

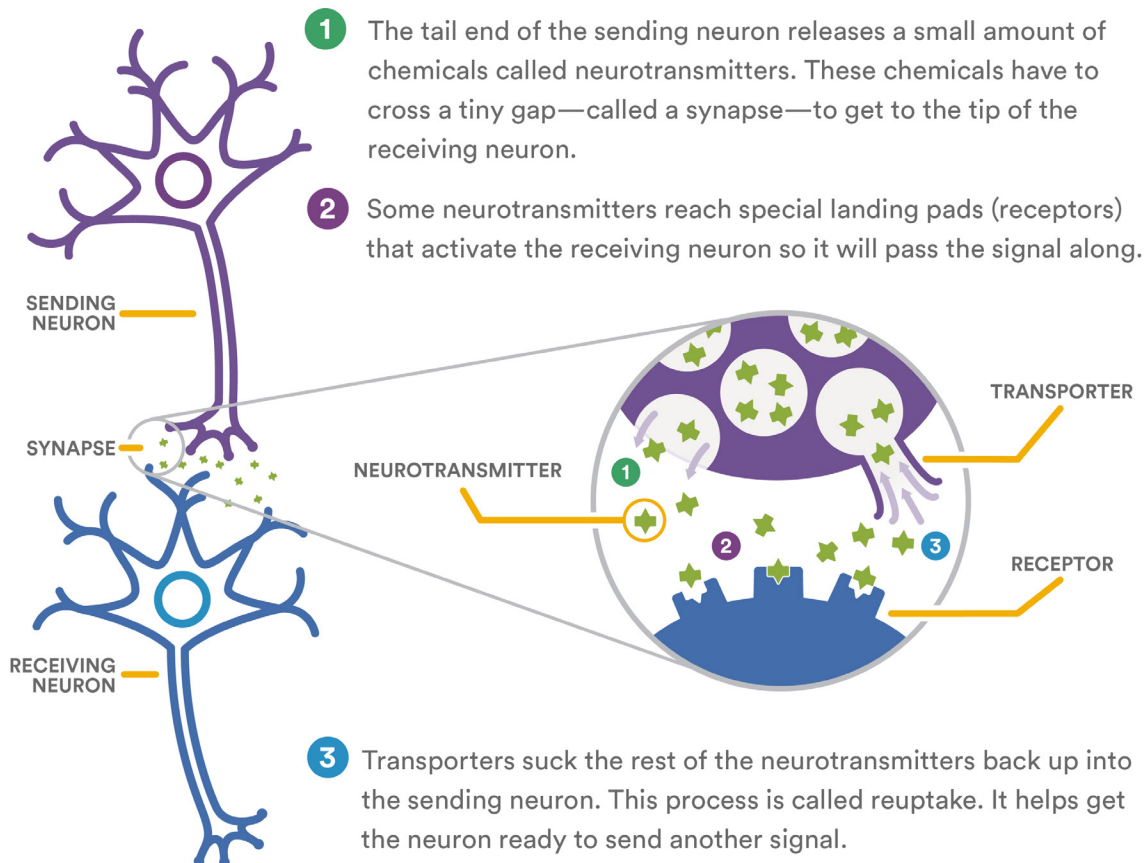
How ADHD Medication Works

Medication can reduce ADHD symptoms by improving the way parts of the brain communicate with each other. This process is called neurotransmission. Here's how it works, how ADHD can affect it and how ADHD medication can change the brain's chemistry.



How Neurotransmission Works

To get anything done, whether the task is smelling a flower or spelling a word, neurons (brain cells) pass the information along in the form of electrical signals. Here's how a signal moves from one neuron to the next:



All of this happens very quickly—so quickly that 12 messages can be sent across the same synapse in one one-thousandth of a second.

How ADHD Affects Neurotransmission

ADHD involves differences in brain chemistry. Here's how these differences can make it harder for signals to get where they need to go quickly and efficiently:



- 1 Neurons may not release enough neurotransmitters.
- 2 Receptors may have trouble “catching” the neurotransmitters.
- 3 The neurotransmitters may get sucked back up instead of activating the next neuron.

Neurotransmitters play an important role in things like attention and motivation. Trouble passing information from neuron to neuron also helps explain other ADHD symptoms like being restless and impulsive.

How ADHD Medication Works

ADHD medication can help with neurotransmission in several ways:



- 1 It enhances the release of neurotransmitters.
- 2 It stimulates the receptors so they're able to pick up more of the signal.
- 3 It slows down the reuptake so neurotransmitters have a little more time to activate the next neuron.

ADHD medication can help increase alertness and attention. It can make kids less hyperactive. It can also boost certain receptors that play an important role in processing information, which may help improve classroom learning. ADHD medication works in about 8 out of 10 people. But it's not a “cure” for ADHD. It can only reduce symptoms while it's active in the body.

Two Kinds of ADHD Medication

Stimulants	Non-Stimulants
<p>Main target: Dopamine, a neurotransmitter that plays a key role in motivation. It also helps control movement and emotional responses.</p> <p>Examples: Methylphenidates (like Concerta, Focalin, Metadate and Ritalin) and amphetamines (like Adderall and Vyvanse).</p> <p>Usage: Stimulants are the most commonly prescribed type of ADHD medication.</p>	<p>Main target: Norepinephrine, a neurotransmitter that plays a key role in executive functions like impulse control and getting started on tasks.</p> <p>Examples: Atomoxetine (Strattera) and guanfacine (whose mode of action is not yet fully understood but appears to have an indirect effect on norepinephrine).</p> <p>Usage: Non-stimulants tend to be used if kids don't respond well to stimulants. They can be used with or instead of stimulants.</p>

Possible Side Effects



Decreased Appetite

About one-third of kids report feeling less hungry when they're taking ADHD medication.

A small number (less than 10%) report having stomachaches, nausea or headaches.



Trouble Sleeping

Medication that is still active late in the day can make it harder for kids to wind down at night. About 10–15% of kids who take ADHD medication in the morning report having difficulty falling asleep.



Mild Anxiety or Restlessness

Some kids (less than 10%) who take ADHD medication report feeling wired or irritable. This is often called a “rebound” effect and can occur as the medication wears off.

There can be other side effects too. Rare ones include increased pulse rate, elevated blood pressure and motor tics. Most side effects disappear after a few days and can be reduced or eliminated by adjusting the timing or the dosage of the medication.

Concerns about side effects lead some families to avoid ADHD medication. For families who choose to use it, finding the right ADHD medication—and the right dosage—is key. Taking detailed notes and sharing them with your child's doctor can help you work together to fine-tune the dosage.

Other Ways to Help



Behavior therapy is an effective form of ADHD treatment. It uses structure to help kids get organized and positive reinforcement to change behavior. It can be especially helpful when paired with medication.



Daily planners and other simple tools can help with organization and time management. Strategies like color-coding school supplies and using digital calendar reminders can also help.



Classroom accommodations can help kids with things like staying seated and finishing tasks. Examples include taking movement breaks and getting extended time on tests.

There are many ways to help kids with ADHD in the classroom and outside of it too. You can learn more about ADHD and get practical tips at [Understood.org](https://www.understood.org). This comprehensive free resource was created by 15 nonprofit organizations to help parents of the 1 in 5 kids with learning and attention issues get the information and support they need to help their children thrive in school and in life. Understood is not affiliated with any pharmaceutical company.