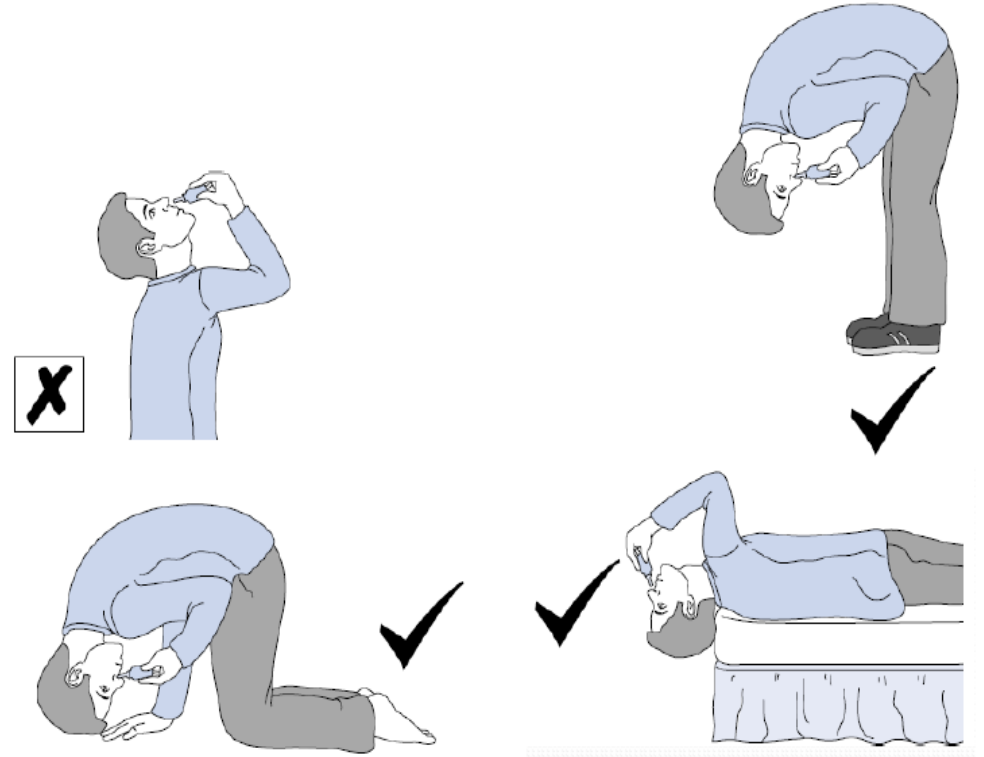
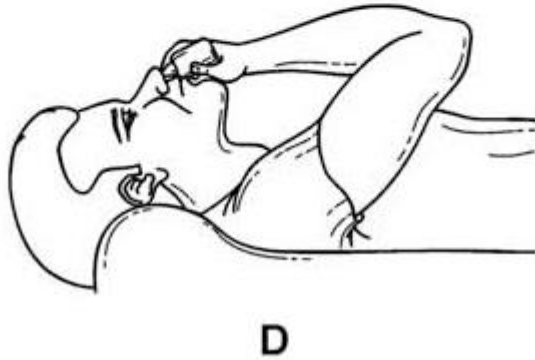


Nasal Spray Administration

Administration Guidelines for nasal dosage formulations

Nasal Drops

- Squeeze the bulb to withdraw medication from the bottle.
- Lie on bed with head tilted back and over the side of the bed, as shown in drawing D.
- Place the recommended number of drops into one nostril. Gently tilt head from side to side.
- Repeat with other nostril. Lie on bed for a couple of minutes after placing drops in the nose.
- Do not rinse the dropper.



Nasal Drops Administration

Administration Guidelines for nasal dosage formulations

Nasal Inhalers

- Warm the inhaler in hand just before use.
- Gently insert the inhaler tip into one nostril, as shown in drawing C. Sniff deeply while inhaling.
- Wipe the inhaler after each use. Discard after 2–3 months even if the inhaler still smells medicinal.



Note: Do not share the drug with anyone. Discard solutions if discolored or if contamination is suspected. Remove caps before use and replace tightly after each use. Do not use expired products. Clear nasal passages before administering the dose. Gently depress the other side of the nose with finger to close off the nostril not receiving the medication. Aim tip of products away from nasal septum to avoid accidental damage to the septum. Wait a few minutes after using the drug before blowing the nose.