Symptom severity assessment of allergic rhinitis: part 1

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INTRODUCTION

The Joint Task Force on Practice Parameters has developed a method for assessing severity of symptoms of allergic rhinitis, which is outlined in this article. The system is designed as an extension of the Practice Parameter on Rhinitis published in November 1998.[1] This article is divided into 2 parts. Part 1, which is published herein, includes evaluations of (1) nasal symptom severity; (2) nonnasal symptom severity; (3) global nasal and nonnasal symptom severity; (4) quality-of-life issues related to allergic rhinitis; (5) the impact of current and past rhinitis medications in the evaluation of allergic rhinitis severity; and (6) the influence of concomitant medications on allergic rhinitis severity. Part 2, which will be published in the near future, includes recommendations on appropriate treatment based on this evaluation of allergic rhinitis severity. Although the method for rhinitis symptom assessment outlined in this article requires external and internal validation, the Joint Task Force on Practice Parameters also believes that it not only represents an organized and individualized approach for assessing severity of allergic rhinitis symptoms but also facilitates more consistent patient management. The system also has potential research application in terms of patient selection for protocols designed to evaluate new therapeutic modalities and provides a basis for a more consistent review of the literature. This classification of rhinitis severity may be used in adults or children to help determine appropriate pharmacotherapy, as will be discussed in part 2 in the future.

These parameters were developed by the Joint Task Force on Practice Parameters, representing 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. This parameter was edited by Dr. Nicklas in his private capacity and not in his capacity as a medical officer with the Food and Drug Administration. No official support or endorsement by the Food and Drug Administration is intended or should be inferred.

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ASSESSING NASAL SYMPTOM SEVERITY

Rhinitis symptoms include nasal itching, sneezing, nasal congestion, rhinorrhea (runny nose), and postnasal drainage. Although patients frequently characterize the severity of rhinitis based on one predominant symptom (eg, nasal stuffiness), patients with rhinitis can, in fact, present with a variety of symptoms. This fact makes it difficult to grade the overall severity of rhinitis as simply mild, moderate, and severe.

By asking the patient to evaluate individual symptom severity using a 7-point visual analog scale, interval data are generated with lower measurement error and a correspondingly higher precision compared with a 5-point equal interval scale. Such a scale is consistent with the theory of Miller[2] and the findings of Pemberton.[3] This type of Likert scale was used by Juniper et al[4] for their validated rhinitis scale. Figure 1 is an example of the type of visual analog scale that is recommended to evaluate severity of rhinitis.

Since the duration of allergic rhinitis symptoms is different in every patient, each analysis of symptom severity should specify the period during which the evaluation is being made (eg, more than 24 hours, more than 2 weeks, or a point-in-time evaluation). It may also be helpful in some patients to distinguish patterns of symptoms (eg, daytime or nighttime, indoor or outdoor). Recognizing these possible confounding variables, the further characterization of symptoms is left to the discretion of the physician.

Objective measurement of symptoms should be incorporated into evaluation of rhinitis severity if considered helpful by the health care professional and could include the following: (1) presence or absence of episodes of sneezing; (2) number of sneezes per episode; (3) amount of nasal tissue used during a given period; (4) amount of swelling seen on physical examination and/or anterior rhinoscopy; and (5) various rhinometric techniques.

ASSESSING NON-NASAL SYMPTOM SEVERITY

Patients with rhinitis frequently have coexisting non-nasal symptoms. These symptoms include ocular symptoms, such

as itching, swelling, increased lacrimation, and redness. In addition, patients may complain of itching of the throat, constant clearing of secretions from the throat, irritation of the throat, and/or cough. Otic symptoms can include decreased hearing, popping, and fullness. When nasal symptoms are severe, they may be accompanied by itching in the ears and/or palate. There may be interference with aeration and drainage of the paranasal sinuses, resulting in headache or facial pressure or pain. In addition, systemic symptoms, including weakness, malaise, fatigue, poor appetite, and cognitive impairment, have been associated with rhinitis.

Since these symptoms are not found universally in patients with rhinitis, they are not included in this rhinitis severity scale outlined in Figure 1, which has been specifically designed to permit an evaluation of nasal symptoms. Since they are so frequently associated with rhinitis, however, they may also be evaluated, using a scale similar to that used for nasal symptoms (Fig 2). Adjustment in a treatment regimen based on severity of non-nasal symptoms can be made by the health care professional on an individual basis, similar to the adjustments recommended for nasal symptoms.

GLOBAL ASSESSMENT OF NASAL AND NON-NASAL SYMPTOM SEVERITY

A global scale provides additional information about the status of the patient beyond what is found with individual symptoms. It asks the patient to globally rate the combination of the nasal and non-nasal symptoms on a 7-point scale. Unlike the scales for nasal and non-nasal symptoms, a score of 7 on the global evaluation scale indicates that the patient is having no symptoms. Overall symptoms can be rated using the scale shown in Figure 3.

QUALITY OF LIFE IN THE ASSESSMENT OF RHINITIS SEVERITY

Quality of life is an important consideration in the evaluation and treatment of patients with allergic rhinitis.[5–7] Disease-specific quality-of-life surveys for allergic rhinitis have been developed and standardized for children and adults.[8–10] Such surveys facilitate the recognition of individual effects of the disease on the patient's quality of life, which may not otherwise be mentioned by patients and may be ignored or trivialized by patients and health care professionals. Use of sur-

Figure 1.
Assessment of nasal symptom severity.

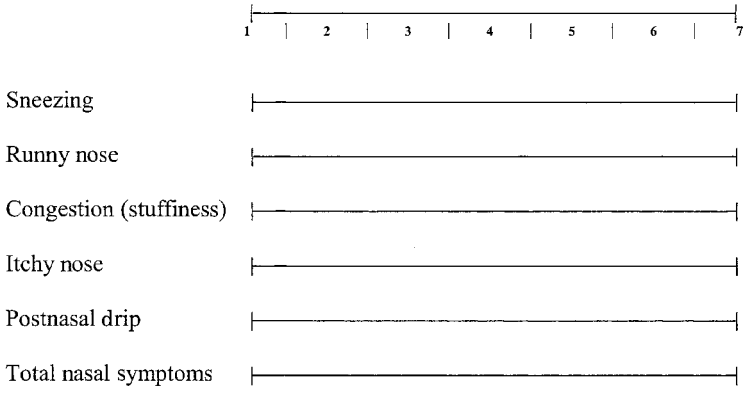

Figure 1. Form given to patients to assess nasal symptom severity.

KEY TO SYMPTOMS

1 = None – to an occasional limited episode

2

3 = Mild – Steady symptoms but easily tolerable

4

5 = Moderately Bothersome – Symptoms hard to tolerate, may interfere with activities of daily living and/or sleep

6

7 = Unbearably severe – Symptoms are so bad, person can't function all the time

Figure 2.
Assessment of non-nasal symptom severity.

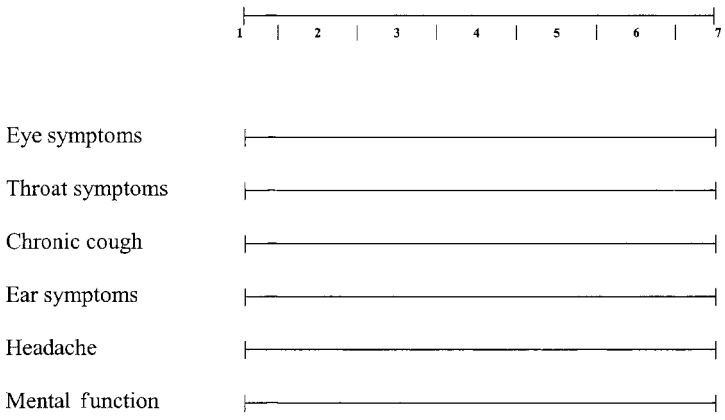

Figure 2. Form given to patients to assess non-nasal symptom severity.

KEY TO SYMPTOMS

1 = None – to an occasional limited episode

2

3 = Mild – Steady symptoms but easily tolerable

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veys by physicians at each clinic visit can help to evaluate the effects of treatment interventions on symptom control and the patient's quality of life. In addition, patients and families learn to recognize the effects of allergic rhinitis symptoms on the quality of their life.

The visual analog scale shown in Figure 4, which assesses the patient's quality of life, can be used by the physician as adjunctive data to support the initial evaluation of rhinitis severity based on nasal symptoms. It can also be used by the physician as a means of patient follow-up after determining the initial management of the patient. It incorporates activities and functioning during the day and sleeping at night.

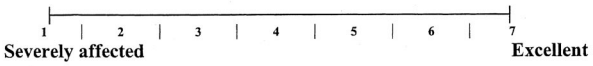
THE IMPACT OF CURRENT AND PAST MEDICATIONS ON ASSESSMENT OF RHINITIS SEVERITY

Determining past responsiveness and adverse effects from medications (including over-the-counter or herbal medications) can help guide the health care practitioner in selection of future therapeutic approaches and directly affects the evaluation of rhinitis severity. It is important therefore to determine the current and past medications that each patient has received, including whether a particular medication was either ineffective or had produced a significant adverse effect. Failure of a drug used consistently has a different significance for severity evaluation than failure of the drug due to poor compliance. Nonprescription antihistamines, topical α_1-decongestants and cromolyn, and herbal remedies may not necessarily be reported by patients spontaneously. Long-term daily use of topical decongestants is of special concern, since they frequently produce rhinitis medicamentosa.[11,12] Current use of medications for rhinitis or other conditions and their effect on rhinitis severity should be considered. A beneficial therapeutic effect on rhinitis may be seen with the use of medications for nonnasal conditions (eg, leukotriene modifiers[13] or orally inhaled corticosteroids).[14] If these agents are withdrawn or the dose is decreased, an increase in symptoms of rhinitis may occur. These are variables that cannot easily be controlled for unless a sophisticated model is used to explain a large number of comorbidities and their treatment.

RHINITIS MEDICATION ASSESSMENT

The visual analog scale shown in Figure 5 can be used to evaluate medications. This scale includes those medications

Figure 3.
Global assessment of nasal and non-nasal symptom severity.



KEY TO SYMPTOMS

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3 = Mild – Steady symptoms but easily tolerable

4

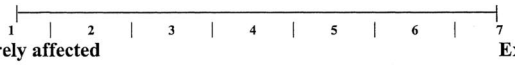
5 = Moderately Bothersome – Symptoms hard to tolerate, may interfere with activities of daily living and/or sleep

6

7 = Unbearably severe – Symptoms are so bad, person can't function all the time

Figure 3. Form given to patients to globally assess nasal and non-nasal symptom severity.

Figure 4.
Quality-of-life assessment of rhinitis severity.



1 = Quality of life is terribly affected in terms of sleep disturbance at night and/or impairment of work performance and/or impairment of social and/or recreational activities

2 = Quality of life is affected almost all the time in terms of sleep disturbance at night and/or impairment of work performance and/or impairment of social and/or recreational activities

3 = Quality of life is affected often in terms of sleep disturbance at night and/or impairment of work performance and/or impairment of social and/or recreational activities

4 = Quality of life is affected occasionally but it is tolerable in terms of sleep disturbance at night and/or impairment of work performance and/or impairment of social and/or recreational activities

5 = Quality of life is hardly affected in terms of sleep disturbance at night and/or impairment of work performance and/or impairment of social and/or recreational activities

6 = Quality of life is so mildly affected it is hardly noticed in terms of sleep disturbance at night and/or impairment of work performance and/or impairment of social and/or recreational activities

7 = Excellent quality of life in terms of sleep disturbance at night and/or impairment of work performance and/or impairment of social and/or recreational activities

*This classification lends itself to a numeric scoring including individual scores or combination scores.

Figure 4. Form given to patients to assess the effects of rhinitis severity on quality of life.

Figure 5.
A. Past medications.

1) Medications for nasal symptoms.

Name of Medication: _____

Effectiveness

No Relief ——— Complete Relief

1 | 2 | 3 | 4 | 5 | 6 | 7

Side Effect Profile

No Side Effects ——— Severe Side Effects

1 | 2 | 3 | 4 | 5 | 6 | 7

2) Medications for non-nasal symptoms.

Name of Medication: _____

Effectiveness

No Relief ——— Complete Relief

1 | 2 | 3 | 4 | 5 | 6 | 7

Side Effect Profile

No Side Effects ——— Severe Side Effects

1 | 2 | 3 | 4 | 5 | 6 | 7

B. Present medications.

1) Medications for nasal symptoms.

Name of Medication: _____

Effectiveness

No Relief ——— Complete Relief

1 | 2 | 3 | 4 | 5 | 6 | 7

Side Effect Profile

No Side Effects ——— Severe Side Effects

1 | 2 | 3 | 4 | 5 | 6 | 7

2) Medications for non-nasal symptoms.

Name of Medication: _____

Effectiveness

No Relief ——— Complete Relief

1 | 2 | 3 | 4 | 5 | 6 | 7

Side Effect Profile

No Side Effects ——— Severe Side Effects

1 | 2 | 3 | 4 | 5 | 6 | 7

Figure 5. Form given to patients to assess the impact of current and past medications on rhinitis severity.

(including alternative medications) that the patient has used in the past for nasal and non-nasal symptoms and how effective they were (ie, to what extent they relieved or aggravated nasal symptoms or produced adverse effects). Visual analog scales should be constructed for the effectiveness and side effect profile of each past and current nasal and nonnasal medication used by the patient.

CONCLUSION

The severity of symptoms of allergic rhinitis can be assessed and quantitated. Such an approach should allow for more consistent patient management and facilitation of research protocols.

ACKNOWLEDGMENTS

The American Academy of Allergy, Asthma, and Immunology (AAAAI) and the American College of Allergy, Asthma, and Immunology (ACAAI) have jointly accepted responsibility for establishing the Symptom Severity Assessment of Allergic Rhinitis. This is a complete and comprehensive document at the current time. The medical environment is a changing environment and not all recommendations will be appropriate for all patients. Because this document incorporated the efforts of many participants, no single individual, including those who served on the Joint Task Force, is authorized to provide an official AAAAI or ACAAI interpretation of these practice parameters. Any request for information about or an interpretation of these practice parameters by the AAAAI or the ACAAI should be directed to the Executive Offices of the AAAAI, the ACAAI, and the Joint Council of Allergy, Asthma, and Immunology. These parameters are not designed for use by pharmaceutical companies in drug promotion.

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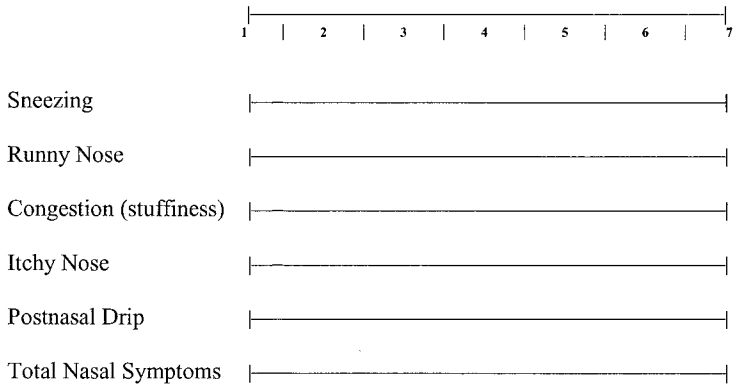
ADDENDUM

Forms to be Given to the Patient

A. Assessment of nasal symptom severity

Please rate the following nasal symptoms by making a mark on each line according to severity:



KEY TO SYMPTOMS

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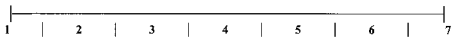
6

7 = Unbearably severe – Symptoms are so bad, person can't function all the time

B. Assessment of non–nasal symptom severity

Please rate the following non-nasal symptoms by making a mark on each line according to severity:



Eye symptoms

Throat symptoms

Chronic cough

Ear symptoms

Headache

Mental Function

KEY TO SYMPTOMS

1 = None – to an occasional limited episode

2

3 = Mild – Steady symptoms but easily tolerable

4

5 = Moderately Bothersome – Symptoms hard to tolerate, may interfere with activities of daily living and/or sleep

6

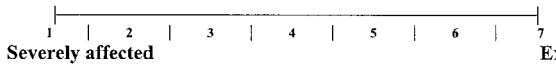
7 = Unbearably severe – Symptoms are so bad, person can't function all the time

C. Global assessment of nasal and non–nasal symptom severity

Please rate your quality of life by making a mark on the appropriate place on the line:

How do you generally feel in terms of your nasal and non - nasal symptoms?

Remember, high numbers mean you are feeling the best.



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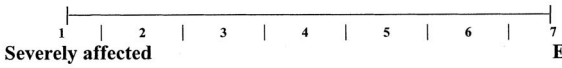
D. Quality-of-life assessment of rhinitis severity

Please rate your quality of life by making a mark on the appropriate place on the line:



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7 = Excellent quality of life in terms of sleep disturbance at night and/or impairment of work performances and/or impairment of social and/or recreational activities

*This classification lends itself to a numeric scoring including individual scores or combination scores.

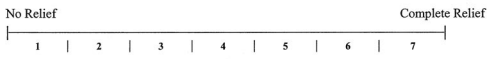
E. The impact of current and past medications on assessment of rhinitis severity

Which medications (including alternative medications) have you used in the past for nasal and non-nasal symptoms and how effective were they – or to what extent did they aggravate your nasal symptoms or produce side effects?

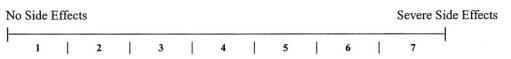
1) Medications for nasal symptoms

Name of Medication: _____

Effectiveness



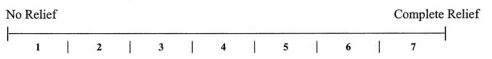
Side Effect Profile



2) Medications for non–nasal symptoms

Name of Medication: _____

Effectiveness



Side Effect Profile