

Inhaled Corticosteroids: What are they and how do they work?

Inhaled corticosteroids, sometimes referred to as inhaled steroids, are the best medication to manage asthma. They are used in all but the mildest cases of asthma. Inhaled corticosteroids are strong anti-swelling medications. People with asthma have swelling in the airways of their lungs, causing the airways to become more sensitive to asthma triggers such as allergens, dry air, smoke and viruses. Inhaled steroids reduce swelling, which improves symptoms, lung function and airway hyper-reactivity ('twitchiness'). A recent Canadian study (1) has shown that regular use of inhaled corticosteroids lowers the risk of death from asthma. The following are examples of inhaled corticosteroids commonly used:

- **Inhaled Corticosteroids:** Alvesco (ciclesonide), Asmanex (mometasone), Flovent (fluticasone), Pulmicort (budesonide), Qvar (beclomethasone)
- **Combination Inhaled Corticosteroid/long-acting beta agonists:** Advair (Flovent and Salmeterol), Symbicort (Pulmicort and Oxeze), Zenhale (Asmanex and formoterol)

How should I use my inhaled corticosteroid medication?

Good asthma management includes proper use of medications. The main purpose of inhaled corticosteroids is to reduce or prevent airway swelling and asthma flare-ups, and these medications are known as *preventers* for this reason. They should be used on a regular, daily basis as instructed by your physician, even if you are feeling well. ***Inhaled corticosteroids must be used regularly to work.*** The anti-swelling action happens gradually over days or weeks, when the medication is used regularly. For **quick** relief of cough, wheeze, chest tightness or shortness of breath, inhaled corticosteroids do not work, and instead a *reliever or bronchodilator medication* should be used.

What are the side effects of inhaled corticosteroids?

Inhaled corticosteroids have been the best treatment for asthma for more than 30 years. They are among the safest and most effective means to treat asthma. Although few side effects occur at standard doses (one to two puffs twice a day for most inhalers), some people may experience minor side effects such as hoarseness of the voice, and thrush (a yeast infection of the mouth and throat). Rinsing your mouth, or brushing your teeth after taking your medication, and using a spacer device with the aerosol puffer will decrease the chance of side effects. Children who have asthma can use inhaled corticosteroids safely over the long term. Two studies published in the New England Journal of Medicine (2, 3) reported inhaled corticosteroids do not stunt a child's growth and are not related to any other major side effects.

What about athletes who are banned for using steroids?

Inhaled corticosteroids are not related to anabolic steroids that are misused by some athletes to enhance their performance. The regular use of inhaled corticosteroids does not increase muscle mass or cause any of the other side effects associated with anabolic steroids. None of the inhaled corticosteroids commonly used to treat asthma are banned by the International Olympic Committee, and they can be safely used in all forms of competitive sport.

Wouldn't it be easier to take corticosteroid tablets?

Some patients with more severe asthma may need treatment with oral corticosteroid tablets (prednisone), but most people can manage their asthma very well with inhaled corticosteroids. Inhaled corticosteroids have a great advantage over prednisone tablets because the medication is inhaled directly into the lungs, with less absorption by the rest of the body. This helps to lower the chance of side effects, making inhaled corticosteroids among the safest and most effective way to manage asthma.

Conclusion

Corticosteroids, when taken properly, are a very good way to treat asthma. They are safe and should be considered the first choice in asthma management for most cases of asthma

References

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2. Agertot L, Pedersen S. Effect of long-term treatment with inhaled budesonide on adult height in children with asthma. *N Engl J Med* 2000; 343:1064-9
3. The Childhood Asthma Management Program Research Group. Long-term effects of budesonide or nedocromil in children with asthma. *N Engl J Med* 2000;343:1054-63.

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