

DIAGNOSTIC

If your asthma remains uncontrolled despite optimal treatment, your doctor will refer you to a pulmonologist. The latter will first confirm the diagnosis of asthma and the level of severity of the disease and then prescribe specific tests to identify the type of asthma you have, which is also called phenotyping.

This classification allows us to better understand what causes your asthma and to offer you a more appropriate treatment.

Tests to identify the asthma phenotype:

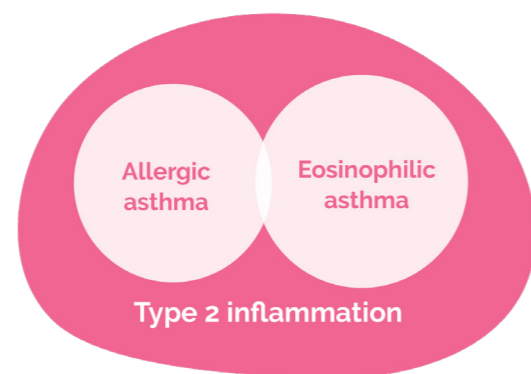
- Skin tests to common allergens or specific IgE
- Total serum IgE levels
- Blood eosinophils
- FeNO*
- Eosinophils in sputum*

*These tests are only offered in certain specialized centres.

In some situations, the doctor may also order other tests such as a chest CT scan or a sweat test.

TYPE 2 INFLAMMATION

Type 2 inflammation is a normal reaction of the immune system to aggressions (infections, irritants, allergens). In some people, this immune system reaction is triggered excessively. The overexcitation of the immune system causes chronic inflammation of the airways, which is responsible for several chronic diseases such as: asthma, nasal polyposis, atopic dermatitis, esophagitis and also certain food allergies. Type 2 inflammation is present in about 50% of people with severe asthma and includes allergic asthma and eosinophilic asthma. Sometimes a combination of these two phenotypes is present at the same time.



ALLERGIC ASTHMA

In people with allergic asthma, symptoms worsen in the presence of an allergen. Exposure to this allergen leads to the production of IgE antibodies, a class of antibodies that plays an important role in the inflammatory process in the airways.

EOSINOPHILIC ASTHMA

Eosinophils are white blood cells that occur naturally in the body and play a defensive role. Sometimes, in certain specific situations, they are present in too large a quantity, which leads to inflammation of the airways.

NEUTROPHILIC ASTHMA

Severe asthma can also be neutrophilic in nature. This type of asthma includes, but is not limited to, asthma associated with obesity, smoking and air pollutants, and reactive airway dysfunction syndrome (RADS). Neutrophilic asthma is generally less responsive to inhaled corticosteroids.

TREATMENTS

To better control your symptoms, you may need to take several medications, including biologics. This class of asthma medications is designed to block the agents that cause airway inflammation

List of possible treatments for severe asthma:

- Inhaled Corticosteroid (ICS)
- Corticosteroid tablet (CSO)
- Combination therapy (ICS + long-acting bronchodilator)
- Long-acting muscarinic antagonist (Spiriva)
- Leukotriene receptor antagonist (Singulair)
- Macrolide antibiotic
- Biological drugs (e.g. Xolair, Nucala, Fasenra, Cinquair, Dupixent)
- Short-acting bronchodilator as needed

SEVERE ASTHMA



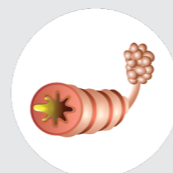
EOSINOPHILIC ASTHMA



Presence of large numbers of eosinophils



Eosinophils



Inflammation of the bronchial tubes



Difficulty breathing

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Association
pulmonaire
du Québec

In Canada, up to 250,000 people have severe asthma, which represents only 5-10% of people with asthma in the country. Despite this small proportion, severe asthma has very high health care costs, higher than diseases such as diabetes, cerebrovascular accidents, or COPD. These costs are explained by the amount of medication needed, the frequent visits to the doctor's office and the emergency room visits that often result in hospitalization. In addition to high health care costs, severe asthma greatly affects the quality of life of the people who have it and threatens their lives.

97% of people with severe asthma consider that the disease is a limitation in their daily activities

WHAT IS SEVERE ASTHMA?

Severe asthma is defined as uncontrolled asthma despite a combination of high-dose inhaled corticosteroids and a second controller.

Before confirming severe asthma, it is important to treat any secondary health problems (e.g., gastroesophageal reflux disease, rhinitis, anxiety or depression) and to manage modifiable risk factors.

SIGNS OF UNCONTROLLED ASTHMA

- Asthma symptoms during the day more than twice a week
- Night-time awakenings due to asthma
- Use of rescue medication more than twice a week
- Limitation in activities due to asthma
- At least 2 periods of worsening symptoms (exacerbations) requiring cortisone tablets in the past year
- At least one period of worsening symptoms (exacerbation) requiring hospitalization in the past year

MODIFIABLE RISK FACTORS

- ✓ Inadequate medication inhalation technique
- ✓ Poor compliance with prescribed treatment
- ✓ Incorrect diagnosis
- ✓ Smoking
- ✓ Exposure to allergens
- ✓ Side effects of medications (e.g., beta-blockers, non-steroidal anti-inflammatory drugs)
- ✓ Presence of secondary health problems (e.g. rhinitis, gastroesophageal reflux, obesity)

PERSONAL IMPACT

Whether asthma is mild or severe, the symptoms remain the same: shortness of breath, chest tightness, wheezing, coughing and increased mucus production. However, in severe asthma there are:

- Greater and more frequent symptoms
- More frequent periods of worsening symptoms (exacerbations)
- Decreased lung function Une diminution de la fonction pulmonaire
- A narrowing of the airways

All of this has the effect of diminishing the quality of life.

50% of people with severe asthma have symptoms of depression or anxiety

THE QUEBEC LUNG ASSOCIATION

The Quebec Lung Association (QLA) is the only non-profit organization that promotes respiratory health and fights lung diseases through prevention, education, rehabilitation, direct services to people with lung disease and their families, and research on respiratory diseases. The APQ also fights against environmental factors that may present risks to respiratory health.

By working to improve the respiratory health of Quebecers and the living conditions of people suffering from a respiratory disease, and by encouraging them to take their health into their own hands, the APQ acts directly on the condition of the young and the not-so-young, which has a direct impact on public health.

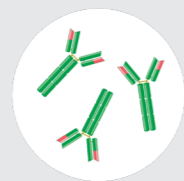
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ALLERGIC ASTHMA



Exposure to an allergen



IgE production



Inflammation of the bronchial tubes



Difficulty breathing

