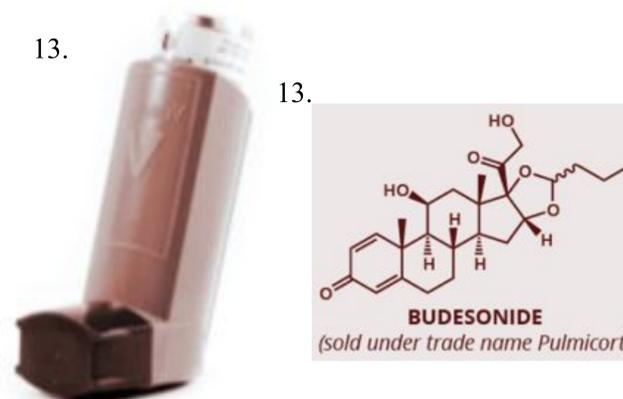


## Abstract

Budesonide and Salbutamol are respiratory drugs medically called bronchodilators, and more specifically,  $\beta_2$ -adrenergic agonists. Bronchodilators relax the muscles in the lungs and widens the airways, which is why they are used for inhalers.  $\beta_2$ -adrenergic agonists focus on the smooth tissue within the lungs to reduce the swelling of the passageways. Salbutamol is a short acting drug that relieves the tension that happens during an asthma attack, because of its short acting nature it is considered a reliever. Even though Budesonide is considered as a bronchodilator, it is more geared towards anti-inflammatory aspects instead of relief. Budesonide is a synthetic steroid and a corticosteroid, it usually needs to be taken daily as it opens up the airways so that asthma attacks would not occur. A corticosteroid is a type of steroid used as a preventer for asthma or any lung related diseases. Budesonide is considered to be a preventative drug, since it forces the muscles in the airways to stay relaxed but the effect is not immediate, instead it is prolonged. This presentation will showcase Budesonide and Salbutamol and how they act to relieve or prevent asthma attacks and also investigate how they affect the body.

## Methodology

I chose to research about drugs related to asthma due to the fact that I have asthma and it personally relates to me. I wanted to understand the effects and how the drugs will affect me and my body. The majority of my research came from JSTOR and the process took around 2 months to complete.



## Respiratory Disease: Asthma

### Asthma

- A person with asthma has swollen and tight airways and a thick layer of mucus within the lungs, trapping air in the alveoli causing an asthma attack. Since the air is trapped, it caused the person to wheeze and have shortness of breath.

### Medication for Asthma

#### Salbutamol Inhaler

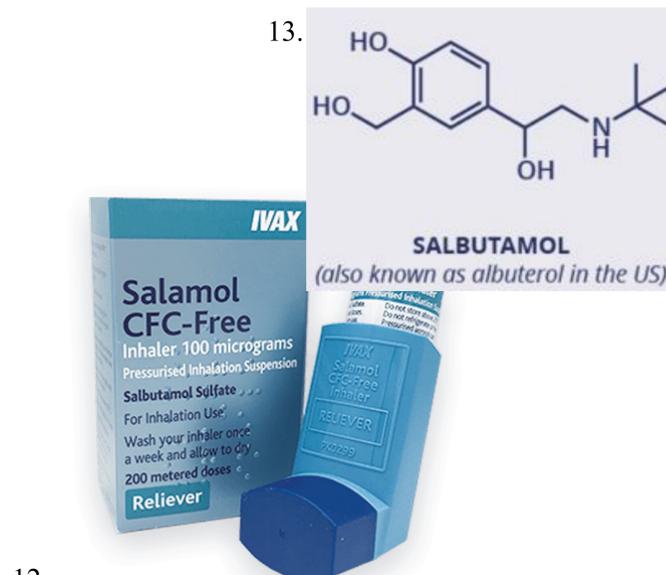
- **Mode of action during an Asthma Attack**
  - The drug immediately takes into effect and helps reduce the swelling and tension within the lungs to allow the person to breathe, since it is a short acting agent. It is most useful during an asthma attack as it relieves the symptoms immediately.
- **Effects on the body**
  - The drug administered through an inhaler stays longer in the body compared to the pill form. This can be explained by the fact that the medication in the pill form eliminated through the urine; while, it is excreted through the airways when an oral device is used. Since the oral medication takes a longer time to be excreted, the side effects of the drug is prolonged, such as: hyperactivity and increased heart rate.

#### Budesonide Inhaler

- **Mode of action during an Asthma Attack**
  - Budesonide is long acting agent drug that controls the tension and swelling of the lungs. The drug is taken everyday to prolong the effects of the drug, it is never used during an asthma attack.
- **Effects on the body**
  - When the oral corticosteroid drug, Budesonide, is used for a long period of time it can cause diabetes, increased risk of infection, etc.

## Conclusion

There are two types of inhalers that are commonly used: relievers and preventers. A common respiratory drug that is used as a reliever is Salbutamol and as a preventer, Budesonide. Salbutamol relieves the patients of the tightness within the airways during the asthma attack; however, the drug takes a long time to diffuse out of the body which makes the side effects of the drug to be prolonged in the body. Budesonide controls the tightness of the muscle, it is used to help prevent another asthma attack from happening. Since it is an oral corticosteroid drug, the long term effects includes diabetes, increased risk of infection, etc.



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## Introduction

Asthma is a respiratory condition where the airways in the lungs are swollen and there is a thick layer of mucus within the lungs. When a person has an asthma attack the airways are tight and closed which causes air to get stuck within the alveolus. Through the lack of air, it causes the person to wheeze, cough, and feel a heavy pressure within their chest. There are many types of medications to help calm down the symptoms of asthma attacks. The typical medications that are used for asthma is pills, powder inhalers, and regular inhalers. The type of medication that will be discussed throughout the poster is the regular inhaler, specifically reliever and preventer inhalers.

