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ADHD Medications and How They Work

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6 Comments (http://www.ncl.org/types-learning-disabilities/adhd-related-issues/adhd/adhd-medications-how-they-works#disqus_thread)

At a Glance

- The two main categories of ADHD medications are stimulants and non-stimulants.
- Typically, doctors suggest trying stimulants first because they work well in most children.
- ADHD medications work by boosting low levels of brain chemicals that affect activity, attention and impulsivity.



If your child has been diagnosed with attention-deficit hyperactivity disorder (ADHD) (</types-learning-disabilities/adhd-related-issues/adhd/understanding-adhd>) you may be wondering about medications that treat ADHD in children. The two main categories of ADHD drugs are stimulants and non-stimulants. Those medications, as well as some lesser-used drugs, are described here. Find out how each type of medication works and what side effects they can cause.

This information can help you prepare questions to ask your child's doctor. You and the doctor can then decide which ADHD medication, if any, might be right for your child.

Stimulant Medications

Stimulants are the most-prescribed medications to treat ADHD in children. They've been used to treat ADHD since the 1960s. They are some of the most-researched of all drugs used with kids. Studies show that they're safe when taken at the prescribed dose and work well in about 85 percent of cases.

You might be wondering why a stimulant—something that stimulates the brain—would be prescribed for a child who has the hyperactive and impulsive traits of ADHD. The answer lies in understanding how stimulants work.

Understood

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Learn more (<http://www.ncl.org/ld-insights/blogs/free-new-online-resources-for-parents>) about this new resource.

Stimulant medications increase the level of dopamine, which is a neurotransmitter. This is a type of brain chemical linked to attention and pleasure. People with ADHD often have low levels of dopamine. Taking stimulant medication brings their brain chemistry into balance. This helps them become calm and focused. The effects occur quickly, usually within 30 minutes after taking a dose.

The types of stimulants most commonly used to treat ADHD are:

- **Methylphenidate:** Examples are Methylin, Concerta and Ritalin
- **Amphetamines:** An example is Adderall, a mixture of amphetamine salts

Other stimulants used to treat some cases of ADHD are:

- **Dexmethylphenidate:** Examples include Focalin and Focalin XR
- **Dextroamphetamine:** Examples include Dexedrine and Dextrostat

Stimulants can be short-acting (meaning the pills must be taken two or three times a day) or long acting (the pills are usually taken once a day). Some kids process medication quickly and may need two long-acting doses to get through the day.

For kids who have trouble swallowing pills, some of the medications come in capsules that can be opened and sprinkled onto food. Some come in liquid form. Medicated patches are also available for some types of stimulants.

Some parents don't want their kids to take stimulants because there is concern that they can lead to drug abuse (/parents-child-disabilities/teens/truth-about-learning-attention-issues-substance-abuse). Abuse might mean a child takes too high a dose in order to "get high" or sharpen his focus while cramming for a test. However, this link hasn't been proven. The National Institute on Drug Abuse (NIDA) states that children who take ADHD medication exactly as prescribed are *less* likely to have problems with substance abuse than are children with ADHD who don't receive treatment.

Non-Stimulant Medications

Non-stimulant medications can help in some cases of ADHD. They're used with kids who don't respond to stimulants or experience side effects from them.

- **Atomoxetine (Strattera)** is a non-stimulant medication approved by the U.S. Food and Drug Administration (FDA) to treat ADHD in children. Unlike stimulants, atomoxetine works by increasing brain activity of norepinephrine. This is a neurotransmitter that, like dopamine, is linked to attention. Unlike stimulants, however, atomoxetine may take several weeks to show results.
- **Antidepressants** are another class of medication sometimes used to treat ADHD. (However, they're not approved by the FDA for this purpose.) Like atomoxetine, some antidepressants increase the levels of norepinephrine. Wellbutrin, for example, is prescribed for ADHD and increases the level of norepinephrine and dopamine.
- **Antihypertensive medications** are also used to manage ADHD. These medications are usually prescribed to treat high blood pressure but have been found to decrease ADHD symptoms as well. Examples of antihypertensive drugs are Intuniv, Catapres, and Tenex. Two of the long-acting versions of these medications (Intuniv and Kapvay) are FDA approved to treat ADHD. They're often combined with stimulants to manage ADHD symptoms.

Side Effects of ADHD Medication

All classes of ADHD medication have possible side effects. Stimulants can cause a loss of appetite, sleep disturbances, weight loss, and irritability. (While there was a fear that stimulants might stunt children's growth, newer research is showing that isn't the case.) Atomoxetine (Strattera) can cause nausea, vomiting and daytime sleepiness.

With all of these drugs, side effects usually go away within the first few months of treatment or sooner. Very rare or serious side effects of ADHD medications include heart problems in children with heart defects, and hallucinations. The FDA recommends that parents work with doctors to ensure their child has a thorough medical exam and health history review before taking ADHD medications.

Most side effects of ADHD medications are not serious. But any side effects should be reported to your child's doctor. It's common for doctors to try different ADHD medications and dosages to find which works best for a child.

Combination Therapy: Medication and Non-Drug Activities

Medications can help manage ADHD symptoms but they're not a "cure." If a child stops taking the drugs, symptoms will return. Experts usually recommend a combination of medication and behavior therapy. Behavior therapy helps kids develop social and problem-solving skills. Parents and teachers shape children's behavior with rewards and consequences for certain behaviors.

If you decide to have your child take ADHD medication, be prepared for some trial and error. It can take time to find the optimal mix of medication and dosage. Be sure to watch your child and listen to what he says about how he feels on the medication. Stay in close touch with your child's doctor and other clinicians to find the best solution for your child.

Key Takeaways

- Although parents may be concerned that ADHD medications may lead to substance abuse, studies have not shown this to be true.
- All classes of ADHD medication can come with possible side effects, but most subside within the first few months.
- ADHD medications can help manage symptoms, but they don't cure ADHD.

Erica Patino, MA, is an online writer and editor who specializes in health and wellness. Her articles have appeared on websites such as Everyday Health, Health Monitor and Medscape.

