



*EAACI's 60 years celebration – Dedicated to allergy science, committed to your health*

## **Additional information on pollen allergy, rhinitis and asthma**

### **What is air biologic quality and how can it be monitored?**

Pollen, moulds and bacteria are biological air pollutants. Monitoring biological air quality is as important for the upper and lower respiratory airways health as is the monitoring of chemical air quality (chemical pollutants). Pollens are monitored in Europe by a network of about 400 pollen traps, all operated manually. To date, automated pollen monitoring has only been feasible in areas with limited variability in pollen species. There is a need for rapid reporting of airborne pollen as well as for alleviating the workload of manual operation.

### **What is pollen allergy (also known as *hay fever* and *allergic rhinitis*)?**

Pollen allergy is an allergic condition affecting the mucous membranes of the nose and the eyes. It is usually characterised by a runny nose, nasal congestion, and itchy, watery eyes, itchy nose, inner ears and roof of the mouth. These symptoms are caused by a hypersensitivity to airborne pollen such as the pollen of trees, grasses and weeds. When the allergen comes in contact with cell-bound immunoglobulin E (IgE) in the tissues of the body's conjunctiva and nasal mucosa, the tissues release mediators such as histamine or leukotrienes and induce allergic symptoms.

### **How prevalent is pollen allergy?**

According to the International Study of Asthma and Allergies in Childhood (ISAAC), self-reported pollen allergy (hay fever) prevalence in 13-14 year-old children was 22.1% globally. 150 million Europeans have allergic rhinitis, with pollen allergy the most prevalent, followed by allergy to house-dust mites. The prevalence in Europe varies regionally: 12.3% in Northern and Eastern Europe, and 21.2% in Western Europe.

### **What is asthma?**

Asthma is a chronic inflammatory disease causing breathing problems due to the narrowing of the airways. Asthma symptoms include recurrent episodes of wheezing, shortness of breath, chest tightness and cough, triggered by different factors. In allergic asthma – the most common type – symptoms are triggered by exposure to “allergens”, such as pollen, house-dust mite, pets and moulds. Other asthma triggers include viral infections, exercise, gastro-oesophageal reflux, some medications (in particular aspirin) and psychological factors.

### **How prevalent is asthma**

300 million people worldwide and 75 million Europeans have asthma, which is the most frequent chronic disease in children. 90 percent of children with asthma have an allergic cause for asthma.



### **Can asthma be prevented?**

Yes. Clinical research\* shows that allergen immunotherapy (AIT) prevents asthma in patients with allergic rhinitis. AIT with birch or grass pollen had a long-lasting preventive effect on asthma, up to 7 years after the treatment was stopped. The effect is stronger if AIT is given for more than three years.

\* Schmitt et al., 2015, Jacobsen et al., 2007

### **About EAACI**

The European Academy of Allergy and Clinical Immunology (EAACI) is a non-profit organisation active in the field of allergic and immunologic diseases such as asthma, rhinitis, eczema, occupational allergy, food and drug allergy, and anaphylaxis. EAACI was founded in 1956 in Florence and has become the largest medical association in Europe in the field of allergy and clinical immunology. It includes over 9,000 members from 121 countries, as well as 52 National Allergy Societies.

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