Inhaled Corticosteroids for Long-Term Control of Asthma

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Examples

<table>
<thead>
<tr>
<th>Generic Name</th>
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<tbody>
<tr>
<td>beclomethasone</td>
<td>QVAR</td>
</tr>
<tr>
<td>budesonide</td>
<td>Pulmicort</td>
</tr>
<tr>
<td>ciclesonide</td>
<td>Alvesco</td>
</tr>
<tr>
<td>flunisolide</td>
<td>Aerospan</td>
</tr>
<tr>
<td>fluticasone</td>
<td>Flovent</td>
</tr>
<tr>
<td>mometasone</td>
<td>Asmanex Twisthaler</td>
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Combinations of an inhaled corticosteroid and a long-acting beta2-agonist:

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Brand Name</th>
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<tbody>
<tr>
<td>budesonide and formoterol</td>
<td>Symbicort</td>
</tr>
<tr>
<td>fluticasone and salmeterol</td>
<td>Advair</td>
</tr>
<tr>
<td>mometasone and formoterol</td>
<td>Dulera</td>
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</table>

These medicines are used in a metered-dose or dry powder inhaler. Inhalers may be used differently, depending on the medicine used. Always read the directions to be sure you or your child is using the inhaler correctly.
How It Works

All forms of corticosteroids reduce inflammation in the airways that carry air to the lungs (bronchial tubes) and reduce the mucus made by the bronchial tubes. This makes it easier for you to breathe.

Inhaled corticosteroids treat inflammation in the airway, and only very small amounts of the medicine are absorbed into the body. So these medicines don't tend to cause the serious side effects, such as weakening of the bones, that corticosteroids can cause when they are taken in liquid, pill, or injection form (systemic corticosteroids).

Why It Is Used

Inhaled corticosteroids are the preferred treatment for long-term control of mild persistent, moderate persistent, or severe persistent asthma symptoms in children, teens, and adults. They help control narrowing and inflammation in the bronchial tubes. In general, they are part of daily asthma treatment and are used every day.

Different types of medicines are often used together in the treatment of asthma. For example, inhaled corticosteroids are often used together with long-acting beta2-agonists for persistent asthma. Medicine treatment for asthma depends on a person's age, his or her type of asthma, and how well the treatment is controlling asthma symptoms.

• Children up to age 4 are usually treated a little differently from those 5 to 11 years old.
• The least amount of medicine that controls the asthma symptoms is used.
• The amount of medicine and number of medicines are increased in steps. So if asthma is not controlled at a low dose of one controller medicine, the dose may be increased. Or another medicine may be added.
• If the asthma has been under control for several months at a certain dose of medicine, the dose may be reduced. This can help find the least amount of medicine that will control the asthma.
• Quick-relief medicine is used to treat asthma attacks. But if you or your child needs to use quick-relief medicine a lot, the amount and number of controller medicines may be changed.

Your doctor will work with you to help find the number and dose of medicines that work best for you.
How Well It Works

According to the United States National Asthma Education and Prevention Program (NAEPP), inhaled corticosteroids are the preferred long-term treatment for asthma. If the inhaled corticosteroid does not control asthma symptoms well enough, other medicines, such as a long-lasting beta2-agonist or a leukotriene pathway modifier, may be used. Inhaled corticosteroids are the most powerful and most effective medicine for long-term control of asthma in most people. When taken consistently, they improve lung function, improve symptoms, and reduce asthma attacks and admissions to the hospital for asthma.

Side Effects

All medicines have side effects. But many people don't feel the side effects, or they are able to deal with them. Ask your pharmacist about the side effects of each medicine you take. Side effects are also listed in the information that comes with your medicine.

Here are some important things to think about:

• Usually the benefits of the medicine are more important than any minor side effects.
• Side effects may go away after you take the medicine for a while.
• If side effects still bother you and you wonder if you should keep taking the medicine, call your doctor. He or she may be able to lower your dose or change your medicine. Do not suddenly quit taking your medicine unless your doctor tells you to.

Side effects of inhaled corticosteroids are uncommon at the usual dose. Side effects (many of which occur only with high doses) may include:

• Sore mouth, sore throat, or hoarseness.
• Cough and spasms of the large airways (bronchi).
• Fungus infection in the mouth (thrush).
• Very slight reduction in growth.
• Decreased bone thickness in adults.
• Clouding of the lens of the eye (cataract).
• High blood pressure in the eye or fluid buildup in the eye (glaucoma). This occurs with high doses of inhaled corticosteroids used over a long period of time.

The U.S. Food and Drug Administration (FDA) has reported that salmeterol may make an asthma attack worse and may increase the risk of death. If your or your child's wheezing gets worse after taking this medicine (Advair), call your doctor right away.

To minimize or prevent side effects of corticosteroids, the person with asthma can:
• Use a spacer with a metered-dose inhaler.
• Rinse his or her mouth with water after using a corticosteroid inhaler but should not swallow the water. Swallowing the water will increase the chance that the medicine will get into the bloodstream, increasing the potential for side effects.
• Keep the dose of inhaled corticosteroids as low as possible while still maintaining asthma control. You may be able to limit corticosteroid use by using a long-acting inhaled beta2-agonist, sustained-release theophylline, or a leukotriene pathway modifier along with inhaled corticosteroids.

See Drug Reference for a full list of side effects. (Drug Reference is not available in all systems.)

What To Think About

One of the best tools for managing asthma is a controller medicine that has a corticosteroid (sometimes called a "steroid"). But some people worry about using corticosteroid medicines because of the myths they've heard about them. If you're making a decision about a corticosteroid inhaler, it helps to weigh the facts against the myths.

Most doctors recommend that everyone who uses a metered-dose inhaler (MDI) also use a spacer, which is attached to the MDI. A spacer may deliver the medicine to the lungs better than an inhaler alone. And for many people a spacer is easier to use than an MDI alone. Using a spacer with inhaled corticosteroids can help reduce their side effects and result in less use of oral corticosteroids.

Taking medicine

Medicine is one of the many tools your doctor has to treat a health problem. Taking medicine as your doctor suggests will improve your health and may prevent future problems. If you don't take your medicines properly, you may be putting your health (and perhaps your life) at risk.

There are many reasons why people have trouble taking their medicine. But in most cases, there is something you can do. For suggestions on how to work around common problems, see the topic Taking Medicines as Prescribed.

Advice for women

If you are pregnant, breastfeeding, or planning to get pregnant, do not use any medicines unless your doctor tells you to. Some medicines can harm your baby. This includes prescription and over-the-counter medicines, vitamins, herbs, and supplements. And
make sure that all your doctors know that you are pregnant, breastfeeding, or planning to get pregnant.

It is not known whether inhaled beclomethasone, flunisolide, or fluticasone may be harmful to the fetus of a pregnant woman who has asthma. Budesonide is not expected to harm a fetus. A review of the animal and human studies on the effects of asthma medicines taken during pregnancy found few risks to the woman or her fetus. It is safer for a pregnant woman with asthma to be treated with asthma medicines than for her to have asthma symptoms and asthma attacks. Poor control of asthma is a greater risk to the fetus than asthma medicines are. If you are pregnant, talk with your doctor but do not immediately stop using your asthma medicine.

It is not known whether inhaled beclomethasone, budesonide, flunisolide, or fluticasone passes into breast milk. Talk to your doctor if you have asthma and are breastfeeding a baby.

**Concerns for children**

Some parents worry that children who use inhaled corticosteroids may not grow as tall as other children. A very small difference in height and growth was found in children who were using inhaled corticosteroids compared to children not using them. And one study showed a very small difference in height [about 0.5 in. (1.3 cm)] in adults who used inhaled corticosteroids as children compared to adults who did not use inhaled corticosteroids. But the use of inhaled corticosteroids has important health benefits for children who have asthma. If you are worried about the effects of asthma medicines on your child, talk with your doctor.

One study noted that children who use inhaled corticosteroids do not have an increased risk for broken bones (fractures) compared to those who are not using the medicine. Try to avoid giving your child an inhaled medicine when he or she is crying, because not as much medicine is delivered to the lungs.

**Checkups**

Follow-up care is a key part of your treatment and safety. Be sure to make and go to all appointments, and call your doctor if you are having problems. It's also a good idea to know your test results and keep a list of the medicines you take.

Complete the new medication information form (PDF) to help you understand this medication.
References

Citations


Credits

By Healthwise Staff

Primary Medical Reviewer John Pope, MD - Pediatrics
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Specialist Medical Reviewer Elizabeth T. Russo, MD - Internal Medicine

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