

# Joint Task Force Summary Statements on Diagnosis and Management of Rhinitis

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## INTRODUCTION

This document lists all summary statements contained in the document 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: 478–518). That document should be consulted for full discussion and citations that support the statements contained herein. This listing of summary statements is intended to assist the clinician in rapidly reviewing and identifying key points that are comprehensively discussed in the source document.

## DEFINITION OF RHINITIS

1. Rhinitis is defined as inflammation of the membranes lining the nose, and is characterized by nasal congestion, rhinorrhea, sneezing, itch-

ing of the nose and/or postnasal drainage.

## DIFFERENTIAL DIAGNOSIS OF RHINITIS

2. Rhinitis should be classified by etiology as allergic or nonallergic.

### Allergic Rhinitis

3. Allergic rhinitis affects 20 to 40 million people in the United States annually, including 10% to 30% of adults and up to 40% of children.
4. The severity of allergic rhinitis ranges from mild to seriously debilitating.
5. The cost of treating allergic rhinitis and indirect costs related to loss of workplace productivity resulting from the disease are substantial. The estimated cost of allergic rhinitis based on direct and indirect costs is 2.7 billion dollars for the year 1995, exclusive of costs for associated medical problems such as sinusitis and asthma. Rhinitis is also a significant cause of lost school days.
6. Risk factors for allergic rhinitis include: (1) family history of atopy; (2) serum IgE > 100 IU/mL before age 6; (3) higher socioeconomic class; (4) exposure to indoor allergens such as animals and dust mites; (5) presence of a positive allergy skin prick test.
7. The symptoms of allergic rhinitis result from a complex allergen-driven mucosal inflammation resulting from an interplay between resident and infiltrating inflammatory cells, and a number of inflammatory mediators and cytokines. Sensory nerve activation, plasma leakage and congestion of venous sinusoids also contribute.
8. Allergic rhinitis may be characterized by early and late phase re-

sponses. Each type of response is characterized by sneezing, congestion and rhinorrhea, but congestion predominates in the latter.

9. Symptoms of allergic rhinitis may occur only during specific seasons, may be perennial without seasonal exacerbation, perennial with seasonal exacerbation, or may occur sporadically after specific exposures.

### Seasonal and Perennial Allergic Rhinitis

10. Seasonal allergic rhinitis is caused by an IgE-mediated reaction to seasonal aeroallergens. Typical seasonal aeroallergens are pollens and molds. The length of seasonal exposure to these allergens is dependent on geographic location.
11. Perennial allergic rhinitis is caused by an IgE-mediated reaction to perennial environmental aeroallergens. These may include dust mites, molds, animal allergens, or certain occupational allergens, as well as pollen in areas where pollen is prevalent perennially.

### Association with Allergic Conjunctivitis

12. Allergic rhinitis often coexists with allergic conjunctivitis.

### Non-Allergic Rhinitis

13. Nonallergic rhinitis is characterized by sporadic or persistent perennial symptoms of rhinitis that do not result from IgE-mediated immunopathologic events. Examples of nonallergic rhinitis are infectious rhinitis, hormonal rhinitis, vasomotor rhinitis, nonallergic rhinitis with eosinophilia syndrome (NARES), certain types of occupational rhinitis, and gustatory and drug-induced rhinitis.

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### *Infectious Rhinitis*

14. Infectious rhinitis may be acute or chronic. Acute infectious rhinitis is usually due to one of a large number of viruses, but secondary bacterial infection with sinus involvement is a common complication. Symptoms of chronic infectious rhinosinusitis include mucopurulent nasal discharge, facial pain and pressure, olfactory disturbance, and postnasal drainage with cough.

### *Nonallergic Rhinitis Not Associated with Eosinophilia*

15. Nonallergic, noninfectious rhinitis, generally termed vasomotor rhinitis, comprises a heterogeneous group of patients with chronic nasal symptoms that are not immunologic or infectious in origin and usually not associated with nasal eosinophilia. Most of these patients develop rhinitis in response to environmental conditions, such as cold air, high humidity, strong odors and inhaled irritants.

### *Nonallergic Rhinitis with Eosinophilia*

16. The nonallergic rhinitis with eosinophilia syndrome (NARES) is characterized by nasal eosinophils in patients who have perennial symptoms and occasionally loss of sense of smell. These patients lack evidence of allergic disease as demonstrated by lack of clinically significant positive skin tests and/or specific IgE antibodies in the serum.

### **Occupational Rhinitis**

17. Occupational rhinitis refers to rhinitis arising in response to airborne substances in the workplace, which may be mediated by allergic or non-allergic factors, eg, laboratory animal antigen, grain, wood dusts, and chemicals. It often coexists with occupational asthma.

### **Hormonal Rhinitis (pregnancy and hypothyroidism)**

18. Causes of hormonal rhinitis include pregnancy and hypothyroid-

ism. Although symptoms of rhinitis, in particular nasal congestion, may occur during pregnancy, most notably from the second month to term, these symptoms usually disappear rapidly after delivery. Other causes of rhinitis such as allergic rhinitis, infectious rhinitis and rhinitis medicamentosa are also common during pregnancy.

### **Drug-Induced Rhinitis**

19. Drug-induced rhinitis may be caused by a number of medications, including ACE (angiotensin-converting enzyme) inhibitors, reserpine, guanethidine, phentolamine, methyldopa, beta blockers, chlorpromazine, aspirin, other NSAIDs (non-steroidal anti-inflammatory drugs) and oral contraceptives. Rhinitis medicamentosa commonly refers to the over-use of nasally inhaled vasoconstrictor (decongestant) agents such as the OTC (over-the-counter) products, oxymetazoline or phenylephrine. Repeated use of cocaine may also produce rhinitis.

### **Rhinitis from Food Ingestion**

20. Rhinitis may occur after ingestion of foods or alcoholic products. This may be due to vagally mediated mechanisms, nasal vasodilation, food allergy and/or other undefined mechanisms. Food allergy is a rare cause of rhinitis without associated gastrointestinal, dermatologic or systemic manifestations.

### **Other Conditions that May Be Confused with Rhinitis**

21. Signs and symptoms suggestive of rhinitis can be produced by other conditions including: nasal septal deviation, tumors, adenoidal hypertrophy, hypertrophy of the nasal turbinates.

### **Nasal Polyps**

22. Nasal polyps may occur in conjunction with chronic rhinitis or sinusitis and may contribute significantly to the patient's symptoms. Nasal polyps should always

be considered in the differential diagnosis of patients who present with invariant nasal congestion and its sequelae. Allergy as a cause of nasal polyps has not been established but nasal polyps may occur in conjunction with allergic rhinitis.

## **EVALUATION OF RHINITIS**

### **History**

23. Full evaluation of the patient with rhinitis should include a determination of the pattern, chronicity, and seasonality of symptoms (or lack thereof), response to medications, presence of coexisting conditions, occupational exposure, a detailed environmental history and identification of precipitating factors.

### *History of Impact on Quality of Life*

24. Symptoms of rhinitis may significantly impact the patient's quality of life, by causing fatigue, headache, cognitive impairment and other systemic symptoms. An assessment of the degree to which these symptoms interfere with the patient's ability to function should be made.

### **Physical Examination**

25. An examination of the nose should be performed in patients with a history of rhinitis. This should include examination of the nasal passageways, secretions, turbinates, septum, and determination of whether nasal polyps are present.

### **Testing for Specific IgE**

26. The demonstration of specific IgE antibodies to known allergens by skin testing or in vitro tests (as delineated in the "Parameters for Diagnostic Testing") is of particular importance in determining whether the patient has allergic rhinitis and for identifying specific allergens for which avoidance measures and/or allergen immunotherapy are warranted.

### **Special Diagnostic Techniques**

27. In selected cases, special techniques such as fiberoptic nasal en-

doscopy and/or rhinomanometry may be useful in evaluating patients presenting with rhinitis symptoms. These tests may require special expertise for appropriate administration and interpretation. Patients with nasal disease require appropriate examination for associated diseases, such as sinusitis and otitis media.

### Nasal Cytology

28. Nasal cytology may aid in differentiating allergic rhinitis and NARES from other forms of rhinitis, eg, vasomotor, infectious rhinitis, if the correct procedure is followed and the appropriate stains are utilized.

### Unproven or Inappropriate Testing

29. Neither “total serum IgE” nor total circulating eosinophil counts are routinely indicated in the diagnosis of rhinitis.
30. Cytotoxicity testing, provocative and neutralization testing carried out by either intracutaneous or subcutaneous injection or sublingual administration, and measurement of specific and non-specific IgG4 are controversial, unproven and/or not appropriate for diagnostic use in evaluation of rhinitis.

## MANAGEMENT OF RHINITIS

### Environmental Control Measures

31. Avoidance of inciting factors, eg, allergens, irritants, medications, is fundamental to the management of rhinitis. Triggers should be identified and avoidance measures instituted.

### Pharmacologic Therapy

32. Pharmacologic management should be considered in relation to the etiology and pathophysiology of the condition. If it is possible to anticipate the onset of symptoms, eg, seasonal rhinitis or rhinitis triggered by sporadic exposure, initiating prophylactic use of medications may lessen the impact of such exposure on the patient.

### Antihistamines

33. Oral antihistamines are effective in reducing symptoms of itching, sneezing, and rhinorrhea, and are first line therapy for treatment of allergic rhinitis. However, oral antihistamines have little objective effect on nasal congestion. Antihistamines reduce symptoms of allergic conjunctivitis, which are often associated with allergic rhinitis.

### Issues with Sedation and Performance Impairment from Antihistamines

34. Sedation and performance impairment are undesirable and potentially dangerous side effects of first generation antihistamines. Consequently, second generation antihistamines that are associated with less risk or no risk for these side effects should usually be considered before first generation antihistamines for treatment of allergic rhinitis, and are even mandated in some segments of the transportation industry. Studies have demonstrated that many patients may not perceive performance impairment that is associated with first generation (classical) antihistamines. In the majority of states, patients taking sedating antihistamines are legally considered “under the influence of drugs.”

### Adverse Cardiac Effects of Some Second Generation Antihistamines

35. Some older non-sedating antihistamines such as astemizole and terfenadine (the latter withdrawn from the US market in 1998) may cause prolongation of the QTc interval that may lead to the ventricular arrhythmia torsade de pointes especially with overdose, administration with certain concomitant medications (eg, some macrolide antibiotics, azole anti-fungal agents), and in the presence of severe liver disease.

### Intranasal Antihistamines

36. Intranasal antihistamines are effective for treatment of allergic rhinitis. These agents are appropri-

ate for use as first-line treatment for allergic rhinitis, and in contrast to most oral antihistamines, may help reduce nasal congestion. However, patients may perceive them as having a bitter taste and because significant systemic absorption may occur, they may be associated with resultant sedation in some patients.

### Oral and Nasal Decongestants

37. Oral decongestants, such as pseudoephedrine or phenylpropanolamine, can effectively reduce nasal congestion produced by rhinitis, but can cause insomnia, loss of appetite or excessive nervousness. In addition, these agents should be used with caution in patients with certain conditions, eg, arrhythmias, angina pectoris, some patients with hypertension and hyperthyroidism. Topical sympathomimetics can be useful for short-term (eg, 2 to 3 days) therapy for nasal congestion associated with rhinitis.

### Nasal Corticosteroids

38. Nasally inhaled corticosteroids are the most effective medication class in controlling symptoms of allergic rhinitis. They are particularly useful for treatment of more severe allergic rhinitis and may be useful in some other forms of rhinitis. Except for intranasal dexamethasone, these agents are generally not associated with significant systemic side effects in adults. 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, and nasal septal perforations are rarely reported. Intranasal corticosteroids should be considered before initiating treatment with systemic corticosteroids for the treatment of severe rhinitis.

### Oral and Parenteral Corticosteroids

39. A short (3 to 7 day) course of oral corticosteroids may be appropriate for the treatment of very severe or intractable nasal symptoms or to

treat significant nasal polyposis. However, the use of parenteral corticosteroids, particularly if administered recurrently, is discouraged because of greater potential for HPA axis suppression and long-term corticosteroid side effects.

#### *Intranasal Cromolyn*

40. Intranasal cromolyn sodium is effective in some patients in controlling symptoms of allergic rhinitis and is associated with minimal side effects.

#### *Intranasal Anti-cholinergics*

41. Intranasal anti-cholinergics may effectively reduce rhinorrhea but have no effect on other nasal symptoms. Although side effects are minimal, dryness of the nasal membranes may occur.

#### *Oral Anti-leukotriene Agents*

42. Although there is evidence that oral anti-leukotriene agents may be of value in treatment of allergic rhinitis, their role in therapy needs to be defined by further study.

#### **Allergen Immunotherapy**

43. Allergen immunotherapy may be highly effective in controlling symptoms of allergic rhinitis. Patients with allergic rhinitis should be considered candidates for immunotherapy based on the severity of their symptoms, failure of other treatment modalities, presence of comorbid conditions, and of preventing worsening or possibly the development of comorbid conditions. Selection of the patient's immunotherapy extract should be based on a correlation between the presence of specific IgE antibodies (demonstrated by allergy skin testing or in vitro testing) and the patient's history (see parameters on immunotherapy and on diagnostic testing).

#### **Surgical Approaches for Co-morbid Conditions**

44. Although there is no surgical treatment for allergic rhinitis per se,

surgery may be indicated in the management of co-morbid conditions, e.g. nasal obstruction from severe nasal septal deviation or recurrent refractory sinusitis.

#### **Important Considerations in Management**

45. Management of rhinitis should be individualized, based on the spectrum and severity of symptoms, with consideration of cost effectiveness and utilization of both step-up and step-down approaches. More severe rhinitis may require multiple therapeutic interventions, including: 1) use of multiple medications, 2) evaluation for possible complications, and 3) instruction in and/or modifications of the medication or immunotherapy program. Similar to other chronic diseases, appropriate follow-up of patients with allergic rhinitis on a periodic basis is recommended.

#### **Education of Patient and Caregivers**

46. Education of the patient and/or the patient's caregiver in the regard to the management of rhinitis is essential. Such education maximizes compliance and the possibility of optimizing treatment outcomes.

#### **Importance of Rhinitis Management for Concomitant Asthma, Sinusitis, Otitis Media**

47. Appropriate management of rhinitis may be an important component in effective management of co-existing or complicating respiratory conditions, such as asthma, sinusitis, or chronic otitis media. Data suggest that failure to reduce inflammation in the upper airway may lead to suboptimal results in asthma treatment.

#### **Special Considerations in Children, the Elderly, Pregnancy, Athletes and Rhinitis Medicamentosa**

48. Special diagnostic and therapeutic considerations are warranted in se-

lected patient subsets, including in children, the elderly, pregnant women, athletes, and in those with rhinitis medicamentosa.

#### **Consultation with an Allergist-Immunologist**

49. There are a variety of circumstances in which the special expertise and training of an allergist-immunologist may offer benefits to a patient with rhinitis. Reasons for consultation for rhinitis with an allergist-immunologist include, but are not limited to:

1. Clarification and identification of allergic or other triggers for the patient's rhinitis condition.
2. When management of rhinitis is unsatisfactory due to inadequate efficacy or adverse reactions from treatment.
3. When education in allergen avoidance techniques is needed.
4. When allergy immunotherapy may be a consideration.
5. When there is impairment of patient's performance because of rhinitis symptom manifestations or medication side effects, e.g. patients involved in the transportation industry, athletes, students, etc.
6. When the patient's quality of life is significantly affected (eg, patient comfort and well-being, sleep disturbance, smell, taste).
7. When complications of rhinitis develop, eg, sinusitis, otitis media, orofacial deformities.
8. In the presence of comorbid conditions such as recurrent or chronic sinusitis, asthma or lower airway disease, otitis media, nasal polyps.
9. When patients require systemic corticosteroids to control their symptoms.
10. When the duration of rhinitis symptoms is greater than three months.
11. When there is a significant cost from use of multiple medications.