
Joint Task Force Algorithm and Annotations for Diagnosis and Management of Rhinitis

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The algorithm and text annotations in this document are intended to assist clinical decision making about patients who present with symptoms of rhinitis. This document complements the Executive Summary of Joint Task Force Practice Parameters for Diagnosis and Management of Rhinitis (Ann Allergy, Asthma, Immunol 1998; 81:463–468) and Diagnosis and Management of Rhinitis: Complete Guidelines of the Joint Task Force on Practice Parameters in Allergy, Asthma and Immunology (Ann Allergy, Asthma, Immunol 1998;81:478–578). The Joint Task Force on Practice Parameters in Allergy, Asthma and Immunology is co-sponsored by the American Academy of Allergy, Asthma and Immunology, the American College of Allergy, Asthma and Immunology and the Joint Council of Allergy, Asthma and Immunology.

Ann Allergy Asthma Immunol 1998;81:469–473.

BOX 1: Initial Evaluation of a Patient who Presents with a History Compatible with Rhinitis

Patients with rhinitis can present with symptoms of rhinorrhea, nasal congestion, sneezing, nasal pruritus, postnasal drainage and/or associated ocular

symptoms. These symptoms can occur with both allergic and nonallergic rhinitis. Symptoms of allergic rhinitis may be perennial, seasonal or perennial with seasonal exacerbations. Symptoms of rhinitis may occur in conjunction with symptoms due to complications, eg, otitis media, sinusitis, or co-morbid conditions, eg, wheezing, cough, chest tightness from asthma. These patients may be evaluated initially by either a generalist, eg, a primary care physician, or by a specialist, eg, an allergist-immunologist.

A history and physical examination should be performed on any patient who presents with a history compatible with rhinitis.

The history should include (1) a determination of the presenting symptoms, eg, rhinorrhea, nasal congestion, sneezing, associated ocular symptoms; (2) a determination of the length of symptomatology; (3) the medications that the patient has taken in the past for symptoms of rhinitis, whether they have been effective, if ineffective whether they were taken for insufficient duration to expect benefit, and any adverse events that occurred from taking the medications; (4) medica-

tions for other conditions which the patient is currently taking or took in the past at a time when symptoms of rhinitis were present; (5) the degree to which the patient's rhinitis symptoms interfere with the patient's ability to function and affect the patient's quality of life; (6) the seasonality as well as known triggers of the patient's rhinitis symptoms; (7) the presence of other medical conditions; (8) whether symptoms consistent with complications, eg, otitis media, exist; and (9) whether symptoms consistent with co-morbid conditions, eg, asthma, exist.

The physical examination may include (1) evaluation of the ears, eyes, nose and throat; and (2) examination of the lungs. Examination of the nose should focus on the appearance of the nasal mucous membranes, the patency of the nasal passageways, whether findings are unilateral or bilateral, causes for obstruction of the nasal passageways, and the quality and quantity of the nasal discharge.

BOX 2: Is Consultation with an Allergist-Immunologist Indicated?

Patients with rhinitis often need to be referred to an allergist-immunologist because of distinguishing characteristics of their condition. The need for referral may be apparent at initial presentation or become apparent after assessment of response to therapy. Characteristics that should lead to consideration of referral include the following:

1. The patient has had prolonged manifestations of rhinitis.
2. The patient has complications of rhinitis, eg, otitis media, sinusitis, nasal polypsis.

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3. The patient has a co-morbid condition, eg, asthma.
4. The patient has required oral corticosteroid for the treatment of rhinitis in the past.
5. The patient's symptoms interfere with his/her ability to function, eg, cause sleep disturbance, impair school/work performance
6. The patient's symptoms significantly decrease his/her quality of life.
7. Treatment with medications for rhinitis is ineffective or produces adverse events.
8. There is a need to further define allergic/environmental triggers of the patient's rhinitis symptoms.
9. There is a need for more intense education.

10. The patient has required multiple medications over a prolonged period of time.

Consultation with an allergist-immunologist may be indicated in other situations when there is agreement between the patient and the referring physician that such an approach is in the patient's best interests.

On the other hand, if the patient does not meet any of the criteria above and responds adequately to avoidance of documented triggers and the usual medication for the treatment of rhinitis, referral to an allergist-immunologist may not be necessary.

BOX 3: Therapeutic Trial

Initial treatment of non-severe rhinitis may include single agent or combina-

tion pharmacologic therapy and avoidance measures.

Oral antihistamines are generally effective in reducing rhinorrhea, sneezing and itching associated with allergic rhinitis, but have little objective effect on nasal congestion. These agents may reduce symptoms of allergic conjunctivitis which are often associated with allergic rhinitis. Antihistamines have a limited role in treating nonallergic rhinitis syndromes. The usefulness of first generation antihistamines is reduced because they may produce significant sedation, performance impairment (that may not be subjectively perceived by patients) and/or anti-cholinergic effects (eg, dry mouth, urinary retention). Consequently, second generation

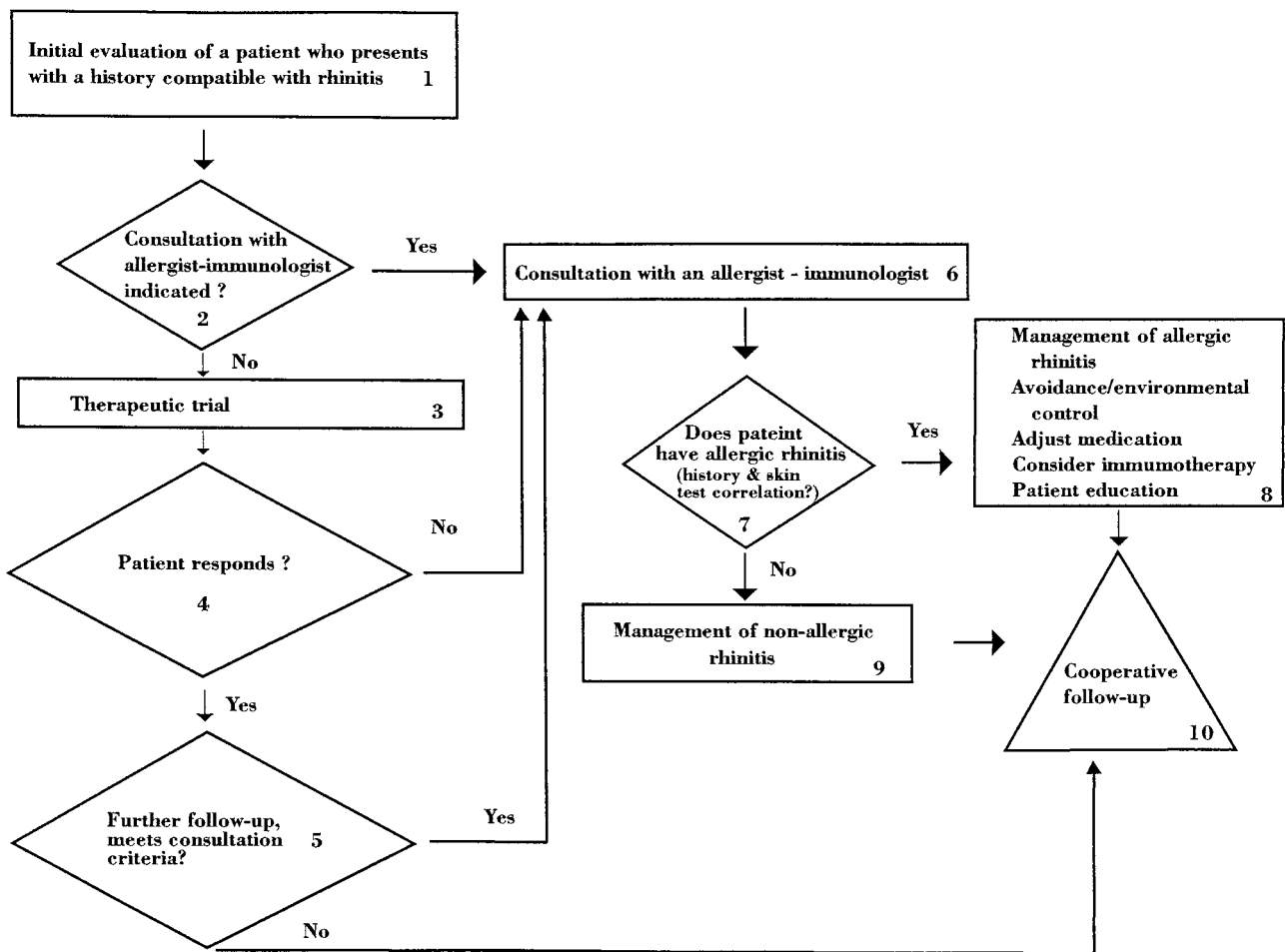


Figure 1. Algorithm for diagnosis and management of rhinitis.

antihistamines that are associated with less risk or no risk for these side effects should usually be considered before sedating antihistamines, and are even mandated in segments of the transportation industry. However, the use of first generation antihistamines in smaller children may be desirable because of the benefit of mild sedation in children agitated from the discomfort of rhinitis. Intranasal antihistamines may be useful alternatives to oral antihistamines but may cause sedation in some patients and may be perceived to have a bitter taste.

Oral decongestants, such as pseudoephedrine or phenylpropanolamine, help reduce symptoms of nasal congestion in both allergic and non-allergic rhinitis, and are rational agents for use in combination with antihistamines. However, they can cause insomnia, loss of appetite or excessive nervousness and occasionally an increase in blood pressure.

Use of nasal decongestant sprays should be limited to 3 to 4 days duration, as more prolonged administration may lead to rebound congestion.

Nasally inhaled corticosteroids are the most effective medication class for controlling symptoms of allergic rhinitis. They are particularly useful for treatment of more severe allergic rhinitis and may be useful in some forms of non-allergic rhinitis. These agents are generally not associated with systemic side effects in adults. Patients should be instructed to direct sprays away from the nasal septum. Although local side effects are minimal if the patient is carefully instructed in the use of this class of drugs, nasal irritation and bleeding may occur. The nasal septum should be periodically examined to assure that there are no mucosal erosions that may precede development of nasal septal perforations that are rarely associated with intranasal corticosteroids. In children, nasal corticosteroids should be used at the lowest effective dose, and the FDA recommends that height be monitored routinely. Intranasal corticosteroids may be considered for initial treatment without a prior trial of antihistamines and/or oral decongestants, and should

be considered before initiating treatment with systemic corticosteroids for the treatment of rhinitis.

Systemic corticosteroid administration should be reserved for severe cases of rhinitis. Short burst (eg, 5 to 7 days) of oral corticosteroids are preferred over depot parenteral corticosteroids which should be avoided; the latter are effective but have greater risks for systemic side effects.

Nasal cromolyn can reduce symptoms of allergic rhinitis in some patients, and is most likely to be effective if initiated before symptoms become severe.

Intranasal anticholinergics may effectively reduce rhinorrhea but have no effect on nasal congestion or other nasal symptoms.

Empiric avoidance of suspected inciting factors, eg, allergens, irritants and medications, should be implemented if possible even in early treatment of rhinitis. In the management of seasonal allergic rhinitis, patients should be advised to follow avoidance measures such as staying inside air conditioned buildings whenever possible with windows and doors closed.

BOX 4: Does the Patient Respond?

In assessing response to therapy, a variety of parameters should be evaluated. These include nasal symptoms (eg, congestion, itching, rhinorrhea), physical signs of rhinitis (eg, edema of nasal turbinates), and quality of life (eg, affect, ability to sleep, ability to function effectively at work or school or while driving). In patients who have concomitant conditions that may be aggravated by rhinitis (eg, asthma), an assessment of concomitant conditions should also be made; improved control of rhinitis may be associated with improvement of these conditions. Patients who have received nasal corticosteroid sprays should be periodically examined to assure that there are no mucosal erosions of the septum that may precede development of nasal septal perforations that are rarely associated with these agents. Patients who do not have a good response to treatment should be referred to an allergist-immunologist.

BOX 5: Further Follow-up, Meets Consultation Criteria?

If the initial treatment of rhinitis is successful, there is still a need for patient follow-up to assure that there is continued control of symptoms, maintenance of improved quality of life, no impairment of performance in work, school or other activities, and absence of medication side effects. Consultation with an allergist-immunologist is appropriate when these conditions are not met. Consultation with an allergist-immunologist should also be considered when: (1) the duration of rhinitis symptoms is prolonged; (2) identification of allergic or other triggers could result in rational implementation of avoidance measures that require education; (3) immunotherapy is a consideration; (4) the cost of multiple medications required for control is significant; (5) complications of rhinitis or co-morbid conditions are present such as sinusitis, otitis media or worsening asthma; and/or (6) patients require systemic corticosteroids for control of rhinitis.

BOX 6: Consult with an Allergist-Immunologist

An assessment of rhinitis by a rhinitis specialist requires a detailed history and appropriate physical examination. The history should include an evaluation of the frequency and severity of symptoms and their association with seasonal and environmental exposure. Other components of the history that may be important are the family history, history of co-morbid conditions, and the degree to which symptoms interfere with the patients quality of life and ability to function. Other useful historical information may include current and previous medication use, and the effectiveness and adverse reactions from these medications.

Physical examination should assess the upper airway (nose, oropharynx) and lungs. In addition, rhinoscopy or examination by rigid or flexible rhinolaryngoscope (endoscope) may provide useful information. Immediate hypersensitivity skin tests or in-vitro tests to confirm an underlying allergic

basis for the patient's symptoms may be essential. Nasal cytology may be of value. Rarely, other tests may be indicated such as, chemical analysis of nasal secretions (for suspected CNS fluid leakage) or tests of nasal ciliary function. Specific tests may also be necessary for coexisting conditions such as asthma (eg, pulmonary function), nasal polyps (eg, rhinoscopy), or sinusitis (eg, CT scan).

A thorough evaluation is key to the development of a long term management plan. Management may include education regarding environmental avoidance and medication compliance, institution of environmental control measures, changes in medication and allergen immunotherapy.

BOX 7: Does Patient Have an Allergic Basis for Rhinitis?

A diagnosis of allergic rhinitis should be made on the basis of a history of symptoms of rhinitis after exposure to known allergens which correlates with appropriately positive skin or in vitro tests for specific IgE. Skin tests are more cost effective than in vitro tests. If there is a poor correlation between allergen exposures and symptoms, patients may have non-allergic rhinitis even if skin tests or in vitro tests for specific IgE are positive.

A physical examination demonstrating a pale edematous nasal mucosa and the presence of allergic signs (nasal crease, nasal or eye rubbing, dark circles under the eyes) is helpful but does not always differentiate allergic from non-allergic rhinitis. Nasal smears and fiberoptic nasal endoscopy are occasionally helpful in making such a differentiation.

Patients who have negative immediate hypersensitivity skin test reactions or negative in vitro tests for specific IgE should be considered non-allergic, especially if there is poor correlation between allergen exposure and symptoms.

BOX 8: Management of Allergic Rhinitis

Effective treatment of allergic rhinitis may require combinations of medica-

tions, aggressive avoidance measures, management of co-existing conditions and/or allergen immunotherapy. Avoidance of triggers of rhinitis, eg, allergens, irritants, medications and occupational factors, is fundamental to the successful management of allergic rhinitis. After triggers are identified, the patient/patient's representative should be educated about their avoidance. If it is possible to anticipate the onset of symptoms associated with seasonal exposure to pollen or sporadic exposure to other triggers, early administration of medications (eg, before exposure or the development of symptoms) may lessen the impact of such exposures on the patient. (See Box 3 annotation for discussion of medications).

A short course of oral corticosteroids may be appropriate for the treatment of intractable nasal symptoms (see Box 3 annotation) or to treat significant nasal polyposis. The chronic use of oral or parenteral corticosteroids as well as nasal turbinate injection of corticosteroids is inappropriate in allergic rhinitis.

Allergen immunotherapy may be highly effective in controlling symptoms of allergic rhinitis. Patients who are to receive this therapeutic approach should be carefully selected, based on the severity of their symptoms, and response to other modalities of treatment. The patient's extract should be selected based on a correlation between the allergens that precipitate their symptoms and the presence of specific IgE antibodies (demonstrated by immediate hypersensitivity skin tests or in vitro tests).

BOX 9: Management of Non-allergic Rhinitis

Non-allergic rhinitis is characterized by sporadic or persistent perennial symptoms of rhinitis that do not result from IgE-mediated immunopathologic events. Examples of non-allergic rhinitis are infectious rhinitis, hormonal rhinitis, vasomotor rhinitis, non-allergic rhinitis with eosinophilia syndrome (NARES), certain types of occupa-

tional rhinitis, and gustatory and drug-induced rhinitis.

The signs and symptoms suggestive of rhinitis can be produced by anatomic conditions including nasal septal deviation, tumors, adenoidal hypertrophy, and hypertrophy of the nasal turbinates. Examination of the nose should include evaluation of the nasal passageways, secretions, turbinates, septum and determination of whether nasal polyps are present. In selected cases, fiberoptic nasal endoscopy and/or rhinomanometry may be useful. Nasal cytology may aid in differentiating allergic rhinitis and NARES from other forms of rhinitis.

The primary treatments for non-allergic rhinitis syndromes may vary and include (1) avoidance of aggravating irritants that may precipitate symptoms; (2) nasal corticosteroids for NARES; (3) decongestants and exercise to relieve congestion and anti-cholinergics to relieve rhinorrhea associated with vasomotor rhinitis; (4) institution of nasal corticosteroids and discontinuation of nasal decongestant sprays in rhinitis medicamentosa; and (5) antibiotics and supportive measures to relieve ostiomeatal complex obstruction in bacterial rhinosinusitis.

BOX 10: Cooperative Follow-up

"Cooperative follow-up" is essential for all patients with allergic rhinitis and should include the patient, family and health care providers (ie, the primary care physician, allergist-immunologist and possibly otolaryngologist). Goals include the reduction of symptoms and improvement in the patient's quality of life and ability to function. These goals require cooperative management of exacerbations and complications by optimal use of environmental avoidance measures and medications, and in appropriate patients, use of immunotherapy;

Tapering of medications should always be considered in order to lessen the risk of adverse reactions. Side effects of medications must be carefully looked for during follow-up of patients. Maximizing compliance with medications and environmental con-

trols can be challenging for the patient and physician, especially if the patient is very young or elderly.

Periodic assessment of the patient's quality of life is essential. This includes evaluation of time lost from work or other activities, sleep quality, smell and taste, fatigue level and general well-being.

Patient education is a basic part of the follow-up plan for patients with allergic rhinitis. At each visit, it is important to review preventative measures (eg, environmental controls), medication use, and immunotherapy

status with the patient. In addition, the presence of comorbid conditions such as sinusitis, asthma, and otitis media should be ascertained.

Effective follow-up requires awareness of the patient's goals, needs and concerns. Allergen immunotherapy may be appropriate for patients with allergic rhinitis, especially if the patient is not responding to other therapeutic approaches and symptoms are interfering with the patient's ability to function. Follow-up also requires effective interaction between all health care providers as well as interaction

with the patient and often the patient's family.

Although there is no surgical treatment for rhinitis per se, referral to an ear, nose and throat surgeon/otolaryngologist may be indicated in the management of co-morbid conditions, eg, surgery for nasal obstruction from severe nasal septal deviation or recurrent refractory sinusitis. Other reasons for referral to an otolaryngologist include the evaluation of ostiomeatal obstruction, nasal polyp surgery, biopsy of nasal tumors, or other surgical requirements.