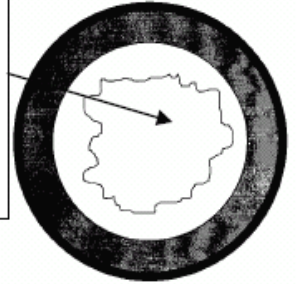




Take Down the Swelling To Breathe Easy

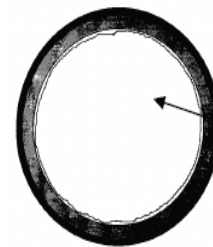
When people hear the term “steroids” there is often a negative response. “Steroids, I don’t want to take those. Don’t they have all kinds of nasty side effects?” The truth is that when used properly, steroids can play an important role in controlling asthma and COPD without major side effects.

A swollen airway has a smaller passage for airflow making it more difficult to breathe.



Steroids are produced naturally by the body. Many different types of steroids are produced by the adrenal gland (a gland that lies on top of each kidney). Steroids produced by the adrenal gland (called corticosteroids) include:

- Aldosterone, which helps to control the balance of fluid and minerals in the body
- Cortisol, which controls energy production and the body’s response to stress
- Sex Hormones such as estrogen and testosterone



A normal airway has an open passage for airflow.

The steroid medications used for treating respiratory problems are most closely related to cortisol and fall into a class of steroids referred to as the glucocorticoids.

Benefits of Steroid Medications

In both asthma and COPD, inflammation (swelling) in the airways plays a major role in difficult breathing. When the airways are exposed to an irritant (e.g. tobacco smoke) or something you are allergic to (e.g. mold, animal dander), they become red and swollen. The swelling causes the air passages to become smaller, making it more difficult to get air in and out of the lungs. Steroids help to reduce and control swelling in the airways, making breathing easier.

Steroids also help by making the airways more responsive to medications that open the airways such as albuterol and decreasing the amount of fluid in lung tissue. They may also make the airways less prone to bronchospasms (muscle around the airway contracting and constricting the airway).

Steroids in Asthma and COPD

Inhaled steroids are the frontline treatment for any patient with persistent asthma. Studies have shown many clinical benefits in asthma including reduced symptoms (e.g., wheezing, cough, etc.), improved airflow, reduction in airway sensitivity and prevention of exacerbations (episodes of worsening that require extra treatment, hospitalization or an ER visit). Steroids may also prevent permanent changes to the airway that can occur when asthma is poorly controlled.

Although not all COPD patients benefit from steroids, some do. The Global Initiative for Chronic Obstructive Pulmonary Disease or GOLD, sponsored by the National Institute of Health and World Health Organization, released standards for the management of COPD in 2001. These standards suggest that inhaled steroids should be used in COPD for patients that continue to have symptoms on bronchodilators (e.g., albuterol, ipratropium). They recommend a 6-week to 3-month trial of inhaled steroids with spirometry testing before and after the trial to determine if an improvement in lung function is noted.

GOLD also recommends use in patients with moderate to severe COPD that have frequent episodes of worsening requiring extra treatment such as antibiotics or steroid pills or shots.

Benefits noted by some of the clinical studies include improved air movement, decreased symptoms (shortness of breath, cough, etc.), fewer exacerbations (episodes of worsening that require extra treatment, hospitalization or an ER visit), increased walking distance, and reduced risk of mortality (i.e. death).

Steroids can be delivered in several ways but the two most common ways are by pill or by inhaling the medication. When taken by pill, a relatively large dosage is required for enough of the medication to reach the lungs and have the desired effect. Dosages of 10 - 20 mg per day or more are commonly used. Taking the larger dosage is what leads to many of the more serious side effects associated with steroids such as osteoporosis, diabetes, slow wound healing, and facial swelling.

When taken by inhalation, because the medication is being inhaled directly into the airways, the dosage required is much less, generally about 1 mg per day which may be only about 1/10th to 1/20th of the dosage taken by pill. Because the dosage is much less, the chance of any serious side effects is reduced dramatically. Although uncommon, the most common side effects of inhaled steroids include sore throat, hoarseness, and an increased risk of a yeast infection in the mouth, which can be reduced by rinsing the mouth out after inhaling the medicine.



The most common types of inhaled steroids are listed below. Steroids can be taken by inhaler or nebulizer. If you are already taking other medications by nebulizer, it may be possible to include the steroid in your normal nebulizer treatment. If you are taking multiple inhalers, it may be possible to combine all inhaled medications into one convenient nebulizer treatment.

Common Steroid Inhalers

Medicine	Brand Name
Beclomethasone	Vanceril®, Beclovent®, QVAR®
Budesonide	Pulmicort Turbuhaler®, Pulmicort Respules®
Flunisolide	Aerobid®
Fluticasone	Flovent®, Advair®
Triamcinolone	Azmacort®

Most insurance carriers, including Medicare, provide coverage for nebulizer medications when medical necessity requirements are met. If you would like more information, please talk with your physician or feel free to call us for details.