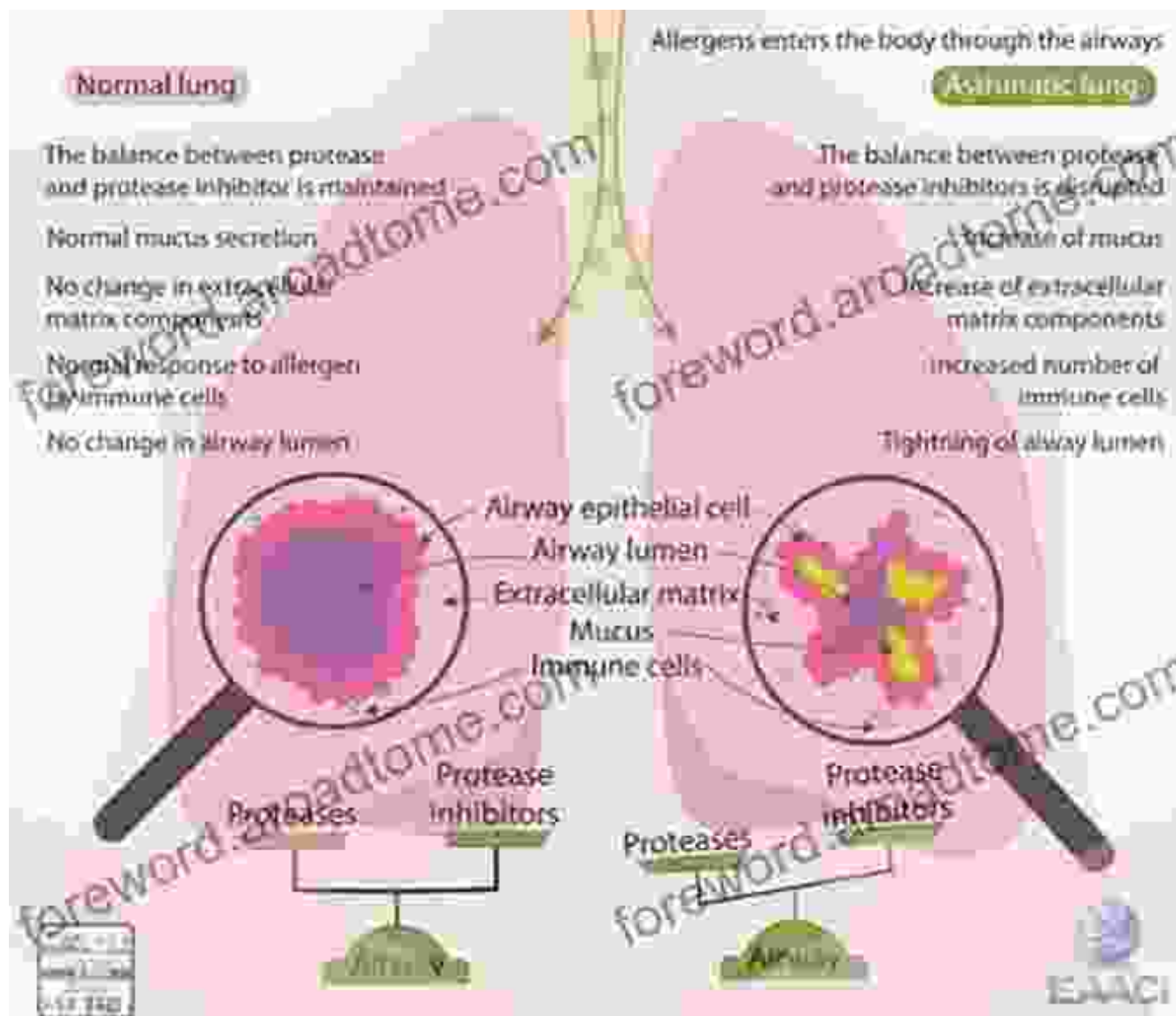


# **Airway Wall Remodelling In Asthma: An In-Depth Exploration**

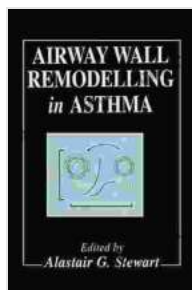
Airway wall remodelling is a hallmark of asthma, a chronic inflammatory disease that affects the airways. It is characterized by changes in the structure and composition of the airway wall, which can lead to airway narrowing and airflow obstruction. This remodelling process is complex and involves a variety of cellular and molecular mechanisms. Understanding the mechanisms of airway wall remodelling is crucial for developing new therapies for asthma.



## Airway Wall Remodelling in Asthma (Handbooks in Pharmacology and Toxicology Book 40) by H. Norman Wright

★★★★☆ 4.4 out of 5

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 File size : 2703 KB  
 Text-to-Speech : Enabled  
 Screen Reader : Supported  
 Enhanced typesetting : Enabled  
 Print length : 600 pages





## Types of Airway Wall Remodelling

There are two main types of airway wall remodelling in asthma:

1. **Fibrosis:** This is characterized by an increase in the amount of collagen and other extracellular matrix proteins in the airway wall. Fibrosis can lead to airway narrowing and stiffening, which can make it difficult to breathe.
2. **Smooth muscle hypertrophy and hyperplasia:** This is characterized by an increase in the size and number of smooth muscle cells in the airway wall. Smooth muscle contraction can cause airway narrowing, which can also make it difficult to breathe.

## Causes of Airway Wall Remodelling

The exact causes of airway wall remodelling in asthma are not fully understood, but it is thought to be caused by a combination of factors, including:

- **Inflammation:** The chronic inflammation associated with asthma can damage the airway wall and lead to the release of factors that promote remodelling.
- **Oxidative stress:** Oxidative stress is an imbalance between the production of free radicals and the body's ability to neutralize them. Oxidative stress can damage the airway wall and lead to remodelling.
- **Growth factors:** Growth factors are proteins that promote cell growth and differentiation. Some growth factors have been shown to be

involved in airway wall remodelling in asthma.

## **Consequences of Airway Wall Remodelling**

Airway wall remodelling can have a number of consequences, including:

1. **Airway narrowing:** Airway wall remodelling can lead to airway narrowing, which can make it difficult to breathe.
2. **Airflow obstruction:** Airway narrowing can lead to airflow obstruction, which can cause shortness of breath, wheezing, and coughing.
3. **Reduced lung function:** Airway wall remodelling can reduce lung function, which can make it difficult to perform everyday activities.
4. **Increased risk of asthma exacerbations:** Airway wall remodelling can increase the risk of asthma exacerbations, which are episodes of worsening asthma symptoms.

## **Treatment of Airway Wall Remodelling**

There is no cure for airway wall remodelling, but there are treatments that can help to slow or stop the progression of the disease. These treatments include:

- **Inhaled corticosteroids:** Inhaled corticosteroids are the most effective treatment for asthma. They reduce inflammation in the airways, which can help to slow or stop airway wall remodelling.
- **Long-acting beta-agonists:** Long-acting beta-agonists are bronchodilators that help to open up the airways. They can be used to relieve asthma symptoms and prevent airway wall remodelling.

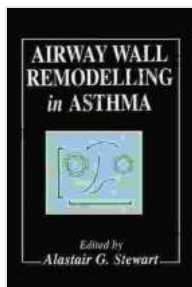
- **Leukotriene modifiers:** Leukotriene modifiers are drugs that block the action of leukotrienes, which are inflammatory mediators that can contribute to airway wall remodelling.

Airway wall remodelling is a serious complication of asthma that can lead to airway narrowing, airflow obstruction, and reduced lung function.

Understanding the mechanisms of airway wall remodelling is crucial for developing new therapies for asthma.

## References

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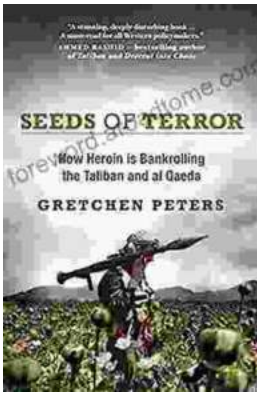
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