

GLAXOSMITHKLINE AND RESPIRATORY DISEASE: A HALF-CENTURY OF COMMITMENT

GlaxoSmithKline (GSK) has been a pioneer and leader in research dedicated to the development of revolutionary treatments to manage respiratory conditions for nearly four decades.

Through a major commitment to improving the lives of patients, GSK has not only helped revolutionize the treatment of asthma but has also helped inform the medical communities' understanding of the mechanism of this disease. The company continues to expand and strengthen its portfolio of medicines for key respiratory conditions including asthma, COPD, and rhinitis. In addition to the four medicines GSK now markets for respiratory conditions, there are 15 additional new medicines in development and under clinical testing.

GSK Respiratory Milestones:

- **1969:** Introduced *Ventolin* in Europe, the first short-acting bronchodilator to treat airway constriction associated with asthma.
- **1972:** The first inhaled corticosteroid (ICS), *Becotide/Beclovent*, was introduced in Europe to help reduce airway inflammation associated with asthma.
- **1980:** *Beclovent* approved in the U.S.
- **1981:** *Ventolin* approved in the U.S.
- **1990:** Pioneered the first long-acting beta₂-agonist (LABA), *Serevent*, which prolongs the duration of bronchodilation for the treatment of airway constriction.
- **1993:** Introduced *Flixotide/Flovent* in Europe, an inhaled corticosteroid with twice the clinical potency of *Becotide*.
- **1994:** *Serevent* was approved in the U.S.
- **1996:** *Flovent* was approved in the U.S.
- **2000:** *Advair Diskus* is approved in the U.S., the first ICS and LABA combination inhaler to treat the two main components of asthma – airway constriction and inflammation – improving the treatment of asthma.
- **2005:** GSK completes the transition in the U.S., of all of its respiratory products to non-chlorofluorocarbon (non-CFC) containing formulations in compliance with the Montreal Protocol on the phase out of all ozone-depleting substances.
- **2006:** GSK introduces the first MDI in the U.S. with a dose counter, *Ventolin HFA*.
- **2008:** GSK announced it has more than 15 medicines in its respiratory pipeline in testing for a range of conditions. The pipeline includes next-generation inhaled steroids, long-acting beta-agonists and monoclonal antibodies.

As one of the world's leading research-based pharmaceutical and healthcare companies, GlaxoSmithKline has made it its mission to improve the quality of human life by enabling people to do more, feel better and live longer.

GSK Respiratory Products for Asthma

- **Ventolin®**
(*albuterol sulfate*)
 - Short-acting beta-agonist for relief of the sudden symptoms of asthma
- **Serevent®**
(*salmeterol xinafoate*)
 - A long-acting beta₂-agonist used to treat airway constriction associated with asthma; should only be used as additional therapy for patients not adequately controlled on other asthma-controller medications (e.g., low- to medium-dose inhaled corticosteroids)
- **Flovent®**
(*fluticasone propionate*)
 - An inhaled corticosteroid for the treatment of airway inflammation
- **Advair®**
(*fluticasone propionate and salmeterol combination*)
 - Combination treatment of an ICS and LABA, which treat the two main components of asthma; inflammation and bronchoconstriction

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Important Product Information:

***Advair* won't replace fast-acting inhalers for sudden symptoms and should not be taken more than twice a day.** *Advair* contains salmeterol. In patients with asthma, medicines like salmeterol may increase the chance of asthma-related death. So *Advair* is not for people whose asthma is well controlled on another controller medicine. People should speak to their doctor about the risks and benefits of treating their asthma with *Advair*. People taking *Advair* should see their doctor if their asthma does not improve. Thrush in the mouth and throat may occur. People should tell their doctor if they have a heart condition or high blood pressure. Some people may experience increased blood pressure, heart rate, or changes in heart rhythm. *Advair Diskus* is for patients 4 years and older. For patients 4 to 11 years old, *Advair Diskus* 100/50 is for those who have asthma symptoms while on an inhaled corticosteroid. *Advair HFA* is for patients 12 years and older.

Flovent Diskus and *Flovent HFA* are indicated for the maintenance treatment of asthma as prophylactic therapy in patients 4 years of age and older. *Flovent* is not indicated for the relief of acute bronchospasm and does not replace fast-acting (rescue) inhalers for sudden symptoms. Adrenal insufficiency may occur when transferring patients from systemic steroids. Inhaled corticosteroids, as well as poorly controlled asthma, may cause a reduction in growth velocity, and the long-term effect on final adult height is unknown.

Ventolin HFA is indicated for the prevention and relief of bronchospasm in patients 4 years of age and older with reversible obstructive airway disease. *Ventolin HFA* can produce paradoxical bronchospasm, which may be life threatening. If paradoxical bronchospasm occurs, *Ventolin HFA* should be discontinued immediately and alternative therapy instituted. It should be recognized that paradoxical bronchospasm, when associated with inhaled formulations, frequently occurs with the first use of a new canister.

For full prescribing information please visit www.gsk.com