

# Review on Treatment and Diagnosis of Asthma Disease

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**Abstract:** *In Canada, asthma is the most prevalent respiratory illness. Notwithstanding a notable progress in the diagnosis and majority of Canadians with asthma still have inadequate control of their illness. However, for the majority of patients, control is achievable with the use of preventative strategies and suitable pharmaceutical interventions. For most individuals, inhaled corticosteroids (ICS) are the recommended course of treatment. Mixture when ICS medication is unable to bring about control, most people would rather use long-acting beta2-agonist inhalers combined with ICS therapy. More recently, biologic treatments that target immunoglobulin E or interleukin-5 have been added to the treatment of asthma. arsenal and might be helpful in certain instances of asthma that is difficult to control. Immunotherapy specific to allergens offers a treatment that has the potential to change the course of many asthma sufferers' conditions, but it should only be administered by doctors with the necessary.*

*We address current research on asthma in this review and go over studies that have examined several facets of asthma prevalence, risk factors and prevention, causes, diagnosis, and treatment. Asthma is caused by a variety of molecular pathways, as well as risk and protective factors. A review is conducted of the latest ideas and difficulties in applying the exposome paradigm to allergy disorders and asthma. These include microbial dysbiosis, genetic and epigenetic variables, and environmental exposure, specifically to chemicals found both indoors and outdoors. The most pertinent experimental research that advances our knowledge of immunological and molecular pathways and may provide new targets for the creation of treatments is reviewed. Ensuring an accurate diagnosis of asthma, characterizing the disease, and tracking its intensity are crucial in this a long-term inflammatory respiratory disease that is typified by coughing, wheezing, and intermittent dyspnea. However, it can occasionally be difficult to differentiate asthma from other respiratory disorders because of the generic character of these symptoms. Consistent respiratory symptoms and the detection of fluctuating expiratory airflow obstruction recorded on spirometry are necessary for a definitive diagnosis of asthma. Doctors prioritize symptom control and preventing recurrent exacerbations by using individualized treatment plans that take a step-by-step approach and take into account the frequency, intensity, and potential hazards of the symptoms. It is essential to identify and treat asthma exacerbations as soon as possible in order to stop the disease from getting worse and endangering life. Asthma-related fatalities draw attention to wasted opportunities to detect the severity of the condition and increase treatment, highlighting the vital importance of ongoing patient education and regular symptom management assessment.*

**Keywords:** Asthma, airway inflammation, airway remodeling, infection, epithelial-mesenchymal trophic unit, ADAM33