Are the rhinitis symptoms caused by allergy or not?

ImmunoCAP® blood tests help you rule in/out allergy and identify the allergens that add up to symptoms

RHINITIS
Case history alone often leads to misdiagnosis of rhinitis

Nearly 2/3 of patients prescribed antihistamines for their reported allergic rhinitis have symptoms that are not due to allergy*1

Similar symptoms – different causes and management

<table>
<thead>
<tr>
<th>Allergic rhinitis2</th>
<th>Infectious rhinitis2</th>
<th>Other forms of rhinitis2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Seasonal</strong> – Symptoms mainly occur in spring/fall due to pollen from trees, grasses and weeds.</td>
<td>Usually secondary to a viral infection.</td>
<td>Caused by exposure to irritants, hormonal dysfunction and specific medications.</td>
</tr>
<tr>
<td><strong>Perennial</strong> – Caused by year-round allergens, e.g. dust mites, mold, pet dander or cockroaches.</td>
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</tbody>
</table>

Misdiagnosis impacts patient well-being

- Symptoms impact negatively on physical, social and psychological well-being.2–4
- The effect of symptoms, sleep disturbance, daily fatigue and use of antihistamines – all result in impaired school/work performance.2–4
- Allergic rhinitis is a risk factor for the development of asthma.2,4,5
In the majority of allergic patients, several allergens add up to symptoms

- **Up to 80%** of allergic patients are sensitized to several allergen extracts i.e. allergic to more than one allergen.  
- The average patient is sensitized to 3 allergens.

Seasonal and perennial allergens may have cumulative effects, pushing the patient over the symptom threshold:

- Symptom threshold is the level at which a patient’s allergic sensitizations cause symptoms.
- The threshold is often exceeded when seasonal and perennial allergens add up.

<table>
<thead>
<tr>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APR</th>
<th>MAY</th>
<th>JUN</th>
<th>JUL</th>
<th>AUG</th>
<th>SEP</th>
<th>OCT</th>
<th>NOV</th>
<th>DEC</th>
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</thead>
<tbody>
<tr>
<td><strong>SYMPTOM THRESHOLD</strong></td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td> Birch pollen  </td>
<td></td>
<td> Ragweed pollen  </td>
<td></td>
<td> Mold  </td>
<td></td>
<td> Dust mite  </td>
<td></td>
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</tr>
</tbody>
</table>

**Perennial allergens**
Previously unknown high sensitivity to e.g. dust mites, pet dander or molds, present year-round.

**Seasonal allergens**
Increase in tree, grass or weed pollen in spring pushes patient over the symptom threshold.

**Seasonal allergens**
Increase in tree, grass or weed pollen in the fall is enough to cause sneezing and watery eyes.

Identifying the sensitizing allergens will help you outline a comprehensive avoidance plan to keep patient below symptom threshold.
ImmunoCAP blood tests increase the number of correct diagnoses and saves costs

Decrease the number of uncertain allergy diagnoses as defined by the doctor\(^*/9,10\)

- Helps rule out allergy – the negative predictive value is approx. 95%.\(^2\)
- Results* in cost savings of 242 €/patient including allergy tests, medication and physician visits over a period of 2 years.\(^11\)

\(\text{* ImmunoCAP in addition to case history and physical examination in primary care.}\)

ImmunoCAP can be performed without limitations

- Irrespective of patient age, skin condition, medication, disease activity and pregnancy.\(^12-15\)
- No need for precaution for anaphylaxis.

Guidelines support allergy testing when allergy is suspected

EAACI (European Academy of Allergy and Clinical Immunology): “Adequate allergy testing is the prerequisite for optimal care, including allergen avoidance, pharmacotherapy and immunotherapy.”\(^16\)

ARIA (Allergic Rhinitis and its Impact on Asthma): “The diagnosis of allergic rhinitis is based upon the concordance between a typical history of allergic symptoms and diagnostic tests.”\(^4\)

World Allergy Organization (WAO): “Confirmation of allergy and identification of causative allergens are crucial to correctly manage allergic diseases.”\(^17\)
Is Cathy allergic or not? If so, which allergens push her over the symptom threshold?

Cathy, ten years old, visits her doctor due to nasal obstruction and itchy and watery eyes. She says the symptoms have accelerated during the spring.

Her mother explains that Cathy suffered from mild eczema during infancy and she has a tendency to catch colds easily.

1) Physical examination shows a slightly inflamed conjunctivae and pale blue nasal mucosa.

2) The doctor suspects pollen allergy, infection and possibly non-specific nasal hyper responsiveness.

3) An ImmunoCAP Complete Allergen panel test is ordered to find out if it is allergy and if so, which allergens Cathy is sensitized to.

<table>
<thead>
<tr>
<th>Allergen</th>
<th>sIgE (kU/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>g6 Timothy</td>
<td>&lt;0,1</td>
</tr>
<tr>
<td>t3 Birch</td>
<td>12,02</td>
</tr>
<tr>
<td>t25 Ash</td>
<td>&lt;0,1</td>
</tr>
<tr>
<td>w6 Mugwort</td>
<td>&lt;0,1</td>
</tr>
<tr>
<td>e1 Cat</td>
<td>7,23</td>
</tr>
</tbody>
</table>

4) Test results shows sensitization to birch pollen, house dust mites and cats.

Doctor’s management

Cathy is diagnosed as allergic to birch, house dust mites and cats.

In order to push Cathy below the symptom threshold, the doctor recommends that she limit her exposure to house dust mites by removing the carpet in her room and using allergen-protective bed covers. She is also recommended to not let the neighbor’s cat into her house. An antihistamine is prescribed.

During a follow up visit, Cathy says she is experiencing fewer symptoms during pollen season and hardly ever needs to use her antihistamine.
ImmunoCAP helps you identify the allergen(s) that add up to symptoms

**Allergy-like symptoms + Case history**

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**ImmunocAP Complete Allergen testing with relevant tree, grass and weed pollens**

- **0.1 >100 kU/l**
  - Negative (<0.1 kU/l): Symptoms are probably not caused by IgE mediated allergy.
  - Positive (≥0.1 kU/l): Symptoms are probably caused by IgE mediated allergy.

**Continue examination:** Look for other causes.

**Treat the allergies:**
- **Positive (≥0.1 kU/l):**
  - Provide an allergen avoidance plan to keep patient below symptom threshold.
  - Prescription of relevant medications e.g. antihistamines.

**Specific Immunotherapy (SIT)?**
- ImmunoCAP Allergen Components help you identify patients and allergens for improved SIT outcome.

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* Symptom profile containing relevant allergens. Local adaptation with respect to age and regional differences is recommended.
** Factors to consider for a final diagnosis: age, degree of atopy, allergen load, type of sensitizing allergens, previous symptoms, other triggering factors.

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5. NIH. Guidelines for the Diagnosis and Management of Asthma 2007. NIH Publication 08-4051.
8. Wickman M Allergy 2005; 60 (suppl 79): 14–18.

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France +33 1 61 37 34 30
Germany +49 761 47 8050
Hong Kong +852 2895 4613
India +91 11 4610 7555/56
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Japan +81 3 3926 1660
Korea +82 2 2227 5400
Norway +47 21 67 32 80
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