

Consumer Reports BEST BUY DRUGS™

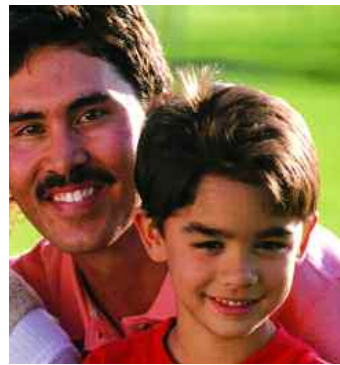
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Treating Allergies, Hay Fever, and Hives:

The Antihistamines

Comparing Effectiveness, Safety, and Price



Our Recommendations

Antihistamines are widely used medicines to relieve the symptoms of hay fever (known medically as allergic rhinitis), hives, and other allergies.

They are effective and generally safe, but can be misused. You should make sure (by seeing a doctor) you have hay fever or another allergy before taking antihistamines on a regular basis. Some people who take allergy medicines do not have allergies.

This report evaluates four newer antihistamines. Studies show them to be equally effective. All cause less drowsiness than the older antihistamines sold widely as nonprescription drugs (such as Benadryl Allergy, Chlor-Trimeton Allergy, and Dimetapp Allergy). However, the newer drugs are no more effective than the older ones at relieving symptoms.

The cost for the newer medicines varies from about \$3 to more than \$150 per month. This report shows how you could save \$1,400 a year or more if you are currently taking an expensive brand-name antihistamine. Taking dosing convenience, cost, and evidence of effectiveness and safety into account, we have selected the following as *Consumer Reports Best Buy Drugs*:

- Loratadine 10mg tablets
- Loratadine dissolving 10mg tablets
- Loratadine syrup 10mg
- Alavert tablets 10mg
- Alavert dissolving 10mg tablets
- Alavert syrup 10mg
- Tavist ND 10mg tablets

All are low-cost generics available *without a prescription* in drug and food stores. All are as effective and safe as the three prescription-only antihistamines [fexofenadine (Allegra), desloratadine (Clarinet), and cetirizine (Zyrtec)] at comparable doses. All contain loratadine, the active ingredient in the nonprescription drug Claritin (until 2002 a best-selling prescription drug).

Most insurers changed their policy when loratadine became a nonprescription drug. They now assume that most people will treat mild allergy symptoms just like they do a cold, the flu, or bouts of minor pain – with nonprescription medicines. Check with your insurer or health plan administrator about their policy on antihistamines.

Welcome


This report on a class of drugs to treat allergies, hay fever (allergic rhinitis), and hives is part of a Consumers Union and *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, visit www.CRBESTBUYDRUGS.org.

About a quarter of Americans have hay fever or other allergies, and tens of millions of people everyday take allergy medicines to relieve symptoms. Those symptoms include, most commonly: nasal congestion, a runny nose, sneezing, itchy and watery eyes, and skin rashes. A raft of nonprescription allergy medicines are available in drug and grocery stores. These include pills, liquid solutions, nasal sprays, and skin creams. Most of the pills contain the active ingredients chlorpheniramine (e.g. Chlor-Trimeton Allergy), clemastine (Tavist), brompheniramine (Dimetapp), or diphenhydramine (Benadryl Allergy). These drugs are considered the "first-generation" antihistamines and have been available for decades.

This report focuses on four medicines developed more recently that are termed by doctors and pharmacists the "second-generation" antihistamines. Three are still available only as brand-name prescription medicines but one is now available (as of 2002) as a nonprescription, over-the counter (OTC) drug. The four are:

Generic Name	Brand Name(s)	Available as a Prescription Generic Drug?	Available as an OTC Drug?
Cetirizine	Zyrtec	No	No
Desloratadine	Clarinx	No	No
Fexofenadine	Allegra	No	No
Loratadine	Claritin, Alavert	Yes	Yes

You might recognize the brand names – Allegra, Claritin, Clarinx, and Zyrtec. All have been widely advertised on TV and in magazines. And their use has become widespread, largely eclipsing (but by no means eliminating) the use of the first-generation antihistamines. The main reason for their popularity is that the newer drugs cause less sedation and drowsiness. The sedative effect of the first-generation antihistamines isn't just annoying or inconvenient. It can be dangerous. Studies have consistently found that peo-



ple taking older antihistamines are at higher risk of auto and other accidents at home and work. The drugs' labels warn not to drive or operate machinery while using them. In addition, the newer antihistamines need to be taken just once a day while the older ones must be taken two or more times a day because their symptom-relieving effects wear off more quickly.

Even so, a debate has raged for several years about just how much better the newer drugs are and whether they have been worth the extra cost, to society and to you. There's no easy answer. Most doctors advise their patients to use the newer pills while others believe that their patients do just as well taking the older nonprescription drugs. People vary in their response to antihistamines, old and new. Indeed, some people respond better to older antihistamines than the newer ones. In addition, you may get the relief you need from an older drug without much sedation, especially if your symptoms are mild. Beware, however: studies have shown slowed reaction time among some people taking first-generation antihistamines even when they denied feeling drowsy.

On the other hand, you may be quite susceptible to the sedative effect of the older antihistamines and respond better to the newer drugs. You may also get better symptom relief from a newer antihistamine, though *studies show they are not any more effective than older antihistamines at reducing symptoms*. Also, the newer medicines can still cause some drowsiness, especially at higher doses.

The availability of loratadine (Alavert, Claritin) in low-cost nonprescription form changes the cost and risk/benefit decision, as we discuss later in this report.

Most of the newer antihistamines (as with the older ones) are also available in combination with a decongestant (such as pseudoephedrine). Decongestant products should be used with caution by people with high blood pressure, heart conditions, diabetes, glaucoma, or prostate disease. Consult with a doctor if you are not sure whether you should use a combination product.

A doctor can also evaluate whether you need other medicines, in addition to an antihistamine pill, to relieve your symptoms. These include:

- A steroid or an antihistamine nasal spray
- A new kind of allergy drug called a leukotriene blocker [there are three: montelukast (Singulair); zafirlukast (Accolate); and zileuton (Zyflo)]
- Another type of immune-modifying drug called omalizumab (Xolair), or
- Allergy shots (also known as immunotherapy)

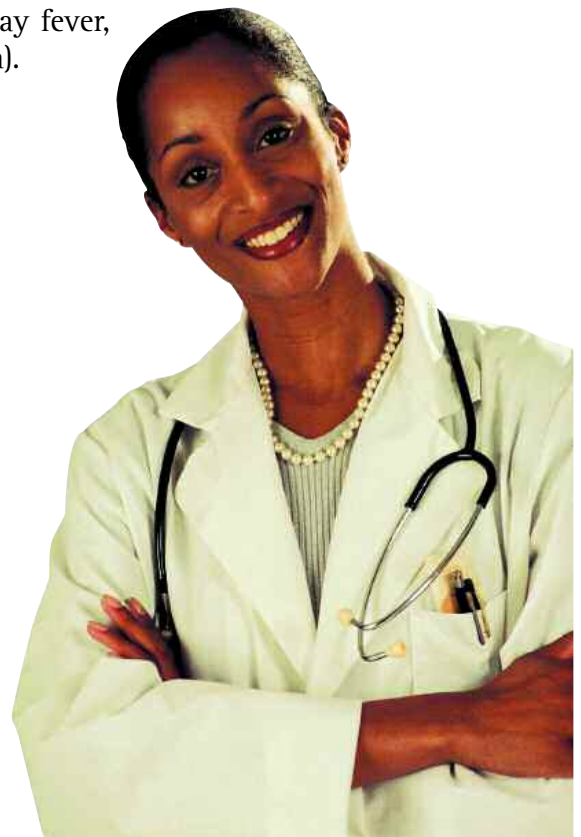
If your symptoms are mild, antihistamine pills (or syrup) may be all you need. Alternatively, you could try a nasal spray first and see if that works.

Almost everyone who suffers from severe or chronic allergies needs a steroid nasal spray. Some doctors prescribe them before prescribing an antihistamine. Generally used to treat asthma, leukotriene blockers may be of some use in reducing nasal congestion if you can't tolerate or have not responded well to antihistamines and/or nasal sprays. They cost much more than antihistamines, as does Xolair. Allergy shots are usually reserved for those with persistent or chronic allergies, or people who have asthma or are at higher risk of it.

If your allergy symptoms are severe, you and your doctor should be alert to the signs of asthma. Most (but not all) people who have asthma also have underlying allergies. Technically, asthma is a separate condition, characterized primarily by inflammation and constriction of the bronchial tubes that makes it difficult to breathe. But the two conditions can go hand in hand, especially in children and teens. Asthma is more common among the young and usually develops in childhood. But it can strike adults. See Table 2 on page 8 for a quick guide to telling the two apart. *Antihistamines are not a common treatment for chronic asthma and may even be detrimental.*

Some antihistamines are occasionally used to treat other conditions, such as to prevent or treat motion sickness or vertigo. In this report, we focus on the use of the second-generation antihistamines in the treatment of hay fever, chronic allergy symptoms, and hives (known medically as urticaria).

This report was released and last updated in August 2005.



What Are Antihistamines and Who Needs Them?

Antihistamines work by blocking the chemical messenger histamine, which is the main trigger of allergy symptoms in the nose, airways, and skin. Histamine is a part of the body's natural defense mechanisms. It works in part by widening blood vessels. That action causes congestion and sneezing. And it's what triggers rashes and itching, for example after a bug bite.

In people who have allergies and allergy-induced asthma (for reasons still not entirely clear), the body's immune system overreacts when exposed to otherwise harmless substances such as pollen, dust mites, mold spores, and animal dander (it's the skin not actually their hair). Excess amounts of histamine are released, causing the symptoms of an allergic reaction (See Table 1 on page 7). Fortunately, the vast majority of such allergic reactions are mild and not life-threatening, even in people who suffer them seasonally or have chronic allergies.

But severe allergic reactions do occur and can be life-threatening. These are mostly reactions to insect stings, drugs, or foods – not to mold, pollen, or other hay fever triggers. You may have heard the term anaphylactic shock. This is a type of allergic reaction in which large amounts of histamine is released causing the airways to constrict, making breathing difficult, and lowering blood pressure sharply as blood vessels dilate. *Such reactions are medical emergencies and are treated with adrenaline injections and intravenous corticosteroids.*

The best way to prevent allergy symptoms (both mild and severe) is to avoid the offending substance. Skin tests can help identify what you are allergic to. But complete avoidance is not always possible. And so the reality is that most allergy sufferers need to take medicines, including antihistamines.

Studies have found, however, that some people who obtain prescriptions for allergy medicines do not in fact have allergies. That's okay for short-term use, since the drugs won't do any harm. But you should consult a doctor if you are not 100% sure you have allergies and you are taking antihistamines or other

allergy medicines regularly. If a doctor diagnoses allergies, treating them is important. Mounting evidence in recent years has shown that people with allergies are at much higher risk of developing asthma and sinus infections (sinusitis). Also, the inflammation that accompanies (and to some degree fosters) the allergic response can damage the respiratory system and make you more susceptible to lung infections (such as pneumonia).

So, one way to think about taking antihistamines (and other allergy medicines) is that they are not just for symptom relief, but may in fact help prevent progression to more severe and potentially life-threatening problems.

If you know you have allergies, you are a strong candidate for antihistamine use (and probably are already taking one). Your choices are a bit more complex if you are not sure whether your symptoms are due to an allergy. Tables 1 and 2 on pages 7 and 8 will help you sort out what could be causing your symptoms. The most common mistake is thinking you have allergies when you actually have a cold, bronchitis, a cough, or mild flu.

Taking an antihistamine won't hurt if you have something else. But it may not be all you need to relieve your symptoms. As mentioned above, many nonprescription cold and flu medicines contain an antihistamine along with other drugs. These include fever reducers and pain relievers such as aspirin, acetaminophen, and ibuprofen.

You could also have a more serious condition. Some older people who have a persistent cough and/or trouble breathing may be in the early stages of heart failure or emphysema, for example.

No matter what, if your symptoms persist, see a doctor. Also, you should know that allergy-induced asthma or severe allergic reactions do not respond well to antihistamines alone and must be treated with other, more potent medicines. In particular, you should see a physician immediately if you have serious breathing problems associated with an allergic reaction.

Table 1. Do You Have Allergies, or Something Else?

Location	Probably Allergies	Probably NOT Allergies
Nose and Eyes	<ul style="list-style-type: none"> ■ Sneezing ■ Teary eyes ■ Itchy nose and throat ■ Congestion, runny nose ■ Clear nasal discharge ■ Cough (sometimes) ■ Headache (sometimes) ■ Facial pain (sometimes) 	<ul style="list-style-type: none"> ■ Sore throat ■ Runny nose with colored, sometimes thick, mucus discharge ■ Fever (slight if a cold; higher if the flu) ■ Cough, chest congestion ■ Muscle aches, feeling achy all over
Lungs	<ul style="list-style-type: none"> ■ Wheezing ■ Shortness of breath ■ Difficulty breathing ■ Coughing (clear sputum) <p>These symptoms when exposed to offending substance or at certain times of the year</p>	<ul style="list-style-type: none"> ■ Wheezing ■ Shortness of breath ■ Difficult breathing ■ Coughing (clear, colored or blood sputum) <p>These same symptoms all the time or periodically; especially worse with exercise or exertion, or over time; and/or accompanied by pronounced fatigue.</p>
Skin	<ul style="list-style-type: none"> ■ Itchy, red scaling patches, often on the face, elbows or knees (eczema) ■ Itchy, red, large map-like patches on the body (hives) 	<ul style="list-style-type: none"> ■ Painful, red blisters but not itchy rashes appearing soon after contact with offending substance (e.g. poison oak or ivy or caustic substance) and only where contact occurred ■ Itchy, red rash in groin, underarms, on feet or under breast in women (likely fungal) ■ Silvery scaly patches that sometimes itch (may be psoriasis) ■ Itchy skin without rash (simple dry skin)

Source: Adapted from "Is it Just an Allergy?" *Consumer Reports on Health* newsletter, May 2005 (Vol. 15, No. 5), page 4. Also: www.crmadicalguide.org.

Table 2. Is it an Allergy or Asthma?

	Hay Fever or Allergies	Asthma
What is it?	A bodily reaction to usually harmless substances in the environment – most often pollen, mold, and animal dander.	A condition in which the tubes in the lungs become swollen and narrow making it difficult to breathe and get enough oxygen in and out of your lungs. Can be triggered by pollen, mold, and dander but also by smoke and air pollution, exercise, other illness, stress, some drugs.
Why do some people have it?	<ul style="list-style-type: none"> ■ Genetic predisposition ■ Can strike people of all ages, but often shows up in childhood and teen years 	<ul style="list-style-type: none"> ■ Genetic predisposition ■ Infection can trigger asthma ■ Usually shows up in childhood; less commonly strikes over age 25
Main Symptoms	<ul style="list-style-type: none"> ■ Sneezing ■ Teary eyes ■ Itchy nose and throat ■ Congestion, runny nose ■ Clear nasal discharge ■ Cough (sometimes) ■ Difficulty breathing (sometimes) ■ Headache (sometimes) ■ Itchy red patches on skin (hives) 	<p><i>Mild attacks:</i></p> <ul style="list-style-type: none"> ■ Feeling out of breath ■ Tightness in chest ■ Wheezing ■ Coughing <p><i>Severe attacks:</i></p> <ul style="list-style-type: none"> ■ Very difficult to breath ■ Difficulty talking ■ Skin pulled tightly around ribs and neck ■ Rapid heartbeat ■ Must sit down, can't easily walk
Main Treatment Options	<ul style="list-style-type: none"> ■ Nasal sprays ■ Antihistamines ■ Decongestants ■ Allergy shots 	<ul style="list-style-type: none"> ■ Inhalers and nebulizers containing short-acting bronchodilators ■ Inhalers containing steroids ■ Leukotriene blocker pills ■ Steroid pills or shots ■ Immune system modifiers

Sources: www.cmedicalguide.org; "Drugs for Asthma," *The Medical Letter* (May 2005, Vol. 3, No. 33)

Choosing an Antihistamine – Our *Best Buy* Picks

Antihistamines are effective and generally safe medicines. They ease the symptoms of allergy, hay fever, and hives in the majority of users, though they do not usually relieve symptoms entirely. And some people get more relief than others. Antihistamines also can become less effective with long-term use.

Our analysis indicates that the four second-generation antihistamines do not differ in any consistent way in either effectiveness or safety or the side effects they cause. They all generally bring some relief in one to three hours. And although response varies, they continue to work for 12 to 24 hours in most people.

All four of the newer antihistamines cause less sedation and drowsiness than older antihistamines. But studies have yielded mixed findings when they have compared the degree of drowsiness caused by the four newer medicines. Thus, none of the four can be said to be consistently less sedating than the others.

Also, in studies comparing them, 15% to 25% of people reported at least one side effect, including

drowsiness. (See Table 4 on page 10.) However, 3% or fewer stopped treatment because of side effects.

Thus, as presented in Table 3 on this page, the newer antihistamines are quite comparable, with none offering a distinct advantage over the others. But their costs differ dramatically. As detailed in Table 5 on page 11, the monthly costs range from as low as \$3 per month to more than \$150 per month.

Taking effectiveness, safety, cost, and dosing convenience into account, we have selected the following antihistamines as *Consumer Reports Best Buy Drugs*:

- Loratadine 10mg tablets
- Loratadine dissolving 10mg tablets
- Loratadine syrup 10mg
- Alavert tablets 10mg
- Alavert dissolving 10mg tablets
- Alavert syrup 10mg
- Tavist ND 10mg tablets

Table 3. Summary of Evidence on Antihistamines

Generic Name (Brand names)	Usual Adult Dose	Proven Effective Against Hay Fever and Seasonal Allergies?	Proven Effective Against Chronic or Perennial Allergies?	Proven Effective Against Hives? (Urticaria)
Cetirizine (Zyrtec)	10mg once daily	Yes	Yes	Yes
Desloratadine (Clarinex)	5mg once daily	Yes	Yes	Yes
Fexofenadine (Allegra)	60mg twice daily or 180mg once daily	Yes	No ¹	Yes
Loratadine (Alavert, Claritin)	10mg once daily	Yes	Yes	Yes

(1) Sufficient evidence was not available for fexofenadine, although it is likely effective in treating perennial allergy symptoms.

Table 4. Side Effects

Relatively Minor	Not So Minor
<p><i>Usually go away in time</i></p> <ul style="list-style-type: none"> ■ Drowsiness ■ Dry mouth, nose, or throat ■ Hoarseness ■ Headache ■ Dizziness ■ Nausea 	<p><i>Can be annoying or dangerous and should be reported to a healthcare professional.</i></p> <ul style="list-style-type: none"> ■ Rapid or pounding heartbeat ■ Unusual weakness ■ Nervousness ■ Stomach pain ■ Yellowing of the skin ■ Difficulty urinating ■ Vision problems

All are low-cost generic drugs available without a prescription in drug and food stores, and many small convenience stores as well. All are as effective and safe as the three available prescription antihistamines (Allegra, Clarinex, and Zyrtec) at comparable doses.

Loratadine is made by several generic companies and some pharmacy chains have their own version of it. Alavert and Tavist ND are “branded generic” forms of loratadine. A branded generic is a copy of an original drug (in this case Claritin) but one given a special name by its generic manufacturer for marketing purposes. (Note: Tavist and Tavist-1 *do not* contain loratadine; they contain the first-generation antihistamine clemastine.)

As you can see on Table 5 on page 11, the monthly costs for our *Best Buys* vary considerably. That’s common for nonprescription drugs. Prices can vary by 50% or more in a single town. We urge you to shop around, especially if you need to take an antihistamine on a regular basis part of the year or the whole year. In some stores Alavert may be cheaper than generic loratadine. You might want to check

online as well to see which pharmacy chains offer the best prices on our *Best Buys*. Even though they are somewhat more expensive, we have included two loratadine syrups and two dissolving tablets among our *Best Buys*. That’s because these forms of the drug are widely used to treat children. Older people who cannot swallow pills also use them.

Our *Best Buy* nonprescription medicines are available *only* in 10mg doses while the three prescription medicines are available at various doses. Should you need to take a larger dose to get symptom relief, try taking 20mg (two pills or portions) of our *Best Buys*. (Be aware: this increases your chances of having side effects, including feeling drowsy.) If that does not work, consult your doctor. You may need to try another class of medicine.

If you have insurance coverage for medicines, you should check your plan’s policy on antihistamines. Most insurers and managed care plans changed their policy when loratadine (previously prescription brand-name Claritin) became available over the counter. They now assume that you will treat your allergy symptoms just like you do a cold, the flu, or bouts of minor pain – with a nonprescription drug. And many urge their enrollees to try loratadine first.

Most insurers still cover prescription antihistamines, usually requiring a much higher co-pay for them. That means you end up paying nearly the same amount or slightly more if you get a prescription branded antihistamine instead of nonprescription loratadine. For example, if you had a prescription for Allegra costing \$85 per month and you had to pay a \$20 to \$25 co-pay, that will cost you more than nonprescription loratadine in most cases.



Table 5. Antihistamine Cost Comparison

Generic Name and Dose	Brand Name ¹	Drug is a Generic ²	Drug is OTC ³	Use per Day ⁴	Average Monthly Cost ⁵
Cetirizine chewable tablet 5mg	Zyrtec	No	No	Two	\$182
Cetirizine tablet 5mg	Zyrtec	No	No	Two	\$178
Cetirizine chewable tablet 10mg	Zyrtec	No	No	One	\$85
Cetirizine tablet 10mg	Zyrtec	No	No	One	\$82
Cetirizine Syrup 10mg/10ml	Zyrtec	No	No	One	\$123
Desloratadine dissolving tablet 5mg	Clarinet Reditabs	No	No	One	\$101
Desloratadine syrup 5mg/10ml	Clarinet	No	No	One	\$52
Desloratadine tablet 5mg	Clarinet	No	No	One	\$90
Fexofenadine tablet 30mg	Allegra	No	No	Four	\$121
Fexofenadine capsule 60mg	Allegra	No	No	Two	\$85
Fexofenadine tablet 60mg	Allegra	No	No	Two	\$106
Fexofenadine tablet 180mg	Allegra	No	No	One	\$93
CR BEST BUY Loratadine dissolving tablet 10mg	Alavert	BG	Yes	One	\$18
Loratadine dissolving tablet 10mg	Clarinet Reditabs	BG	Yes	One	\$23-\$36
CR BEST BUY Loratadine dissolving tablet 10mg	Generic	Yes	Yes	One	\$15-\$24
CR BEST BUY Loratadine tablet 10mg	Alavert	BG	Yes	One	\$12-\$18
Loratadine tablet 10mg	Clarinet	BG	Yes	One	\$30-\$38
CR BEST BUY Loratadine tablet 10mg	Generic	Yes	Yes	One	\$3-\$14
CR BEST BUY Loratadine tablet 10mg	Tavist ND	BG	Yes	One	\$18-\$20
CR BEST BUY Loratadine syrup 10mg/10ml	Alavert	BG	Yes	One	\$20-\$28
Loratadine syrup 10mg/10ml	Clarinet	BG	Yes	One	\$27-\$40
CR BEST BUY Loratadine syrup 10mg/10ml	Generic	Yes	Yes	One	\$20-\$25
Cetirizine/pseudoephedrine tablet 5/120mg ⁶	Zyrtec-D	No	No	Two	\$86
Loratadine/pseudoephedrine tablet 5/120mg	Alavert-D	BG	Yes	Two	\$54
Loratadine/pseudoephedrine tablet 5/120mg	Clarinet-D	BG	Yes	Two	\$36-\$69
Loratadine/pseudoephedrine tablet 5/120mg	Generic	Yes	Yes	Two	\$53
Loratadine/pseudoephedrine tablet 10/240mg	Clarinet-D	BG	Yes	One	\$27-\$56
Loratadine/pseudoephedrine tablet 10/240mg	Generic	Yes	Yes	One	\$7-\$31

(1) "Generic" indicates that this drug is sold as a generic.

(2) "Yes" means it is a generic, sold under the chemical or scientific name. "BG" means it is a branded generic, which is a generic copy of an original drug but one given a special name by its generic manufacturer. In this table, for example, Clarinet, Alavert and Tavist ND are branded generics. "No" means it is a brand-name drug not yet available as a generic or a branded generic.

(3) OTC stands for over-the-counter; "yes" means it is a nonprescription OTC drug.

(4) Frequency of use reflects usual frequency; some products may be used more or less frequently.

(5) For drugs available by prescription only, monthly costs reflect nationwide retail average prices for March 2005, rounded to the nearest dollar; data provided by NDCHealth, a health-care information company. For some drugs available OTC, monthly costs reflect average or typical prices obtained in July 2005 from CVS, Rite Aid and Costco. CVS and Rite Aid are national drug store chains. Costco is a chain of "big box" discount retail stores. Where ranges are given, prices varied from these sources.

(6) Pseudoephedrine is a decongestant. Such products should be used with caution by people with high blood pressure, heart conditions, diabetes, glaucoma, or prostate disease.

The Evidence

This section presents more information on the effectiveness and safety of antihistamines.

This report is based on an analysis of the scientific evidence on second-generation antihistamines. Overall, 1,014 studies and research articles were identified and screened. From these, the analysis focused on 17 studies that provide evidence of comparative effectiveness or safety.

How Effective Are Antihistamines?

The scientific literature comparing antihistamines with each other is not extensive. Most of the studies are short term and only a handful involve large numbers of people. All evaluate the following:

- Functional ability (ability to go to work, school, etc.)
- Time to relief of symptoms
- Duration of effectiveness

Taken as a whole, the evidence indicates that on all three of these measures, the available drugs do not differ substantially. With all, relief of symptoms usually begins in 1 to 3 hours and lasts 12 to 24 hours in most people.

The evidence is particularly weak comparing antihistamines in people who have chronic allergies and need to take the drugs intermittently all year long, and over many years. And evidence is lacking (because the studies have not been performed) that fexofenadine (Allegra) is effective in such people – those with so-called perennial allergies – though the assumption from other evidence and wide clinical use is that it is as effective in this population.

All the newer antihistamines have been shown to be effective against hives. But only one study compared one newer antihistamine with another. In this study, loratadine produced a slower but slightly more complete relief of symptoms compared to cetirizine (Zyrtec) in the early stages. However, at the end of this study people treated with both drugs did not report significant differences in their response.

In another study comparing a newer with an older antihistamine in the treatment of hives, people treated with Zyrtec had faster relief than people treated with hydroxyzine.

How Safe Are Antihistamines?

The newer antihistamines appear to be quite safe and cause fewer side effects than older first-generation antihistamines – especially drowsiness. However, 15% to 25% of people taking an antihistamine will experience a side effect, including drowsiness.

In a very small number of people, antihistamines can trigger more serious reactions such as rapid heartbeat or heart palpitations. *See a doctor if you experience such symptoms.*

Comparison studies have yielded mixed findings about whether any of the newer antihistamines cause less drowsiness than the others. In one, cetirizine (Zyrtec) was found to be most likely to cause drowsiness. But other studies did not confirm this finding. In fact, one study comparing fexofenadine (Allegra) and cetirizine (Zyrtec) found that more people taking Allegra reported drowsiness.

Despite these mixed findings, many doctors believe that, in general, Zyrtec triggers more drowsiness than the other second-generation antihistamines.

Two second-generation antihistamines (terfenadine and astemizole) were removed from the market and are no longer available because they led to a higher risk of potentially serious heart problems. Some evidence suggests that there may be a very small risk of heart problems with currently available antihistamines. But this evidence is considered very preliminary and inconclusive at this point.

Antihistamines can interact with other medicines or dietary supplements in ways that can be dangerous. Be sure to tell your doctor about all other medications that you take, even if you feel it might not be important. The main drugs to be concerned about are:

- Anti-fungal medications, such as ketoconazole; they can increase the effect of some antihistamines.
- Aspirin, which in large doses can cause ringing in the ears (tinnitus), a danger sign sometimes masked by antihistamines.
- Certain types of fruit juice, such as grapefruit juice, apple juice, and orange juice; they may make some second-generation antihistamines less effective.
- Any drug known to change the way the heart beats, such as droperidol; they should be used cautiously if you are taking antihistamines.
- Medications used to improve breathing, such as theophylline; they may raise the risk of antihistamines side effects.
- Certain antibiotics, such as erythromycin; they can increase the effects of antihistamines.

If you take an antihistamine combined with a decongestant called pseudoephedrine (look on the package where the active ingredients are listed), be aware that such products should be used with caution by people with high blood pressure, heart conditions, diabetes, glaucoma, or prostate disease.

Also, people who take products that combine these drugs are more likely to have side effects, such as headaches and trouble sleeping.

Age, Race, and Gender Differences

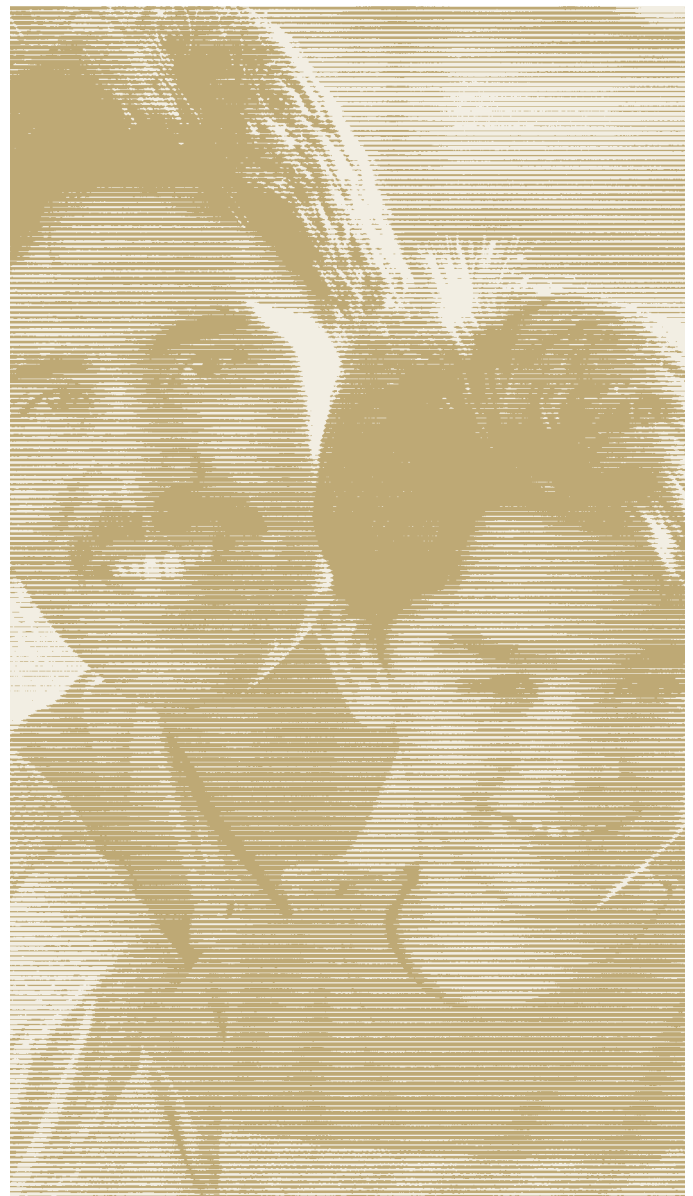
People older than 65 and various ethnic groups have been under-represented in studies of antihistamines. No evidence indicates that any of the newer antihistamines are better than the others at relieving allergy symptoms among people of any particular racial group or age. And there's no evidence that men and women respond to the drugs differently.

But safety and side effects are a concern in different age groups. Desloratadine (Clarinx) and cetirizine (Zyrtec) have been shown to be safe and effective in children as young as 6 months old; evidence on the safety and efficacy of loratadine is limited to children 2 years or older. Evidence on fexofenadine is limited to children 6 years or older.

Children may experience drowsiness to varying degrees when taking antihistamines, and the adults responsible for them should be alert to this. Teens of driving age with allergies may pay little no attention to the warnings of drowsiness, which can be exacerbated by alcohol.

People age 60 and over are more susceptible to the side effects of antihistamines, especially drowsiness. People over age 70 or so are at greater risk of falls in general and antihistamine-induced drowsiness can raise that risk. The dosage of some second-generation antihistamines (primarily Zyrtec) should be reduced in older age or in people with kidney or liver problems.

Antihistamines can be used safely by pregnant women.



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 your doctor and you arrive at a decision about which antihistamine is best for you and which gives you the most value for your health-care dollar.

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

Many people (including physicians) also believe that newer drugs are always or almost always better. While that's a natural assumption to make, the fact is that it's not true. Studies consistently show 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 the pluses and minuses of newer versus older medicines, including generic drugs.

Prescription medicines go "generic" when a company's patents on a drug lapse, usually after about 12 to 15 years. At that point, other companies can make and sell the drug.

Generics are almost always 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 today about 47% of all prescriptions in the U.S. are for generics.

Another important issue to talk with your doctor about is keeping a record of the drugs you are taking. 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 is very common for doctors 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. These can interact in ways that can either reduce the benefit you get from the drug, or be dangerous.
- And 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 are taking and to periodically review this list with your doctors.

Always be sure, too, that you understand the dose of the medicine being prescribed for you and how many pills you are expected to take each day. Your doctor should tell you this information. When you fill a prescription at the pharmacy, or if you get it by mail, you may want to check to see that the dose and the number of pills per day on the pill bottle match the amounts that your doctor told you.

How We Picked the *Best Buy* Antihistamines

Our evaluation is primarily based on an independent scientific review of the evidence on the effectiveness, safety, and adverse effects of the second-generation antihistamines. 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 14-state initiative to evaluate the comparative effectiveness and safety of hundreds of prescription drugs.

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

The full DERP review of antihistamines is available at <http://www.ohsu.edu/drugeffectiveness/reports/final.cfm>. (This is a long and technical document written for physicians.)

Information in this report was also derived from www.ConsumerReportsMedicalGuide.org, Consumers Union's new Web site devoted to helping consumers navigate their medical care and treatment options. Additional information was extracted from an article in *Consumer Reports on Health* ("Is it Just an Allergy?" May 2005 issue). *Consumer Reports on Health* is a subscription monthly newsletter published by Consumers Union.

The prescription drug costs we cite were obtained from a health-care information company that 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. The prices for prescription drugs in this report are national averages based on sales of the drugs in retail outlets. They reflect the cash price that would be paid for a month's supply of each drug in March 2005. Prices for nonprescription drugs were obtained from several large drug store chains. They reflect average or typical prices in July 2005.

Consumers Union and *Consumer Reports* selected the *Best Buy Drugs* using the following criteria. The drug (and dose) had to:

- Be approved by the FDA for treating allergic rhinitis.
- Be as effective as any other antihistamine.
- Have a safety record equal to or better than other antihistamines.
- Have an average price for a 30-day supply that is substantially lower than the most costly antihistamine meeting the first two criteria.

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

About Us

Consumers Union, publisher of *Consumer Reports* magazine, is an independent and non-profit organization whose mission since 1936 has been to provide consumers with unbiased information on goods and services and to create a fair marketplace. It is solely responsible for the content of this report. Its main Web sites are www.consumersunion.org and www.consumerreports.org. You may also want to visit www.ConsumerReportsMedicalGuide.org. This subscription Web site can help you evaluate your medical treatment options, including treatment with prescription drugs.

Consumer Reports Best Buy Drugs is a public education project administered by Consumers Union. Two outside sources of generous funding made the project possible. They are a major grant from the Engelberg Foundation, a private philanthropy, and a supporting grant 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* Web site is accurate and describes generally accepted clinical practices. If we find, or are alerted to, an error we will correct this as soon as possible. However, *Consumer Reports* and its authors, editors, publishers, licensors and any 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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References

1. Bender BG, Berning S, Dudden R, Milgrom H, Tran ZV. Sedation and performance impairment of diphenhydramine and second-generation antihistamines: a meta-analysis. *Journal of Allergy & Clinical Immunology*. 2003; 111(4): 770-776.
2. Berger WE, White MV, Rhinitis Study G. Efficacy of azelastine nasal spray in patients with an unsatisfactory response to loratadine. *Annals of Allergy, Asthma, & Immunology*. 2003; 91 (2): 205-211
3. Breneman DL. Cetirizine versus hydroxyzine and placebo in chronic idiopathic urticaria. *Annals of Pharmacotherapy*. 1996; 30(19): 1075-1079.
4. Ciprandi G, Pronzato C, Ricca V, Passalacqua G, Danzig M, Canonica GW. Loratadine treatment of rhinitis due to pollen allergy reduces epithelial ICAM-1 expression. *Clinical & Experimental Allergy*. 1997; 27 (10): 1175-1183.
5. Craig-McFeely PM, Acharya NV, Shakir SAW. Evaluation of the safety of fexofenadine from experience gained in general practice use in England in 1997. *European Journal of Clinical Pharmacology*. 2001; 57 (4): 313-320.
6. De Abajo FJ, Rodriguez LAG. Risk of ventricular arrhythmias associated with non-sedating antihistamine drugs. *British Journal of Clinical Pharmacology*. 1999; 47(3):307-313.
7. Diav-Citrin O, Shechtman S, Aharonovich A, et al. Pregnancy outcome after gestational exposure to loratadine or antihistamines: a prospective controlled cohort study. *Journal of Allergy & Clinical Immunology*. 2003; 111(6): 1239- 1243.
8. Dockhorn RJ, Bergner A, Connell JT, et al. Safety and efficacy of loratadine (Sch-29851): a new non-sedating antihistamine in seasonal allergic rhinitis. *Annals of Allergy*. 1987; 58 (6): 407-411.
9. Frolund L, Etholm B, Irandar K, et al. A multicentre study of loratadine, clemastine and placebo in patients with perennial allergic rhinitis. *Allergy*. 1990; 45(4):254-261.
10. Grant JA, Nicodemus CF, Findlay SR, et al. Cetirizine in patients with seasonal rhinitis and concomitant asthma: prospective, randomized, placebo-controlled trial. *Journal of Allergy & Clinical Immunology*. 1995; 95 (5 Pt 1): 923-932.
11. Guerra L, Vincenzi C, Marchesi E, et al. Loratadine and cetirizine in the treatment of chronic urticaria. *Journal of the European Academy of Dermatology & Venereology*. 1994; 3(2):148-152.
12. Hampel F, Ratner P, Mansfeld L, Meeves S, Liao Y, Georges G. Fexofenadine hydrochloride, 180 mg, exhibits equivalent efficacy to cetirizine, 10 mg, with less drowsiness in patients with moderate-to-severe seasonal allergic rhinitis. *Annals of Allergy, Asthma & Immunology*. 2003;91(4):354-361.
13. Horak F, Stubner UP. Comparative tolerability of second-generation antihistamines. *Drug Safety*. 1999; 20(5): 385 - 401.
14. Howarth PH, Stern MA, Roi L, Reynolds R, Bousquet J. Double-blind, placebo-controlled study comparing the efficacy and safety of fexofenadine hydrochloride (120 and 180 mg once daily) and cetirizine in seasonal allergic rhinitis. *Journal of Allergy & Clinical Immunology*. 1999; 104(5): 927-933.
15. Mann RD, Pearce GL, Dunn N, Shakir S. Sedation with "non-sedating" antihistamines: Four prescriptions-event monitoring studies in general practice. *British Medical Journal*. 2000; 320 (7243): 1184-1187.
16. Meltzer EO, Prenner BM, Nayak A. Efficacy and tolerability of once-daily 5mg desloratadine, an H1-receptor antagonist, in patients with seasonal allergic rhinitis: Assessment during the spring and fall allergy seasons. *Clinical Drug Investigation*. 2001;21(1):25-32.
17. Moretti ME, Caprara D, Coutinho CJ, et al. Fetal safety of loratadine use in the first trimester of pregnancy: a multicenter study. *Journal of Allergy & Clinical Immunology*. 2003; 111 (3): 479 - 483.
18. Noonan M, Raphael G, Nayak A, et al. The health-related quality of life effects of once-daily cetirizine HCl in patients with seasonal allergic rhinitis: a randomization double-blind, placebo-controlled trial. *Clinical & Experimental Allergy*. 2003; 33(3): 351-358.
19. Prenner BM, Capano D, Harris AG. Efficacy and tolerability of loratadine versus fexofenadine in the treatment of seasonal allergic rhinitis: a double-blind comparison with crossover treatment of nonresponders. *Clinical Therapeutics*. 2000;22(6):760-769.
20. Renwick AG. The metabolism of antihistamines and drug interactions: the role of cytochrome P450 enzymes. *Clinical & Experimental Allergy*. 1999;29(Suppl 3): 116-124
21. Salmun LM, Gates D, Scharf M, Greiding L, Ramon F, Heithoff K. Loratadine versus cetirizine: assessment of somnolence and motivation during the workday. *Clinical Therapeutics*. 2000; 22(5):573-582.
22. Seto A, Einarson T, Koren G. Pregnancy outcome following first trimester exposure to antihistamines: Meta-analysis. *American Journal of Perinatology*. 1997; 14 (3): 119 - 124.
23. Cauwenberge P, Juniper EF. Comparison of the efficacy, safety and quality of life provided by fexofenadine hydrochloride 120 mg, loratadine 10 mg and placebo administered once daily for the treatment of seasonal allergic rhinitis. *Clinical & Experimental Allergy*. 2000; 30 (6): 891-899.