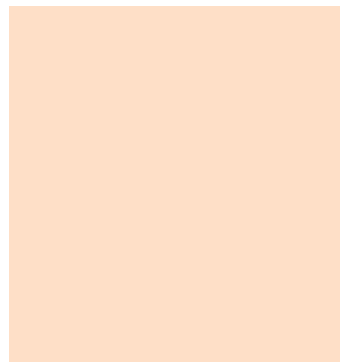


BEST BUY DRUGS



Evaluating Prescription Drugs Used to Treat:
**Attention Deficit
Hyperactivity Disorder (ADHD)**
Comparing Effectiveness, Safety, and Price



Our Recommendations

The drugs usually prescribed to treat attention deficit hyperactivity disorder (ADHD) are generally effective and safe. Most children and teenagers (60 percent to 80 percent) who take them become less hyperactive and impulsive, are better able to focus, and are less disruptive at home and school. However, there is no good evidence showing those benefits last for longer than two years.

Because diagnosis of the condition can be difficult, and a variety of medical and psychiatric disorders can cause symptoms that mimic ADHD, many children and teenagers taking these medicines may either not have ADHD or have only mild symptoms that do not require medication. Be sure to get a careful diagnosis from a physician or mental-health professional with expertise in ADHD and a second opinion if you have doubts.

Adults with ADHD also appear to benefit from taking medication. But far fewer studies have examined the effectiveness of the medicines in this population.

Our analysis found no evidence that any ADHD drug is more effective than another. Each raises different safety issues, however, and you should discuss them with your doctor. Dosing convenience (taking one pill a day instead of two or more; oral solutions for those who have difficulty swallowing tablets; or the use of a skin patch) and the period of time that a medicine is active in your body are critical elements of ADHD treatment.

Taking into account the evidence for effectiveness, safety, dosing convenience, duration of action, and cost, we have chosen the following as *Consumer Reports Best Buy Drugs* to treat ADHD:

- Dextroamphetamine tablets
- Dextroamphetamine sustained-release or long-acting capsules
- Methylphenidate tablets (*Methylin* or generic)
- Methylphenidate sustained-release tablets or capsules (10 mg – *Methylin* only [no generic available]; and 20 mg – generic or *Methylin*.) Note: If you need 30 mg or more, your options are limited to three significantly more expensive drugs – Metadate CD, Ritalin LA, or Concerta.

These four medicines are part of a class known as stimulants and have a long track record that shows they're generally safe and effective. All four are also available in low- or moderate-cost generic or "branded" generic forms that range in price from \$11 to \$70 per month, depending on dose.

Welcome

This report on prescription drugs to treat attention deficit hyperactivity disorder (ADHD) 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, go to ConsumerReportsHealth.org/BestBuyDrugs.

We focus in this report on the use of ADHD drugs to treat children and teenagers age 17 and under. We also provide information and guidelines about the use (and potential for abuse) of these medicines among older teenagers and adults.

It's normal for children to have difficulty paying attention and controlling their behavior at times. And it's certainly common for parents to think that their children are sometimes a bit wound up. Indeed, almost every child (and many adults) have bouts or periods of hyperactivity, lack of focus, and poor attention. This does not mean they have a mental or behavioral disorder.

What should lead you to suspect ADHD, which is a distinct biologically based behavioral disorder now widely accepted among doctors, is this: a persistent pattern lasting at least six months of abnormally high levels of physical activity (hyperactivity), impulsivity, and/or lack of ability to pay attention and focus or complete tasks. (See the full list of symptoms on page 7.) The severity of symptoms and abnormal behavior patterns in children and teenagers with ADHD varies widely. Some children have only mild symptoms while others are severely affected. The range of symptoms among adults has not been well studied.

ADHD is one of the most common behavioral problems diagnosed among school-aged children in the United States. The Centers for Disease Control and Prevention estimates that about 7 percent of children ages 4 to 17 are affected (about 4.5 million in 2006). The number of adults with ADHD has not been reliably estimated, but some studies suggest that about 2 percent to 4 percent of U.S. adults have the condition.

The diagnosis is not without problems. But generally, boys are much more likely to be diagnosed with ADHD than girls. Perhaps this is because boys are prone to act out and exhibit hyperactivity, while girls with ADHD are more likely to be perceived as simply inattentive (daydreaming, forgetful, easily distracted) without any significant hyperactivity. The pattern of abnormal behavior usually begins before age 7.

Both boys and girls with ADHD are more likely to have low self-esteem, develop emotional and social problems, and underachieve at school.

Fortunately, many children with ADHD—even when they are not treated—improve as they progress into their teenage years and early 20s. But the disorder can persist into adolescence and adulthood. Studies estimate that between 30 percent and 70 percent of children with ADHD will continue to have symptoms as adults. The condition can even be diagnosed for the first time in adults. Teenagers and adults are more likely to exhibit impulsive and acting-out behavior rather than be hyperactive.

This report primarily examines the drugs most commonly used to treat ADHD—the so-called “stimulants.” They have been the mainstay of ADHD treatment for decades. You might recognize the brand name Ritalin. This drug, known generically as methylphenidate, has been used to treat ADHD since the 1960s. In addition, we evaluate a nonstimulant drug called atomoxetine (Strattera) that is also approved by the FDA for treatment of ADHD. Another nonstimulant, Intuniv (guanfacine) was approved in late 2009 by the FDA for treatment of ADHD. Intuniv is a long acting formulation of guanfacine, which has been used for years to treat ADHD even though it’s not FDA approved for this (See page 11). Intuniv was not included in the analysis that forms the basis of our report so we did not consider it in detail as we did the other medica-

Most Commonly Used Drugs Indicated to Treat ADHD

Generic Name	Brand Name(s)	Available as a Prescription Generic Drug?
1. Amphetamine	Adderall	Yes
	Adderall XR	Yes
2. Dextroamphetamine	DextroStat	Yes
	Dexedrine	Yes
	LiquADD	No
3. Dexmethylphenidate	Focalin	Yes
	Focalin XR	No
4. Lisdexamfetamine	Vyvanse	No
5. Methylphenidate	Concerta	No
	Daytrana patch	No
	Metadate CD	No
	Metadate ER	Yes
	Methylin oral solution	No
	Methylin chewable tablet	No
	Methylin ER	Yes
	Ritalin	Yes
	Ritalin LA	No
	Ritalin SR	No
6. Atomoxetine	Strattera	No

tions. In general though, we recommend avoiding new drugs until more is known about their effectiveness and safety profiles.

These medicines don't cure ADHD but they can keep symptoms, such as hyperactivity and impulsivity, under control, which may improve a person's daily functioning. However, there is no good evidence showing that these benefits last for longer than two years, so you may want to periodically discuss with your physician whether you should continue to take the medicines. The long-term benefits of these drugs are a controversial issue that we discuss more on page 18.

We do not include the drug modafinil (Provigil), which is used for treating sleep disorders. Some doctors may prescribe it as an ADHD treatment but this medicine is not approved by the FDA to treat the condition and it has been associated with a serious rash. We advise caution if it is used.

The most effective strategy for treating ADHD in children is a multi-pronged approach. This uses a combination of treatments, including medicines and behavioral therapy. Therapists may also help parents and sometimes teachers build the skills to cope with and respond appropriately to children's ADHD behaviors. The use of drugs to treat ADHD has been more thoroughly evaluated over the years than these other forms of treatment. But there is some evidence that the combination of behavioral therapy and drugs can work better than drugs alone for some children. There's mixed evidence on how well behavioral therapy works when used without drug treatment. It certainly does not work for all children, especially those who have severe symptoms.

There's no good evidence supporting the effectiveness of talk therapy for ADHD but doctors may sometimes advise this, and with selected children or adults, it may be helpful. Special education for children with ADHD is sometimes used too, but the vast majority of kids with this problem today are "mainstreamed" in regular classrooms and schools.

Other nondrug treatments include dietary restrictions, such as eliminating sugar or other food items; taking nutritional supplements, such as herbals or high doses of vitamins; and using biofeedback, or vision therapy. But none of these are backed by credible evidence that they improve ADHD symptoms, and some, such as high doses of vitamins, can be dangerous.

This report is based on a comprehensive expert analysis of the medical evidence on prescription medications for ADHD. There's more information on page 22 on how we conducted our evaluation.

The pricing information in this report is current as of July 2010, which affected the Best Buy selections. The evidence information is current as of July 2009.



What Are ADHD Drugs and Who Needs Them?

All the drugs used to treat ADHD work by changing the levels of chemicals in the brain called neurotransmitters. Doctors don't know exactly what causes ADHD, but one prevailing theory is that it is due to abnormal levels of three neurotransmitters. The drugs used to treat ADHD alter the levels of one, two, or all three of those chemicals.

Environment may also play a role in causing ADHD. Some kids may be biologically prone to the condition and it could be triggered by factors in their home or school environment.

Not all children (or adults) diagnosed with ADHD need to take a drug. But a debate has raged for years about how to accurately identify who needs the medicines and who does not. There's no easy answer. Table 1 on page 7 presents the symptoms and generally accepted criteria for diagnosing ADHD, and considerations for whether to use medications or not. But even if your child meets these criteria, he or she may not need a drug.

Generally, once the diagnosis of ADHD has been confirmed (see below) and the decision made to try a drug, a stimulant drug will quite likely be your doctor's recommended first step. If your child is diagnosed with mild to moderate ADHD, treatment with one stimulant may be all that is needed. Essentially, those medicines help your child concentrate, feel more focused, less impulsive, and be more thoughtful before acting.

If one stimulant does not work, your doctor may try another. Children can respond differently to the stimulants as well as to the other drugs less often used to treat ADHD. The stimulants are sometimes, but not often, used in combination.

While drugs to treat ADHD can improve symptoms in the short-term, you should be aware, as we have previously noted, that there's no good evidence that these benefits last for more than a couple of years. This is a controversial issue that we discuss more on page 18.

You may well be wondering why drugs called stimulants help children who seem to be "over-stimulated" already. This issue is still unclear even after

decades of debate and use of the drugs. The best guess of doctors and scientists is that by altering the levels of neurotransmitters, the drugs have the net effect of inhibiting certain behaviors. This chemical change allows children to exert better self-control.

But a child's response to stimulant drugs can also depend on the dose he or she takes. Lower doses appear to help kids focus and concentrate. But higher doses can make them more hyperactive and fail to improve their attention span.

Diagnosis

ADHD is difficult to diagnose. There is no simple blood test or exam. Complicating matters is the fact that as many as one-third of children and teenagers with ADHD have learning disabilities and many also have other behavior or mood problems. These include oppositional defiant disorder, conduct or adjustment disorder, learning disorders, anxiety, depression, bipolar disorder (manic-depression), epilepsy, tic disorders, and Tourette's syndrome.

If you suspect your child has ADHD, an appointment with a pediatrician can be a good way to start to get a proper diagnosis. The pediatrician may refer you to the appropriate mental-health specialists. A doctor or mental-health professional (some psychologists specialize in ADHD) should always begin by ruling out other possible reasons for the behaviors.

In children, a thorough diagnosis usually involves talking to parents and the child's teachers, as well as direct observation of the child in various settings. Both parents and teachers may be asked to fill out questionnaires describing the child's behavior. And, of course, the process involves closely examining and questioning the child. You and your child may need to make several visits to a doctor's or therapist's office before a definitive diagnosis can be made.

Note: You should be skeptical if a doctor or therapist diagnoses ADHD at the first visit and immediately prescribes a drug.

In adults, ADHD is usually diagnosed based on a thorough interview, questionnaires, and rating scales. The interview may include questions about one's childhood behavior.

It is not uncommon for the parents of a newly diagnosed ADHD child to recognize that they, too, have some of the symptoms and behavioral patterns of ADHD. Since the condition can run in families, it's worth seeing a doctor or therapist if you notice these symptoms. But don't self-diagnose and take ADHD drugs without first consulting a doctor. The medicines can be dangerous and should not be taken regularly or even periodically without a firm diagnosis of ADHD.

Distinguishing Between ADHD and Other Disorders

ADHD is not always easily distinguished from other conditions, such as depression and anxiety, or, in adults, bipolar disorder, also called manic depression. As you can see from Table 2 on the next page, ADHD shares some symptoms and behavioral patterns with

all three. It is critical to get an accurate diagnosis so that you get the proper treatment. Studies indicate that the misdiagnosis of people with mood and behavioral disorders is quite common. And stimulants given to a person with anxiety or bipolar disorder are not helpful. They may even be harmful.

Generally, neither children nor adults with ADHD experience the loss of energy, lethargy, and pervasive feelings of sadness often seen in people suffering from depression. Likewise, it's uncommon for children or adults with ADHD to feel anxious, worried, or panicky much of the time—as they might if they suffered from an anxiety disorder. Also, children with depression and anxiety often have different symptoms than adults with these disorders.

People diagnosed with ADHD and another behavioral or mood disorder can be treated with more than one type of medicine, though this must be done with extra care and caution. Psychotherapy or counseling is also highly recommended for such patients.

Table 1. Symptoms of ADHD

People experience ADHD symptoms with varying degrees of severity. The diagnosis, too, can be quite subjective, varying from doctor to doctor. But generally, a child, teenager, or adult who persistently has six or more of the following symptoms or behavioral patterns (from either list) may have ADHD and be a candidate for an ADHD drug. In children, ADHD is more likely to be diagnosed if (a) the symptoms started before age 7, (b) have been ongoing for at least six months, and (c) there is disruption at home and school.

Inattention

- Difficulty paying attention to details
- Frequent hasty mistakes in schoolwork, work, or other activities
- Difficulty sustaining attention in performing tasks or play activities
- Difficulty listening when spoken to directly
- Unable or slow to complete assignments and tasks
- Difficulty organizing tasks and activities
- Difficulty with tasks that require sustained mental effort
- Loses things necessary for tasks or activities
- Easily distracted by extraneous stimuli or sights or sounds
- Easily bored
- Forgetful in daily activities
- Tendency to daydream

Hyperactivity and Impulsivity

- Fidgets with hands or feet or squirms in chair
- Leaves seat in classroom or in situations in which remaining seated is expected
- Runs around excessively in situations in which it is inappropriate
- Difficulty engaging in leisure activities in a quiet manner
- "On the go" or acting as if "driven by a motor" much of the time
- Excessive or impulsive talking
- Blurts out answers before questions have been completed
- Difficulty in waiting for his or her turn to speak
- Interrupts or intrudes on others
- Hot-tempered; easily agitated or angered
- Low tolerance of stress

Table 2. Is it ADHD or Another Condition?

As contrast to the behavior patterns listed in Table 1, here are symptoms of three other prevalent mental-health conditions that can be confused with ADHD. Children and adults with ADHD are also at higher risk of having one of these conditions. As you see, many symptoms/behavior patterns are shared among the conditions. The symptoms listed are more applicable to adults and children ages 14 and older.

Depression	Anxiety	Bipolar Disorder ¹
<ul style="list-style-type: none"> ■ Feelings of unhappiness, hopelessness, pessimism ■ Feelings of low self-esteem, worthlessness, guilt ■ Loss of interest or pleasure in hobbies, work, and activities you usually enjoy, including sex ■ Decreased energy, fatigue, feeling “slowed down” ■ Insomnia, early-morning awakening, or oversleeping ■ Difficulty concentrating, remembering, making decisions ■ Appetite changes – eating significantly less or more ■ Irritability, restlessness, hostility ■ Feeling anxious; low tolerance for stress ■ Recurring thoughts of death or suicide; suicide attempts ■ Unexplained physical symptoms or pains—such as headache, chronic indigestion, or pain—that do not respond to treatment 	<ul style="list-style-type: none"> ■ Excessive worry; a feeling or sense of anxiety that has bothered you every day for the last three to six months ■ Feelings of irritability and agitation ■ Occasional feelings of panic, fear, or dread ■ Not being able to relax; persistent feelings of restlessness or of being hyperalert ■ Poor attention ■ Tire easily; sleep poorly ■ Low tolerance of stress ■ Difficulty concentrating 	<p>In the mania phase:</p> <ul style="list-style-type: none"> ■ Excessive elation, exuberance, and euphoria ■ Hyperactivity ■ Racing thoughts ■ Aggressive behavior ■ Increased talking ■ High energy ■ Grandiose notions ■ Decreased need for sleep ■ Inappropriate social behavior ■ Easily distracted ■ Poor ability to concentrate <p>In the depressive phase:</p> <ul style="list-style-type: none"> ■ Same symptoms as in first column

1. In children, bipolar disorder can be marked by a combination of elation, depression, and irritability. The symptoms that are present in both ADHD and bipolar disorder in children include a high level of energy and a reduced need for sleep. Elated mood and grandiosity are the characteristics that distinguish bipolar disorder from ADHD.

Choosing a Drug for ADHD – Our *Best Buy* Picks

The stimulant medications and the nonstimulant drug atomoxetine (Strattera) are effective and generally safe when used as directed. All have been proven to reduce hyperactivity and disruptive behavior and to improve attention and concentration in 60 percent to 80 percent of children and teenagers with ADHD in the short-term. Our analysis indicated that none of these medicines are clearly more effective than any other.

Although these medicines can be helpful, getting children to take them regularly can sometimes be a struggle for parents. That's mainly because children with ADHD have difficulty remembering to take their pills or are embarrassed about having to take them at

school. Further complicating matters is that many schools don't have the resources (such as nurses) to help children who need assistance. Also, there are some children with ADHD who simply have a hard time swallowing pills. Fortunately, as you can see from Table 4 on page 14, the stimulants are available in several different forms and one of them may be more convenient for your child. The forms include short-acting and long-acting pills and tablets, as well as liquids, chewable tablets, and a patch for the skin.

The long-acting pills and new skin patch form of methylphenidate are intended to offer significant dosing convenience. Whereas the short-acting versions are generally taken every four hours, or three

Be Alert to Abuse of ADHD Drugs

The stimulants discussed in this report have the potential for abuse. Some teenagers and college students take them to pull "all-nighters" and be more alert and focused for exams. Some teenagers and college students abuse the drugs just to get "high." Since stimulants also suppress appetite, they have been used by people trying to lose weight as well.

Various studies have pegged the school-related abuse (defined as having ever abused stimulants illicitly, even once) at up to 7 percent of ninth graders, up to 17 percent of male college students, and up to 11 percent of female college students.

"Hard core" abusers have been reported to crush and snort stimulant pills, or dissolve them in water and inject the mixture. This can be deadly or lead to severe complications. For example, crushing the tablets releases insoluble fillers that can block small blood vessels.

Dextroamphetamine and amphetamine appear to have a greater potential for abuse than methylphenidate. But addiction to methylphenidate can and does occur. Snorting, in particular, can induce large and fast dopamine increases in the brain. Used this way, the drug has effects similar to, but more potent than, caffeine, but less potent than amphetamines. It does not induce the subtle euphoria and psychic energy of cocaine, but some abusers report being more energetic, less distractible, and better able to focus. A form of withdrawal—similar to a caffeine come down—can occur with intermittent use.

Lisdexamfetamine (Vyvanse) may be more difficult to abuse. Unlike the other stimulants, it is a "prodrug," which means it has to go through the digestive tract to become activated. So theoretically, snorting or injecting it would not induce a high for a person. But more studies are needed to show that it doesn't lead to abuse.

The risk of addiction among children and preteenagers taking stimulants for ADHD is very low and has not generally been reported.

Parents of teenagers and college students prescribed stimulants for ADHD should closely monitor use of the medicine.

times a day, the extended-release, long-acting or sustained-release versions (usually designated by the letters ER, LA, SR, and XR) can be taken just once or twice a day. The actual length of time these various drugs are “active” in the body varies quite a bit, from drug to drug and from person to person.

Coping Strategies for Teens and Adults with ADHD

Taking medicine may ease your symptoms. But for teenagers and adults with ADHD, these tips may also help:

- If you can't remember an instruction, ask your teacher or supervisor to repeat it. Don't just guess.
- Break big jobs into smaller tasks, and reward yourself as you finish each one.
- Make a list of what you need to do each day, then put these tasks in the order you intend to do them. Cross each thing off the list as soon as you've done it.
- Work in a quiet area.
- Do one thing at a time.
- Take regular, short breaks.
- Carry a notebook to write down things you need to remember.
- Use sticky notes to remind yourself of things you need to do. Post them where you will notice them, such as on your refrigerator, car dashboard, or school locker.
- Organize similar things together. Music CDs should be in one place, videos in another. Bills should be separate from personal letters.
- Create a routine. Get up and go to bed at the same times each day.
- Exercise, eat a balanced diet, and try to get enough sleep.

So you'll hear some doctors refer to short, medium-length, and long-acting versions.

The long-acting versions are often preferred by doctors and are far more widely prescribed today. However, some doctors and parents may prefer starting a child on a shorter-acting or perhaps a medium-acting stimulant. This may especially be the case with children and teenagers (and even adults) whose symptoms are mild. Be prepared to discuss these details with your doctor, who should work with you to decide what the best choice is for you or your child.

The side effects associated with ADHD medicines usually occur early in treatment and tend to be mild and short-lived. The most common for stimulants are decreased appetite, difficulty falling asleep, headache, irritability, jitteriness, stomachache, and, more rarely, muscle twitches. For the nonstimulant drug atomoxetine (Strattera), the most common side effects include decreased appetite, dizziness, fatigue, mood swings, nausea, and upset stomach. Most of these symptoms can be successfully reduced by adjusting the dosage or the time of day that the medicine is taken.

All of the ADHD medicines have also been linked to rare cases of heart attack, stroke and sudden death. As a result, the FDA has strengthened its cautions on all of the drugs. It also advises that children taking them should be evaluated for underlying heart problems since they may be at higher risk of sudden death. The drugs should not be used in adults with heart problems or abnormalities for the same reason.

The FDA recommends that an electrocardiogram, or ECG, – a noninvasive procedure used to look for heart problems – be considered if the evaluation shows an increased risk for or the presence of heart disease. If your child develops chest pain, shortness of breath or fainting while on these medicines, they should be seen by a doctor immediately.

The FDA and the Agency for Healthcare Research and Quality are conducting two ongoing studies – in children and adults – to get a better handle on the ADHD stimulants and risk of sudden death, stroke and heart attack. The results of these studies are expected to be available in late 2010.

Additionally, atomoxetine (Strattera) has been linked to an increased risk of suicidal thoughts and behaviors in children and adolescents. As a result, the FDA issued a notice to the public about reports of suicidal thinking, and the drug's labeling now carries a "black-box" warning about this risk. If your doctor recommends Strattera, discuss this risk with him or her and regularly watch for signs of increased depression or suicidal thinking in your child or adolescent.

Other drugs sometimes used to treat ADHD

There are other drugs that are sometimes used to treat ADHD. But *there's no conclusive, systematic evidence they work, and they are not FDA-approved to treat ADHD. So we advise caution.*

These drugs include the antidepressant and smoking cessation medicine bupropion (Wellbutrin, Zyban), the high blood pressure medicines clonidine (Catapres) and guanfacine (Tenex), along with several antipsychotics: aripiprazole (Abilify), clozapine (Clozaril), olanzapine (Zyprexa), quetiapine (Seroquel), risperidone (Risperdal), and ziprasidone (Geodon).

A few studies have found bupropion and clonidine may reduce ADHD symptoms in children. But these results should be viewed with caution since they come from only a few small-scale studies.

All of the above medicines that are not FDA-approved to treat ADHD carry a significantly higher risk of adverse side effects and problems compared with the stimulants. In addition, the FDA has warned that antidepressants increase the risk of suicidal thinking and actions in children, teenagers, and adults. So if your child is prescribed an antidepressant, you and your child's doctor should pay especially close attention to his or her moods and behavior.

We recommend that the medicines not approved to treat ADHD be used *very cautiously* and only after a thorough discussion with a doctor. They should probably *be used only* when a child, teenager, or adult cannot take a stimulant or when the presence of another condition (such as depression or anxiety) warrants treatment with a nonstimulant.

Our Best Buy picks

Table 4 presents the average monthly price for drugs used to treat ADHD. The cost ranges very widely, from low-cost generics around \$11 per month to brand-name drugs that are more than \$200 per month to liquid formulations that can run over \$1,000 per month.

Taking the evidence for effectiveness, safety, side effects, dosing convenience, duration of action, and cost into account, we have selected the following as *Consumer Reports Health Best Buy Drugs* to treat ADHD:

- Dextroamphetamine tablets
- Dextroamphetamine sustained-release or long-acting capsules
- Methylphenidate tablets (*Methylin or generic*)
- Methylphenidate sustained-release tablets or capsules (*10 mg – Methylin only [no generic available]; and 20 mg – generic or Methylin.*)
Note: If you need 30 mg or more, your options are limited to three significantly more expensive drugs - *Metadate CD, Ritalin LA, or Concerta.*)

These four medicines have been on the market for years and have proven to be effective and safe for most people when used as directed. They are available as low- or moderately-priced generic or "branded" generics. Generic drugs with different names, which are often less-expensive than branded drugs, but more costly than a regular generic. All are as effective as other ADHD medicines. Of the four, methylphenidate and methylphenidate sustained-release pills are supported by more evidence. And dextroamphetamine has a slightly higher incidence of mild side effects and a high potential for abuse. But studies have found all four drugs to be equally effective when it comes to reducing symptoms and helping children and teenagers with ADHD.

As presented in Table 4, the average monthly cost of our *Best Buys* tablets and capsules ranges from \$11 to about \$70. We'd advise you, though, to shop around (including online) to get the best price. Prices can vary widely even within a town or city, and online outlets can often have steeply

discounted prices. Some large discount stores and pharmacy chains may offer especially low prices on generics. But your local pharmacy may also have a pretty good price on these medicines or be willing to match a very low price that you find somewhere else.

If your doctor advises a 30 mg dose or higher of a methylphenidate sustained-release pill, you will pay more since only branded generic or brand-name versions are available. This may be warranted, but we urge you to discuss this choice with your doctor since the price difference is substantial.

If your doctor prescribes a brand-name version of dextroamphetamine or methylphenidate *at a lower dose* – such as Ritalin, Ritalin LA or Concerta 18 mg– you should ask him or her why you are not being prescribed the less expensive generic version. Even if you have insurance, you will almost certainly have to pay more for these brand medicines, which are no more effective than generics. As we said above, most doctors will recommend the long-acting, once- or twice-a-day versions of a stimulant as a first step. But we include two short-acting versions in our *Best Buys* because for some children and teenagers they may be preferred.

Atomoxetine (Strattera) is an option if our *Best Buys* do not seem to work well for you or your child. But it is a newer drug that works in a different way than the stimulant drugs. Atomoxetine is less tested and significantly more expensive (For example, Strattera is \$233 to \$266 per month.). Some groups have issued guidelines suggesting that Strattera be reserved for treating people who do not respond to the stimulants. If your doctor prescribes Strattera as a first step, we advise asking him or her for an explanation. You should also be aware that studies have found that the drug is associated with a higher–albeit rare–risk of suicidal thinking in children and teenagers.

At the beginning of drug treatment, children are usually seen every week or so to ensure that the dosage is correct. The dosage may need to be adjusted to find the most effective regimen that keeps ADHD symptoms controlled while not causing any undue side effects. People who take medicines for ADHD should see a doctor at least every three months to check on the effectiveness of their treatment, side effects, and whether the dosage is right.

Table 3. Summary of Evidence on ADHD Drugs

Generic Name	Brand Name(s)	FDA-Approved for Age(s)	Level of Evidence of Symptom Control	Notes About Safety
Stimulants				
Amphetamine	Adderall, Adderall XR	Age 3 and older	■ Strong evidence for controlling behavior	<ul style="list-style-type: none"> ■ Caution about possible long-term suppression of growth ■ Caution about rare cases of sudden unexplained death, stroke, heart attack ■ Use cautiously in those with anxiety, motor tics, Tourette's syndrome. Don't use in people with glaucoma or those on MAOI antidepressants ■ Should not be used in patients with high blood pressure or heart problems ■ High abuse potential

Table 3. Summary of Evidence on ADHD Drugs (continued)

Generic Name	Brand Name(s)	FDA-Approved for Age(s)	Level of Evidence of Symptom Control	Notes About Safety
Stimulants				
Dexmethylphenidate	Focalin, Focalin XR	Age 6 and older	<ul style="list-style-type: none"> ■ Strong evidence for effectiveness, especially when rapid onset and short duration most helpful ■ Best used for evening needs, when the day's long-acting dose is wearing off 	<ul style="list-style-type: none"> ■ Caution about possible long-term suppression of growth ■ Caution about rare cases of sudden unexplained death, stroke, heart attack ■ Use cautiously in those with anxiety, motor tics, Tourette's syndrome. Don't use in people with glaucoma or those on MAOI antidepressants ■ Should not be used in patients with high blood pressure or heart problems
Dextroamphetamine <i>(lisdexamfetamine included here because it's turned into dextroamphetamine in the body)</i>	Dexedrine, DextroStat, LiquADD, Vyvanse	Age 3 and older	<ul style="list-style-type: none"> ■ Strong evidence for controlling behavior, making child less restless and better able to concentrate, more likely to think before acting 	<ul style="list-style-type: none"> ■ Caution about possible long-term suppression of growth ■ Possibly causes more weight loss than methylphenidate ■ Caution about rare cases of sudden unexplained death, stroke, heart attack ■ Use cautiously in those with anxiety, motor tics, Tourette's syndrome. Don't use in people with glaucoma or those on MAOI antidepressants ■ Should not be used in patients with high blood pressure or heart problems ■ High abuse potential (lisdexamfetamine's formulation may make it less likely to be abused, but studies are needed to confirm this)
Methylphenidate	Concerta, Metadate CD, Metadate ER, Methylin, Methylin ER, Ritalin, Ritalin SR, Ritalin LA, Daytrana patch	Age 6 and older	<ul style="list-style-type: none"> ■ Strong evidence for controlling behavior, making child less restless and better able to concentrate, more likely to think before acting ■ Concerta is the longest acting of this type of drug (10-14 hours) 	<ul style="list-style-type: none"> ■ Caution about possible long-term suppression of growth ■ Caution about rare cases of sudden unexplained death, stroke, heart attack ■ Use cautiously in those with anxiety, motor tics, Tourette's syndrome. Don't use in people with glaucoma or those on MAOI antidepressants ■ Ritalin SR, Methylin ER, Concerta wear off more gradually than short-acting forms so less risk of rebound, possible lower risk of abuse

Table 3. Summary of Evidence on ADHD Drugs (continued)

Generic Name	Brand Name(s)	FDA-Approved for Age(s)	Level of Evidence of Symptom Control	Notes About Safety
Another drug approved to treat ADHD				
Atomoxetine	Strattera	Age 6 and older	<ul style="list-style-type: none"> Strong evidence for controlling behavior with either a single or twice-a-day dose 	<ul style="list-style-type: none"> Rare but increased risk of suicidal thinking and behavior Rare but risk of severe liver injury Caution about rare cases of sudden unexplained death, stroke, heart attack Unlike the stimulants above, not a controlled substance so less likely to lead to abuse and may be used by people with a history of substance abuse Use cautiously in those with anxiety, motor tics, Tourette's syndrome. Don't use in people with glaucoma or those on MAOI antidepressants Only on the market since 2003, so longer-term effects unknown

Table 4. ADHD Drugs Cost Comparison

Generic Name and Dose ¹	Brand Name	Drug is a Generic ²	Frequency of Use Per Day ³	Average Monthly Cost ⁴
Amphetamine mixture 5 mg tablet	Adderall	No	One to Two	\$135 - \$269
Amphetamine mixture 7.5 mg tablet	Adderall	No	One to Two	\$140 - \$279 ⁵
Amphetamine mixture 10 mg tablet	Adderall	No	One to Two	\$140 - \$280
Amphetamine mixture 15 mg tablet	Adderall	No	One to Two	\$127 - \$254
Amphetamine mixture 20 mg tablet	Adderall	No	One to Two	\$130 - \$260
Amphetamine mixture 30 mg tablet	Adderall	No	One to Two	\$130 - \$260
Amphetamine mixture 5 mg tablet	Generic	Yes	One to Two	\$35 - \$70
Amphetamine mixture 7.5 mg tablet	Generic	Yes	One to Two	\$45 - \$90
Amphetamine mixture 10 mg tablet	Generic	Yes	One to Two	\$32 - \$61
Amphetamine mixture 12.5 mg tablet	Generic	Yes	One to Two	\$41 - \$82
Amphetamine mixture 15 mg tablet	Generic	Yes	One to Two	\$36 - \$73
Amphetamine mixture 20 mg tablet	Generic	No	One to Two	\$28 - \$57

Table 4. The Main ADHD Drugs – Cost Comparison (continued)






Generic Name and Dose ¹	Brand Name	Drug is a Generic ²	Frequency of Use Per Day ³	Average Monthly Cost ⁴
Amphetamine mixture 30 mg tablet	Generic	No	One to Two	\$28 - \$56
Amphetamine mixture 5 mg Continuous-delivery capsule	Adderall XR	No	One	\$333
Amphetamine mixture 5 mg Continuous-delivery capsule	Generic	Yes	One	\$224
Amphetamine mixture 10 mg Continuous-delivery capsule	Adderall XR	No	One	\$318
Amphetamine mixture 10 mg Continuous-delivery capsule	Generic	Yes	One	\$214
Amphetamine mixture 15 mg Continuous-delivery capsule	Adderall XR	No	One	\$314
Amphetamine mixture 15 mg Continuous-delivery capsule	Generic	Yes	One	\$208
Amphetamine mixture 20 mg Continuous-delivery capsule	Adderall XR	No	One	\$304
Amphetamine mixture 20 mg Continuous-delivery capsule	Generic	Yes	One	\$205
Amphetamine mixture 25 mg Continuous-delivery capsule	Adderall XR	No	One	\$295
Amphetamine mixture 25 mg Continuous-delivery capsule	Generic	Yes	One	\$203
Amphetamine mixture 30 mg Continuous-delivery capsule	Adderall XR	No	One	\$292
Amphetamine mixture 30 mg Continuous-delivery capsule	Generic	Yes	One	\$197
Atomoxetine 10 mg capsule	Strattera	No	One	\$236
Atomoxetine 18 mg capsule	Strattera	No	One	\$238
Atomoxetine 25 mg capsule	Strattera	No	One	\$233
Atomoxetine 40 mg capsule	Strattera	No	One	\$239
Atomoxetine 60 mg capsule	Strattera	No	One	\$241
Atomoxetine 80 mg capsule	Strattera	No	One	\$266
Atomoxetine 100 mg capsule	Strattera	No	One	\$259
Dextroamphetamine 5 mg/5 ml solution	LiquADD	BG	One to Eight	\$77 - \$619 ⁵
Dextroamphetamine 5 mg/5 ml solution	ProCentra	BG	One to Eight	\$117 - \$933
 Dextroamphetamine 5 mg tablet	Generic	Yes	One to Two	\$11-\$22
 Dextroamphetamine 10 mg tablet	Generic	Yes	One to Four	\$16-\$64
Dextroamphetamine 5 mg Sustained-release capsule	Dexedrine	No	One	\$81
 Dextroamphetamine 5 mg Sustained-release capsule	Generic	No	One	\$60
Dextroamphetamine 10 mg Sustained-release capsule	Dexedrine	No	One	\$95
 Dextroamphetamine 10 mg Sustained-release capsule	Generic	No	One	\$60
Dextroamphetamine 15 mg Sustained-release capsule	Dexedrine	No	One	\$118
 Dextroamphetamine 15 mg Sustained-release capsule	Generic	Yes	One	\$70
Dexmethylphenidate 2.5 mg tablet	Focalin	No	Two	\$71
Dexmethylphenidate 5 mg tablet	Focalin	No	Two	\$94

Table 4. The Main ADHD Drugs – Cost Comparison (continued)






Generic Name and Dose ¹	Brand Name	Drug is a Generic ²	Frequency of Use Per Day ³	Average Monthly Cost ⁴
Dexmethylphenidate 10 mg tablet	Focalin	No	Two	\$114
Dexmethylphenidate 2.5 mg tablet	Generic	Yes	Two	\$55
Dexmethylphenidate 5 mg tablet	Generic	Yes	Two	\$67
Dexmethylphenidate 10 mg tablet	Generic	Yes	Two	\$88
Dexmethylphenidate 5 mg Sustained-release capsule	Focalin XR	No	One	\$213
Dexmethylphenidate 10 mg Sustained-release capsule	Focalin XR	No	One	\$211
Dexmethylphenidate 15 mg Sustained-release capsule	Focalin XR	No	One	\$206
Dexmethylphenidate 20 mg Sustained-release capsule	Focalin XR	No	One	\$211
Dexmethylphenidate 30 mg Sustained-release capsule	Focalin XR	No	One	\$195
Lisdexamfetamine 20 mg capsule	Vyvanse	No	One	\$197
Lisdexamfetamine 30 mg capsule	Vyvanse	No	One	\$191
Lisdexamfetamine 40 mg capsule	Vyvanse	No	One	\$191
Lisdexamfetamine 50 mg capsule	Vyvanse	No	One	\$188
Lisdexamfetamine 60 mg capsule	Vyvanse	No	One	\$184
Lisdexamfetamine 70 mg capsule	Vyvanse	No	One	\$179
Methylphenidate 2.5 mg chewable tablet	Methylin	No	Two	\$139
Methamphetamine 5 mg tablet	Desoxyn	No	One to Five	\$170-\$848
Methylphenidate 5 mg chewable tablet	Methylin	No	Two	\$203
Methylphenidate 5 mg/5 ml solution	Methylin	No	Two to 12	\$230-\$1,381
 Methylphenidate 5 mg tablet	Methylin	BG	Two	\$16
Methylphenidate 5 mg tablet	Ritalin	No	Two	\$62
 Methylphenidate 5 mg tablet	Generic	Yes	Two	\$27
Methylphenidate 10 mg/5 ml solution	Methylin	No	Two to Six	\$381-\$1,162
 Methylphenidate 10 mg tablet	Methylin	BG	Two	\$22
Methylphenidate 10 mg tablet	Ritalin	No	Two	\$86
 Methylphenidate 10 mg tablet	Generic	Yes	Two	\$32
Methylphenidate 20 mg tablet	Ritalin	No	Two to Three	\$116-\$174
Methylphenidate 20 mg tablet	Methylin	BG	Two to Three	\$35-\$53
 Methylphenidate 20 mg tablet	Generic	Yes	Two to Three	\$40-\$60
Methylphenidate 10 mg chewable tablet	Methylin	No	Two to Six	\$280-\$840
Methylphenidate 10 mg/9 hr patch/disc	Daytrana	No	One	\$254

Table 4. The Main ADHD Drugs – Cost Comparison (continued)

Generic Name and Dose ¹	Brand Name	Drug is a Generic ²	Frequency of Use Per Day ³	Average Monthly Cost ⁴
Methylphenidate 10 mg Sustained-release tablet	Metadate ER	BG	One	\$47 ⁵
CR BEST BUY Methylphenidate 10 mg Sustained-release tablet	Methylin ER	BG	One	\$32
Methylphenidate 10 mg Sustained-release capsule	Metadate CD	No	One	\$174
Methylphenidate 10 mg Sustained-release capsule	Ritalin LA	No	One	\$175
Methylphenidate 15 mg/9 hr patch/disc	Daytrana	No	One	\$248
Methylphenidate 18 mg Sustained-release tablet	Concerta	No	One	\$205
Methylphenidate 20 mg/9 hr patch/disc	Daytrana	No	One	\$245
CR BEST BUY Methylphenidate 20 mg Sustained-release tablet	Methylphenidate ER	Yes	One	\$32
CR BEST BUY Methylphenidate 20 mg Sustained-release tablet	Methylphenidate SR	Yes	One	\$25
Methylphenidate 20 mg Sustained-release tablet	Metadate ER	BG	One	\$42
CR BEST BUY Methylphenidate 20 mg Sustained-release tablet	Methylin ER	BG	One	\$31
Methylphenidate 20 mg Sustained-release tablet	Ritalin SR	No	One	\$98
Methylphenidate 20 mg Sustained-release capsule	Metadate CD	No	One	\$167
Methylphenidate 20 mg Sustained-release capsule	Ritalin LA	No	One	\$171
Methylphenidate 27 mg Sustained-release tablet	Concerta	No	One	\$210
Methylphenidate 30 mg/9 hr patch/disc	Daytrana	No	One	\$227
Methylphenidate 30 mg Sustained-release capsule	Metadate CD	No	One	\$162
Methylphenidate 30 mg Sustained-release capsule	Ritalin LA	No	One	\$171
Methylphenidate 36 mg Sustained-release tablet	Concerta	No	One	\$209
Methylphenidate 40 mg Sustained-release capsule	Metadate CD	No	One	\$240
Methylphenidate 40 mg Sustained-release capsule	Ritalin LA	No	One	\$164
Methylphenidate 50 mg Sustained-release capsule	Metadate CD	No	One	\$276
Methylphenidate 54 mg Sustained-release tablet	Concerta	No	One	\$236
Methylphenidate 60 mg Sustained-release capsule	Metadate CD	No	One	\$320

1. Not all dose forms are listed. Higher doses, not generally or widely used in children, are not represented.

2. BG indicates that the drug is a "branded generic," a medicine that is generic but given a special name by its maker for marketing purposes.

3. As typically prescribed, but dosing varies with these drugs.

4. Monthly costs reflect national average retail prices for May 2010, rounded to the nearest dollar. Information derived by *Consumer Reports Health Best Buy Drugs* from data provided by Wolters Kluwer Pharma Solutions, which is not involved in our analysis or recommendations.

5. Price is based on a low prescription volume of less than 20 prescriptions.

The Evidence

This section presents more information on the effectiveness and safety of prescription drugs to treat ADHD.

This report is based on an analysis of the scientific evidence on prescription drugs used to treat ADHD. More than 3,000 research articles and studies on ADHD drugs were identified, screened, and evaluated. From these, the analysis focused on several hundred of the most relevant findings to provide evidence of comparative effectiveness and safety.

How Effective Are Drugs Prescribed for ADHD?

In general, stimulant medications reduce ADHD behaviors in about 60 percent to 80 percent of people who take them. This includes reducing hyperactivity and impulsivity. This can improve a person's daily functioning and their ability to focus, learn, and work. However, some studies show that even with long-term treatment, many people with ADHD continue to have problems at school, work, and home.

In addition, there is uncertainty about whether the benefits of the ADHD drugs last over time. In general, children and teenagers with ADHD who are treated with these medicines show improvement in their symptoms over the short-term, but there is no good evidence showing that these benefits are sustained for longer than a few years. Some smaller studies of children who began taking methylphenidate have found that improvements started to decrease at least somewhat as early as six months to two years after starting treatment. However, the largest study found that intensive treatment with a stimulant medication and close monitoring provided an advantage for the first two years over typical, less-monitored medication treatment or behavioral therapy alone. But then this advantage began to decrease somewhat, and faded entirely between three to eight years after starting treatment. Long-term studies are difficult to do, so there is some uncertainty about these results. For example, one of the longest, which followed people for eight years, lost track of a lot of participants so we don't know how they were faring on the medicines.

These studies have primarily involved methylphenidate. Presumably, the benefits of other stimulants also decrease over time but we can't say for sure because no such studies have been done involving those drugs.

Given these uncertainties, we recommend that if you or your child is showing sustained improvement in ADHD symptoms and side effects have not been a problem, then it would make sense to continue taking the drug. If ADHD symptoms have not improved or seem to have returned, then you would want to consider stopping the medicines, especially if side effects have occurred. Another option is to stop taking the medicine for a brief period to see if you or your child notices a difference.

Most studies looking at medication therapy for ADHD have focused on children, while adults have not been widely studied. But even in children, the scientific literature comparing ADHD drugs is not extensive. Most of the studies are short-term and only a few involved large numbers of people. The evidence that exists finds no stimulant clearly more effective than any other, and the studies that compare the various stimulant drugs to placebo (dummy pills) generally show around the same level of effectiveness among the stimulants.

When compared with the stimulants, atomoxetine (Strattera) has yielded mixed results. Some studies have found it slightly less effective. Other studies have found it about equal in effectiveness to the stimulant methylphenidate.

A few studies have found the antidepressant bupropion (Wellbutrin) and the drug clonidine (Catapres, Clorpres, Combipres) effective in reducing ADHD symptoms in children. But these results should be viewed with caution since they come from only a few small-scale studies. Neither drug is FDA-approved to treat ADHD.

How Safe Are Drugs Prescribed for ADHD?

When people taking stimulants are closely monitored by doctors, use of the drugs is generally con-

sidered to be very safe. Less than 5% of children have side effects that require them to stop taking a stimulant. But notably, the long-term consequences of taking stimulants for years on end have not been fully evaluated in studies and all of the drugs carry a warning about rare cases of sudden unexplained death. That said, the experience of most doctors is that the drugs are tolerated well by most patients when taken for years, with no apparent ill effects or adverse consequences.

One concern about stimulants is whether children and teenagers with ADHD who take them are more vulnerable to drug and substance abuse later in life. At this time, we don't know the answer to this. Some studies have suggested that stimulant use does not increase the risk of drug abuse later and may even protect against it, but others have found an increased risk of cocaine and tobacco use and addiction.

The stimulants themselves are also subject to abuse. Studies have shown that some teenagers and college students who do not have ADHD misuse and abuse amphetamines and/or methylphenidate. Most experts advise that teenagers with ADHD who take stimulants should be monitored—including keeping close tabs on whether they are getting extra prescriptions—to make sure they are not sharing these drugs with friends.

All of the stimulants cause side effects. Very few differences have been found in terms of their safe use. The most common side effects are decreased appetite, headache, insomnia, nervousness, and rapid heart rate. Careful dosing and practical advice can usually reduce or eliminate most of these effects. Children using the patch form of methylphenidate may also experience some mild skin reactions such as redness, itching, or an allergic rash.

Atomoxetine (Strattera) also has side effects. The most common are decreased appetite, dizziness, fatigue, mood swings, nausea, and upset stomach. Atomoxetine causes less insomnia than methylphenidate but appears to cause more vomiting. It can also cause numbness and tingling (usually in the hands and feet), and slightly increased heart rate and blood pressure. This is usually temporary, but researchers don't yet know whether this

could have long-term implications. A doctor should regularly check blood pressure and heart rate if you or your child takes Strattera.

All of the ADHD medicines have also been linked to some rare but serious reports of sudden death, stroke, and heart attack. All children taking them should be evaluated for underlying heart problems since such children may be at higher risk of sudden death. Your doctor should regularly monitor your child's blood pressure and heart rate during therapy with any of the ADHD drugs. The drugs should not be used in adults with heart problems or abnormalities. (We also discuss this issue on page 10).

The drugs can also cause psychotic symptoms, such as delusional thinking or hallucinations as well as mania in children and adolescents. The medicines should be used cautiously in patients with bipolar disorder due to concerns that they could worsen symptoms.

The stimulants can also cause visual disturbances, such as blurred vision, and increase the risk of having a seizure. Seizures have been reported in patients taking Strattera, but it is not clear if the drug was responsible.

Strattera has also been associated with a few other rare but serious side effects that have resulted in the FDA strengthening its cautions on the drug. First, there have been a few cases of liver damage and liver failure. Alert your doctor immediately if your child becomes jaundiced – showing yellowing of the skin or whites of the eyes – which is a sign of liver damage. Blood tests will reveal any evidence of liver damage. Second, Strattera has been linked to an increased risk of suicidal thoughts and behaviors in children and adolescents. Before starting Strattera, be sure to tell your doctor if your child has a history of depression or suicide attempts. You should call your doctor right away if you notice your child starting to feel more depressed or suicidal.

All the stimulants also carry warnings of possible suppression of growth (height or weight). There is no evidence of differences among stimulants in their effect on height, but some evidence suggests that children taking dextroamphetamine had greater

weight loss than those taking methylphenidate. There have been reports of slightly decreased growth in children and teenagers taking Strattera as well. All children taking these medicines should be monitored for abnormal growth or weight changes.

The other drugs sometimes used to treat ADHD carry a higher risk of side effects, which is one reason why they should be used with extreme caution.

Age, Race, and Gender Differences

Caution should be used when considering stimulants and other drugs for ADHD in children younger than 6. There is just not enough scientific evidence to draw definitive conclusions about their effectiveness and safety in this age group.

Girls, children under 6, various ethnic groups, and people with conditions such as tic disorders, men-

tal retardation, autism, or epilepsy have all been underrepresented in most studies of stimulants and other drugs prescribed for ADHD. The evidence that does exist generally does not indicate that any drug prescribed for ADHD is any more or less effective based on age, gender, race, or the presence of other illnesses.

The one possible exception is clonidine, which may not be quite as effective as stimulants in improving ADHD-specific symptoms in children who also have Tourette's syndrome. However, clonidine may be better than stimulants in these patients because it may reduce tics. Children who are white are more likely to be diagnosed with ADHD than children who are African-American or Hispanic. But it's unlikely that white children are actually at greater risk of developing ADHD. They are likely to have better access to health services and therefore more likely to be diagnosed.

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 ADHD drug 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 have found that doctors do not routinely take price into account when prescribing medicine. 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 vs. 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 drugs.

Generics are almost always much less expensive than newer brand-name medicines, but they are not of lesser quality. Indeed, most generics remain useful medicines even many years after first being marketed. That is why today more than half 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. They can interact in ways that can either reduce the benefit you get from a drug or be dangerous.
- And fourth, the names of prescription drugs—both generic and brand—are often hard to pronounce and remember.

For all those 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 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 what your doctor told you.

How We Picked the *Best Buy* Drugs for ADHD

Our evaluation is primarily based on independent scientific reviews of the evidence on the effectiveness, safety, and adverse effects of prescription drugs for ADHD. A team of physicians and researchers at the Oregon Health & Science University Evidence-based Practice Center conducted one of these analyses as part of the Drug Effectiveness Review Project, or DERP. DERP is a first-of-its-kind, 15-state initiative to evaluate the comparative effectiveness and safety of hundreds of prescription drugs.

A synopsis of DERP's analysis of prescription drugs for ADHD forms the primary basis for this report. A consultant to *Consumer Reports Health 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 ADHD drugs is available at <http://derp.ohsu.edu/about/final-document-display.cfm>. (This is a long and technical document written for physicians.)

This report is also based in part on analyses of the ADHD drugs conducted by The Regence Group—a company that operates Blue Cross and Blue Shield insurance plans in Idaho, Oregon, Utah, and Washington—and the National Institute for Health and Clinical Excellence, an entity that evaluates medical treatments for the British National Health Program.

The 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 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 May 2010.

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

- Be as or more effective than other drugs used to treat ADHD.
- Have a safety record equal to or better than other drugs for ADHD.
- Have an average price for a 30-day supply that was substantially lower than the most costly prescription drug for ADHD meeting the first two criteria.

The *Consumers Reports Health Best Buy Drugs* methodology is described in more detail in the Methods section at www.ConsumerReportsHealth.org/BestBuyDrugs.

About Us

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Consumer Reports Health Best Buy Drugs[™] is a public education project administered by Consumers Union and can be found online at www.ConsumerReportsHealth.org/BestBuyDrugs. It is partially grant-funded. These materials are made possible by a grant from the state Attorney General Consumer and Prescriber Education Grant Program, which is funded by the 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.ConsumerReportsHealth.org/BestBuyDrugs.

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