# **ConsumerReports® BEST BUY DRUGS**<sup>™</sup>

### Evaluating Inhaled Steroids Used to Treat:

## Asthma

COMPARING EFFECTIVENESS, SAFETY, AND PRICE



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	recommendations
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## **Our recommendations**

Inhaled steroids are used to treat people with asthma. They reduce and prevent inflammation, swelling, and mucus build-up in your airways and lungs. By doing so, they help prevent asthma attacks and help you breathe easier.

Not everyone with asthma needs an inhaled steroid. Sometimes, lifestyle adjustments, including quitting smoking and avoiding exposure to triggers, such as pet dander or mold, work well enough that you won't need one. On the other hand, many people who could benefit from an inhaled steroid are not using one of these medicines. So if your asthma symptoms are persistent and you have frequent asthma attacks, talk to your doctor about an inhaled steroid.

Taking effectiveness, safety, and cost into account, we have chosen the following steroid inhalers as *Consumer Reports Best Buy Drugs* for treating adult and childhood asthma:

- Beclomethasone (QVAR) for adults and children ages 5 years and older
- Generic budesonide suspension nebulizer for children ages 1 year and older

Beclomethasone (QVAR) is as effective and safe as other inhaled steroids, and it is the least expensive, ranging from \$142 to \$177 per month, depending on dose. But if you or your child needs a higher strength to control asthma symptoms, that can increase the cost. If an inhaled steroid does not help or does not relieve your symptoms enough, current guidelines from the National Heart, Lung, and Blood Institute recommend adding a long-acting bronchodilator, such as salmeterol (Serevent Diskus) or formoterol (Foradil), so ask your doctor if that makes sense in your case.

We chose generic budesonide suspension nebulizer for children ages 1 year or older because it is the only inhaled steroid FDA-approved for kids that young. You could save up to \$168 by taking the generic version instead of the brand-name counterpart, Pulmicort Respules. But the generic is not available at the highest dose (1 mg/2 mL), so if your child needs a dose that high, you will have to opt for the brand name Pulmicort Respules, which is very expensive at a retail price of \$778 per month.

This report was last updated in November 2013.

This report compares the effectiveness, safety, and cost of medicines called inhaled corticosteroids, or just inhaled steroids, that are used to treat asthma. Inhaled steroids are favored over steroid pills because they act directly on the airways. This enhances their effectiveness and allows a lower dose to be used. The lower dose of an inhaled steroid, compared to steroid pills, lowers the risk of side effects.

This report is part of a Consumer Reports project to help you find safe, effective medicines that give you the most value for your health-care dollar. To learn more about the project and other drugs we've evaluated for other diseases and conditions, go to www.CRBestBuyDrugs.org.

Asthma is a chronic disease that causes inflammation or narrowing of the airways that carry the air you breathe in and out of your lungs. This can make it difficult to breathe and lead to wheezing (noisy breathing), coughing, shortness of breath, and a sensation of tightness in the chest.

About 25 million Americans, including seven million children, have asthma, according to the National Heart, Lung, and Blood Institute. The disease usually first appears in childhood but adults can also develop it.

Asthma symptoms can be triggered by exposure to common allergens (such as animal dander, dust mites, and pollen) and irritants (such as certain chemicals, tobacco or wood smoke, and even cold air). Strenuous exercise, the common cold and the flu, certain drugs such as aspirin and ibuprofen and stress can also trigger asthma attacks. For people with asthma, the allergens, irritants, or conditions listed can cause inflammation in the walls of the airways and make the muscles around the airways spasm. This constricts the airways and causes increased mucus production, both of which make it difficult for air to move in and out of the lungs.

Asthma symptoms range from mild to severe and doctors classify people with asthma according to the frequency and severity of their symptoms. (See Table 1 below.) The severity of your symptoms can vary; on some days they may be more severe than on others.

### Table 1. What degree of asthma do you have?

Degree	Severity and frequency of symptoms
Intermittent	Your asthma comes and goes, with symptoms either during the day or night, occurring twice a week or less. In between, you have no symptoms and your lung function is normal.
Mild Persistent	You have symptoms more than twice a week, but not every day. Symptoms at night usually occur more than twice a month and asthma attacks might somewhat limit your activity.
Moderate Persistent	You have symptoms every day and/or you have night symptoms more than once a week. The attacks limit your activity.
Severe Persistent	You have symptoms throughout the day, most days. Symptoms often come at night as well. Activity is extremely limited.

Source: National Heart, Lung, and Blood Institute, National Asthma Education and Prevention Program. Expert panel report 3: Guidelines for the diagnosis and management of asthma. August 2007.

#### How is Asthma Diagnosed?

Your doctor will first want to rule out other causes of your symptoms and then assess how severely you are affected. That will help determine your treatment, including the drugs you may need.

In addition to questions about your medical history, symptoms, and lifestyle habits, you will likely undergo

tests of your lung function. For example, a spirometry test measures lung capacity by looking at how much and how fast you can blow air out of your lungs after you take a deep breath. During the test, the doctor may also give you an inhaled bronchodilator to see if it helps your lungs function better. If it does, that's an indication that you have asthma.

Asthma trigger	Avoiding the triggers
Pet/animal dander	Keep pets out of your home, room or living area
Dust mites - tiny bugs found in every home, especially in mattresses, pillows, carpets, upholstered furniture	<ul> <li>Buy a dust-proof cover for your mattress and pillows</li> <li>Wash pillows, sheets, and blankets each week in hot water (or cold water with detergent and bleach)</li> <li>Don't keep stuffed toys on the bed or wash them each week</li> </ul>
Cockroaches	<ul> <li>Food can attract cockroaches, so store it in closed containers and use closed garbage cans</li> <li>Use roach traps, baits or sprays</li> </ul>
Indoor mold	<ul><li>Clean moldy areas with a cleaner that contains bleach</li><li>Fix leaky faucets or pipes that have mold around them</li></ul>
Pollen and outdoor mold	During allergy season, keep windows closed and stay indoors from late morning to afternoon if possible
Tobacco smoke	<ul> <li>If you smoke, quit or ask your doctor about ways that can help you quit</li> <li>Don't allow smoking in your home or car</li> </ul>
Other types of smoke, strong odors, and sprays	<ul> <li>Don't use a wood-burning stove, kerosene heater, or fireplace, if possible</li> <li>Avoid perfumes, talcum powder, hair sprays, and paints</li> </ul>
Vacuum cleaning	<ul> <li>Have someone else vacuum for you and stay out of areas while they are being vacuumed</li> <li>If you have to vacuum, use a dust mask, a double-layered or microfilter vacuum cleaner bag, or a HEPA filter</li> </ul>

Source: National Heart, Lung, and Blood Institute

Asthma can usually be controlled with treatment. Most people with asthma lead normal active lives and having asthma doesn't change how long they will live. But if left untreated, severe asthma symptoms can require emergency treatment or even be deadly. On average, nine people die from asthma every day, and 1.9 million visit a hospital emergency room each year because of an asthma attack, according to the Centers for Disease Control and Prevention.

### Lifestyle Changes and Prevention

An important part of keeping your asthma symptoms under control is to figure out what your triggers are and avoid them. The chart shown on this page lists some common triggers and steps you can take to avoid or reduce your exposure. In some cases, allergy skin testing can help you identify your triggers.

Other things than can make asthma worse include sulfites in foods and beverages. These are commonly found in beer, wine, dried fruit, processed potatoes and

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shrimp, so avoid those if they trigger asthma attacks. For some people, cold air can be a trigger, so in that case, covering your nose and mouth with a scarf on cold days can help.

Medications, such as aspirin, ibuprofen and other non-steroidal anti-inflammatory drugs or NSAIDs, can also trigger attacks, so discuss with your doctor all the prescription and over-the-counter medications, vitamins, and dietary supplements you take.

One trigger you should not avoid is exercise. Although it can trigger an attack (known as exercise-induced bronchospasm), exercise is an important part of a healthy lifestyle. If it's difficult for you to exercise because it triggers asthma symptoms, talk to your doctor about ways you can stay active. People with asthma might benefit from using their quick-acting inhaler medicine before exercise.

If an asthma attack makes you so short of breath that you're having trouble walking and talking or your lips or fingernails turn blue, call 9-1-1. You may need emergency care at a hospital.

Many people try alternative therapies for asthma, such as acupuncture, diets, herbs or vitamins, and homeopathic remedies. Very little research has been done on these treatments but the available studies indicate they are ineffective. And some—such as herbal ephedra—can be dangerous. The FDA has now banned ephedra.

#### **Prescription Medications for Asthma**

Inhaled steroids are generally recommended as the first option for the treatment of persistent asthma symptoms in adults and children. This report focuses on the six inhaled steroid medicines that are available by prescription in the U.S.

Generic name	Brand name(s)	Available as a generic drug?
Beclomethasone	QVAR	No
Budesonide	Pulmicort Flexhaler	No
	Pulmicort Respules	Yes
Ciclesonide	Alvesco	No
Flunisolide	Aerospan (Approved by the FDA but not on the market yet)	No
Fluticasone	Flovent HFA, Flovent Diskus	No
Mometasone	Asmanex Twisthaler	No

Other medicines and approaches are used to treat asthma. All people with asthma should have a "quick relief" inhaler (also known as a short-acting inhaled beta 2-agonist, or SABA). These "quick relief" inhalers—which include albuterol (Proair HFA, Ventolin HFA) and levalbuterol (Xopenex)—act rapidly—within minutes—to open breathing passages, and provide relief for up to six hours. They are only used during an attack when breathing might be very difficult, and not—like inhaled steroids—everyday to keep symptoms and attacks at bay and your airways open.

There are also longer-acting bronchodilators (known as long-acting inhaled beta 2-agonists or LABAs), which can improve breathing for up to 12 hours. However, they have been linked to a higher risk of death during asthma attacks. They now carry a black box warning—the strongest kind—that they should only be used in people whose asthma is not adequately controlled by inhaled steroids alone. The LABAs should never be used without also using an inhaled steroid.

### **Skyrocketing Prices**

The prices of inhaled asthma medications have risen dramatically in the past few years in part due to a ban on the propellant once used in inhalers. In 2010, the Food and Drug Administration required manufacturers of inhalers to stop using chlorofluorocarbon propellants because they posed a threat to the environment. In response, the manufacturers developed new inhalers with new patents. This has delayed generics from entering the market. Without that competition, the manufacturers have been able to increase the price—an average of 50 percent since 2009, with some medications jumping 80 percent or more in price.

For example, QVAR 80 mcg, at \$177 for a month's supply, is 92 percent more expensive than it was in 2009, according to prices from Symphony Health Solutions, which is not involved in our analysis or recommendations. Pulmicort nebulizer is another example. Over the past five years, the monthly price has jumped as high as 86 percent. Even the price of budesonide, the only generic inhaled steroid currently available, has risen 47 percent over the past three years.

When the patents on the new inhalers expire, that would open the way for less costly generics. That would, in turn, help drive down the prices of inhaled steroids across the board. But it's unclear when additional generics besides budesonide will become available.

In the meantime, people with limited or no drug coverage under their insurance plan could save money by shopping around in their area. Call your local pharmacies and ask for the lowest available price or the best deal they can offer. Don't leave out independent pharmacies. Our secret shoppers recently found that they sometimes have the lowest prices (and sometimes the highest, too), so it's worth a call to find out. Other less-expensive pharmacies can include Costco and Walmart, and two U.S. websites, www.FamilyMeds.com and www.Healthwarehouse.com.

Two LABAs are available: salmeterol (Serevent Diskus) and formoterol (Foradil and Perforomist). Three other products combine these long-acting relievers with inhaled steroids: Advair Diskus and Advair HFA (both include a combination of salmeterol and fluticasone), Symbicort (a combination of budesonide and formoterol), and Dulera (a combination of mometasone and formoterol). If your doctor prescribes any of the LABAs or combination products that contain a LABA, we urge you to discuss with him or her the safety issues that have been raised about those medications.

People with asthma may also take pills to help relieve their symptoms. For example, if you have asthma your doctor may prescribe a type of drug called a leukotriene receptor antagonist or LTRA, such as montelukast (Singulair and generic) or zafirlukast (Accolate and generic). There's good evidence these drugs work, but they are not considered to be as effective as inhaled steroids at reducing the severity of symptoms or the frequency of asthma attacks.

However, some evidence shows that people find it easier to regularly take a pill than to use an asthma inhaler on a daily basis. Two, 2-year trials found that the LRTAs were just as effective as the inhaled steroids, primarily because more people—65 percent and 74 percent—in the LRTA groups took their medicine every day compared with only 41 percent and 46 percent

of those in the inhaled steroid group. Your medication can't work if you don't take it, so if you find that it is difficult to use an inhaler every day, tell your doctor so he or she can help you find a strategy you can stick with.

This report was last updated in November 2013.

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# What are inhaled steroids and who needs them?

Inhaled steroids reduce and prevent inflammation, swelling, and mucus build-up in your airways and lungs. By doing so, they help prevent asthma attacks and keep you breathing easier, allowing an adequate amount of oxygen to get into your lungs and then your bloodstream. So they help relieve symptoms, but they are not a cure for asthma.

Everyone with asthma should have readily available a "quick relief" inhaler (or SABA), but not everyone with asthma needs an inhaled steroid drug. Sometimes, lifestyle adjustments, including quitting smoking and avoiding exposure to triggers, such as pet dander or mold, work well enough that an inhaled steroid isn't

necessary. But most people with asthma—including children—will probably need some kind of controller medicine, and an inhaled steroid drug in particular.

If you or your child has persistent asthma—attacks or symptoms more than twice a week, or attacks that interfere with normal activity—your doctor is very likely to prescribe an inhaled steroid. Even with mild symptoms, your doctor is likely to advise using an inhaled steroid to help prevent them.

If you have only intermittent and/or mild attacks that don't really interfere with leading a normal life, your doctor may suggest you try to control the symptoms with a fast-acting reliever as needed, and not take an inhaled steroid unless your symptoms worsen. One sign of that would be if you find that you are using your quick-relief inhaler more than two times a week.

### Steroids for asthma vs. performanceenhancing steroids

The inhaled steroids used to treat asthma are not the same as the anabolic steroids that some bodybuilders and athletes use and abuse to enhance performance or strength. So the inhaled steroids *don't* pose the risks that have been linked to anabolic steroids, such as breast growth and shrinking of testicles in men, voice deepening and growth of body hair in women, heart problems, liver disease, and aggressive behavior.

You may also have heard that taking steroids can stunt your child's growth, but if there is an effect, it's small. Long-term studies show that inhaled steroids can slow growth in children in the first year of treatment. A 2013 study found that this may reduce ultimate adult height slightly—by 1.2 cm on average, but other studies have not found a height reduction. On the other hand, untreated asthma has been shown to stunt a child's growth.

All that said, doctors advise that children always use as low a dose of inhaled steroids as possible.

Children usually need lower doses of asthma drugs than adults. It's important therefore to know the dose of an inhaled steroid that is right for your child.

### **Effectiveness of the Inhaled Steroids**

Various inhaled steroids have been compared against each other in 51 studies that looked at the following criteria:

- How well did it improve symptoms?
- How often did it reduced attacks?
- How often did it reduce the need for short-acting medications or oral steroids?
- How much did it improve lung function?
- Did it improve quality of life?

# What are inhaled steroids and who needs them?

Overall, all inhaled steroids work well in reducing asthma symptoms and preventing asthma attacks, based on those criteria. Most of the studies found no differences in people who used one drug versus another.

Some studies found statistically significant differences for some of the above criteria. When there was a difference, fluticasone (Flovent Diskus) was usually found to be somewhat more effective. But in some of those studies, Flovent was given in a stronger dose.

#### **Side Effects**

Like most medicines, the inhaled steroids can cause side effects (See Table 2 on page 9). The most common are mouth and throat irritation, cough, and hoarseness. Those are usually minor and tolerable. Other side effects include mouth or throat infections (called thrush or *oropharyngeal candidiasis*). Using a spacer device and thoroughly rinsing your mouth with water after each inhaler use might reduce the risk of these infections.

Some studies have linked inhaled steroids to an increased risk of osteoporosis, or weakening of the bones. But experts continue to debate whether this research is valid and many studies have found no link between using inhaled steroids and loss of bone density or an increased risk of bone fractures. Still, if you are over 50 and use inhaled steroids, you should discuss with your doctor whether to take calcium and vitamin D supplements and have occasional bone density measurements as a precaution.

There have been reports of eye problems, including glaucoma and cataracts, reported in people who had taken high doses of inhaled steroids for a long time. Tell your doctor if you have previously had those conditions or notice a change in your vision while taking an inhaled steroid.

### **Drug Interactions**

Some inhaled steroids can interact with certain antifungal drugs, such as ketoconazole, and HIV medications. So, be sure to tell your doctor about any medications or supplements you take.

### Age, Race, Gender, and Other Conditions

The effectiveness of inhaled steroids in treating asthma does not appear to differ based on age, gender, or race, or in people who have other diseases.

In five studies that compared inhaled steroids in children and teens with asthma, the effectiveness was the same as in adults. There have been no studies in children younger than six months. Most studies conducted in younger children—under four years only compared budesonide to placebo, so there is little data on other inhaled steroids in young children. Budesonide (Pulmicort Respules) is the only inhaled steroid that has been proven effective in children as young as one year. Budesonide (Pulmicort Flexhaler) is FDA-approved for children six years and older. Both fluticasone and mometasone are FDA-approved for use in children four years and older, and QVAR is approved for children five and older.)

All of the inhaled steroids, except budesonide, have been linked to birth defects in animal studies when given during pregnancy, but there is limited information available about the effect of these medications in pregnant women. So inhaled steroids should only be used during pregnancy if the beneficial effects are believed to outweigh the potential harms. Poorly controlled asthma during pregnancy—which could lead to lower oxygen levels in your blood and

# What are inhaled steroids and who needs them?

### Table 2. Possible side effects of inhaledsteroids

**Minor:** Usually go away in time or are short-lived

- Cough
- Headache
- Hoarseness, sore throat
- Mouth or throat infection
- Mouth or throat irritation
- Nausea or vomiting

#### Serious:

These are rare but can be dangerous

- Possible eye problems (associated with long-term use) Glaucoma, cataracts
- Possible bone thinning

#### More common in older people:

These particularly affect women, but they are not dangerous

- Thinning of skin
- Bruising

for your baby—has been associated with higher rates of premature birth, lower birth weight, and prenatal death. Proper use of inhaled steroids is thought to reduce the potential for those problems. So if you are pregnant and have asthma, ask your doctor whether you should continue to take your inhaled steroid. Pregnancy increases the production of corticosteroids in the body, so some women may be able to use a lower dose of inhaled steroid while pregnant or stop using the medication.



## Choosing an inhaled steroid – Our Best Buy picks

For the treatment of asthma, the effectiveness of the six inhaled steroids we evaluate is quite similar. Each reduces symptoms and prevents attacks by roughly the same amount, and none have been shown to be consistently better than the others in treating asthma in adults or children.

If your child needs an inhaled steroid, Table 3 can help you determine which one might be a good option, depending on the age of your child. One of these medications—ciclesonide (Alvesco)—has only been shown to be effective in children ages 12 and older while the others—beclomethasone (QVAR), budesonide (Pulmicort and generic), flunisolide (Aerospan), fluticasone (Flovent), and and mometasone (Asmanex Twishaler)—have been studied in younger children.

Of course, as with all medicines, you or your child may respond better to one inhaled steroid than another, or experience fewer side effects with one. Your doctor can help you determine if a particular medication is working for you or not.

The inhaled steroid drugs differ in how convenient they are to use, the inhaler device in which they are packaged, their potency, and their cost. Your doctor and pharmacist can help guide you to one the fits your needs and preferences.

First, the strength and potency of each medicine is different. That means that the dose you may need and the number of puffs you may have to take each day could vary quite widely from drug to drug.

For instance, beclomethasone (QVAR) has a relatively low potency and, depending on the severity of your condition, it could take four to 16 puffs per day to get the required dose. By comparison, mometasone (Asmanex Twisthaler), which is more potent, requires only one to three puffs per day for an adult (See Table

### Table 3. The effectiveness of inhaled steroids for asthma

Generic name (Brand name)	Effective for asthma prevention in adults	Effective for asthma prevention in children
Beclomethasone (QVAR)	Yes	Yes, in children 5 years and older
Budesonide (Pulmicort Flexhaler)	Yes	Yes, in children 6 years and older
Budesonide (Pulmicort Respules)	Yes	Yes, in children 1 year and older
Ciclesonide (Alvesco)	Yes	Yes, in children 12 years and older
Flunisolide (Aerospan HFA) (Not currently available)	Yes	Yes, in children 6 years and older
Fluticasone (Flovent HFA)	Yes	Yes, in children 4 years and older
Mometasone (Asmanex Twisthaler)	Yes	Yes, in children 4 years and older

4 on page 11). For someone who needs a relatively high dose, a drug that requires you to take many puffs per day is inconvenient and may lower the benefit they can get from the drug. Also, if an inhaled steroid does not help or does not relieve your symptoms enough, current guidelines from the National Heart, Lung, and Blood Institute recommend adding a long-acting bronchodilator, such as salmeterol (Serevent Diskus) or formoterol (Foradil), so ask your doctor whether that makes sense in your case.

## Choosing an inhaled steroid – Our Best Buy picks

Second, inhaler devices differ. You may prefer one over another. Four of the medications—beclomethasone (QVAR), ciclesonide (Alvesco), flunisolide, and fluticasone (Flovent HFA)—are available in metered dose inhalers, also known as "puffers." Three budesonide (Pulmicort Flexhaler), fluticasone (Flovent Diskus) and mometasone (Asmanex Twisthaler)—are available as dry powder inhalers. And budesonide (Pulmicort Respules) is available as a nebulizer, which is used mostly for children. Your doctor can explain the differences and the pros and cons of each. Whichever type you choose, it is very important that you learn to use your inhaler properly. Studies have shown that many people don't learn this and, as a result, don't get optimal asthma control.

Cost is a third criteria to consider in your choice of an inhaled steroid, especially if you are paying out of your own pocket. Your insurer may have chosen one of the inhaled steroids as a preferred drug, which could mean a lower cost for you.

Unless your doctor recommends a particular inhaled steroid for effectiveness, safety or convenience reasons, you or your child may be best off using the one your health plan prefers if it will cost you less.

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Table 4 starting below lists the average monthly cost of the inhaled steroids. Taking effectiveness, safety, and cost into account, we have chosen the following steroid inhalers as *Consumer Reports Best Buy Drugs* for treating adult and childhood asthma:

- Beclomethasone (QVAR) for adults and children ages 5 years and older
- Generic budesonide suspension nebulizer for children ages 1 year and older

Beclomethasone (QVAR) is as effective and safe as other inhaled steroids, and it is the least expensive, ranging from \$142 to \$177 per month, depending on dose. But if you or your child needs a higher strength to control asthma symptoms, that can increase the cost.

We chose generic budesonide suspension nebulizer for children ages 1 year or older because it is the only inhaled steroid FDA-approved for children that young. Using the generic could save you between \$98 and \$168 when compared to its brand-name counterpart, Pulmicort Respules. But the generic is not available at the highest dose (1 mg/2 mL), so if your child needs a dose that high, you will have to opt for the brand name Pulmicort Respules, which is very expensive at a retail price of \$778 per month.

	Table 4. Retail prices of inhaled steroids			
	Generic name and strength	Brand name	Puffs/amount per Day <sup>1</sup>	Average monthly cost <sup>2</sup>
BEST BUY	Beclomethasone 40 mcg	QVAR	4	\$142
BEST BUY	Beclomethasone 80 mcg	QVAR	4	\$177
	Budesonide suspension nebulizer 0.25 mg/2 mL	Pulmicort Respules	2 mL	\$330
BEST BUY	Budesonide suspension nebulizer 0.25 mg/2 mL	Generic	2 mL	\$232

## Choosing an inhaled steroid – Our Best Buy picks

Table 4. Retail prices of inhaled steroids (continued)			
Generic name and strength	Brand name	Puffs/amount per Day <sup>1</sup>	Average monthly cost <sup>2</sup>
Budesonide suspension nebulizer 0.5 mg/2 mL	Pulmicort Respules	2 mL	\$435
Budesonide suspension nebulizer 0.5 mg/2 mL	Generic	2 mL	\$267
Budesonide suspension nebulizer 1 mg/2 mL	Pulmicort Respules	2 mL	\$778
Budesonide aerosol powder 90 mcg	Pulmicort Flexhaler	2	\$149
Budesonide aerosol powder 180 mcg	Pulmicort Flexhaler	4	\$200
Ciclesonide 80 mcg	Alvesco	2	\$187
Ciclesonide 160 mcg	Alvesco	2	\$183
Fluticasone 44 mcg	Flovent HFA	4	\$139
Fluticasone 110 mcg	Flovent HFA	4	\$191
Fluticasone 220 mcg	Flovent HFA	4	\$307
Fluticasone 50 mcg	Flovent Diskus	2	\$145
Fluticasone 100 mcg	Flovent Diskus	2	\$150
Fluticasone 250 mcg	Flovent Diskus	2	\$194
Mometasone 110 mcg (30 puffs per inhaler) <sup>3</sup>	Asmanex Twisthaler	1	\$173
Mometasone 220 mcg (30 puffs per inhaler) <sup>3</sup>	Asmanex Twisthaler	1	\$191
Mometasone 220 mcg (60 puffs per inhaler) <sup>3</sup>	Asmanex Twisthaler	2	\$203
Mometasone 220 mcg (120 puffs per inhaler) <sup>3</sup>	Asmanex Twisthaler	4	\$282

1. As usually prescribed or recommended based on FDA-approved labeling.

2. Prices reflect nationwide retail average for August 2013, rounded to the nearest dollar. This information is derived by *Consumer Reports Best Buy Drugs* from data provided by Symphony Health Solutions, which is not involved in our analysis or recommendations.

3. This drug comes in an inhaler programmed to deliver a specified number of puffs.

# **5** Tips to talking with your doctor

It's important for you to know that the information we present here is not meant to substitute for a doctor's judgment. But we hope it will help you and your doctor arrive at a decision about which inhaled steroid and dose is best for you, if one is warranted at all, and which gives you the most value for your health-care dollar.

### Mention cost to your doctor.

Bear in mind that many people are reluctant to discuss the cost of medicines with their doctor, and that studies have found that doctors do not routinely take price into account when prescribing medicines. Unless you bring it up, your doctor may assume that cost is not a factor for you.

### Ask about older medications.

Any people (including physicians) think that newer drugs are better. While that's a natural assumption to make, it's not always true. Studies consistently find that many older medicines are as good as, and in some cases better than, newer medicines. Think of them as "tried and true," particularly when it comes to their safety record. Newer drugs have not yet met the test of time, and unexpected problems can and do crop up once they hit the market. Of course, some newer prescription drugs are indeed more effective and safer. Talk with your doctor about newer vs. older medicines, including generic drugs.

### **O** Consider generic drugs.

Prescription medicines go "generic" when a company's patents on them have lapsed, usually after about 12 to 15 years. At that point, other companies can make and sell the drugs. Generics are much less

expensive than newer brand-name medicines, but they are not lesser quality drugs. Indeed, most generics remain useful medicines even many years after first being marketed. That is why more than 75 percent of all prescriptions in the U.S. today are written for generics.

### Keep up-to-date records.

Another important issue to talk with your doctor about is keeping a record of the drugs you take. There are several reasons for this:

- First, if you see several doctors, each may not be aware of medicines the others have prescribed.
- Second, since people differ in their response to medications, it's common for doctors today to prescribe several medicines before finding one that works well or best.
- Third, many people take several prescription medications, nonprescription drugs, and dietary supplements at the same time. They can interact in ways that can either reduce the benefit you get from the drug or be dangerous.
- Fourth, the names of prescription drugs—both generic and brand—are often hard to pronounce and remember.

For all these reasons, it's important to keep a written list of all the drugs and supplements you take and periodically review it with your doctors.

## **5. Know the facts.** Finally, always be sure that you understand the dose of the medicine being prescribed and how many pills you are expected to take each day. Your doctor should tell you this information. When you fill a prescription at a pharmacy, or if you get it by mail, check to see that the dose and the number of pills per day on the bottle match the amounts your doctor told you.

## How We Picked the Best Buy Drugs

Our evaluation is primarily based on an independent scientific review of the evidence on the effectiveness, safety, and adverse effects of the inhaled steroids. A team of physicians and researchers at Oregon Health & Science University Evidence-based Practice Center conducted the analysis as part of the Drug Effectiveness Review Project, or DERP. DERP is a first-of-its-kind multi-state initiative to evaluate the comparative effectiveness and safety of hundreds of prescription drugs.

A synopsis of DERP's analysis of the inhaled steroids forms the basis for this report. A consultant to *Consumer Reports Best Buy Drugs* is also a founding member of the Oregon-based research team, which has no financial interest in any pharmaceutical company or product.



The full DERP review of the inhaled steroids is available at http://derp.ohsu.edu/about/finaldocument-display.cfm. (This is a long and technical document written for physicians.)

The drug costs we cite were obtained from a healthcare information company which tracks the sales of prescription drugs in the U.S. Prices for a drug can vary quite widely, even within a single city or town. All the prices in this report are national averages based on sales of prescription drugs in retail outlets. They reflect the cash price paid for a month's supply of each drug in August 2013.

We selected the *Best Buys* using the following criteria. The drug had to:

- Be approved by the FDA for treating asthma
- Be as effective as other inhaled steroids
- Have a safety record equal to or better than other inhaled steroids
- Have an average price for a 30-day supply that was not higher than the other inhaled steroids

The *Consumer Reports Best Buy Drugs* methodology is described in more detail in the Methods section at www.CRBestBuyDrugs.org.

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### About us

Consumer Reports is an independent and nonprofit organization whose mission since 1936 has been to provide consumers with unbiased information on goods and services and to create a fair marketplace. Its website is www.ConsumerReports.org.

*Consumer Reports Best Buy Drugs* is a publiceducation project administered by Consumers Union. These materials were made possible by the State Attorney General Consumer and Prescriber Education Grant Program, which is funded by a multistate settlement of consumer-fraud claims regarding the marketing of the prescription drug Neurontin.

The Engelberg foundation provided a major grant to fund the creation of the project from 2004 to 2007. Additional initial funding came from the National Library of Medicine, part of the National Institutes of Health. A more detailed explanation of the project is available at www.CRBestBuyDrugs.org. We followed a rigorous editorial process to ensure that the information in this report and on the *Consumer Reports Best Buy Drugs* website is accurate and describes generally accepted clinical practices. If we find an error or are alerted to one, we will correct it as quickly as possible. But Consumer Reports and its authors, editors, publishers, licensers, and suppliers cannot be responsible for medical errors or omissions, or any consequences from the use of the information on this site. Please refer to our user agreement at www.CRBestBuyDrugs.org for further information.

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