



Autism Spectrum Disorder
Parents'
Medication Guide

AMERICAN ACADEMY OF
CHILD & ADOLESCENT
PSYCHIATRY

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The American Academy of Child and Adolescent Psychiatry promotes the healthy development of children, adolescents, and families through advocacy, education, and research. Child and adolescent psychiatrists are the leading physician authority on children's mental health.

The purpose of this guide is to provide a broad overview of available treatments for autism spectrum disorder. It is not meant to provide medical advice or to encourage any particular form of treatment. Instead, we hope this guide will provide sufficient information in lay terms to allow patients and families to have meaningful discussions with their health care providers about autism spectrum disorder treatments.

American Academy of Child and Adolescent Psychiatry (AACAP) Parents' Medication Guides may become outdated after five years, as they may not reflect more recent research. This document may be used as a general guide for youth and their families. Please visit the AACAP website for the most current guides.



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What is autism spectrum disorder?

Autism spectrum disorder (ASD) is a condition that affects how a person communicates, interacts with others, and behaves. Children and adults with ASD often have **core challenges** in communication and behavior. They can have trouble socializing, and may have a hard time understanding others' cues, body language, expressions, or

tone of voice. This can make it harder to make friends or build relationships. They may have strong opinions and strong interests in specific topics. Behaviorally, they may repeat certain movements or activities, and line up toys or other objects in a certain way. Emotionally, they may become overwhelmed by changes in structure or routine.



What kinds of treatments are used for ASD?

Non-medication treatments

Children with ASD can become very upset quickly (irritability), have intense worries (anxiety), low mood (depression) or be very active (hyperactivity) and unable to focus (inattention). There are many non-medication treatments that help target these challenges in ASD. They include applied behavior analysis (ABA), speech therapy, occupational therapy (OT), social skills training, parent management training, and family support. Speech and social skills therapies can teach children about the role of listening during conversations, how to read body language and sarcasm, and the importance of taking turns. Occupational therapy can assist with sensory issues and support for life skills. Family therapy can help support caregivers and teach them how their child can be supported as they learn new skills.

SOCIAL COMMUNICATION

For children who struggle with speech or cannot speak, therapies can teach tools

like the Picture Exchange Communication System (PECS) or other ways to communicate to help them better express their needs.

RESTRICTED, REPETITIVE BEHAVIORS

The goal of therapy for repetitive behaviors is not always to stop the behavior. Often the goal is to swap a safe or more adaptive behavior for a harmful or less functional one. Types of behavior therapy include ABA, OT, and functional communication training (FCT). ABA looks at why a behavior happens and teaches ways to better understand what a child needs. OT helps a child by breaking large tasks into small steps. FCT teaches a child to ask for what they need with words, signs, or pictures. Family support can include tools like picture schedules, timers, and social stories to make the day easier to predict. This can lower worry around changes and known triggers.

Common non-medication treatments

- ABA
- Speech therapy
- Occupational therapy
- Social skills training
- Parent management training
- Family support



Role of medications

Commonly prescribed medication groups:

- Antidepressants
- Mood stabilizers
- Anxiolytics (improves anxiety)
- Antipsychotics
- Stimulants
- Alpha agonists
- Sleep aids

The decision to treat a child with medication is made by the caregiver, the provider, and the child.

What do we know about the use of medications in youth with ASD?

Medicine is another tool that can help some autistic children. While there are no medicines for the core challenges of ASD, medication may help a child whose irritability, anxiety, mood or hyperactivity is getting in the way of learning, growing and socializing. Children with ASD are at higher risk for disorders like attention deficit/hyperactivity disorder (ADHD), sleep disorders, depression, anxiety disorders and obsessive-compulsive disorder (OCD). For some of the conditions that can be treated with medicines, the studies come from children who are not autistic.

Mental health medicines are sorted into groups based on how they work or what they treat. Common groups include antidepressants, stimulants, mood stabilizers, and anti-anxiety (anxiolytic) medications. Other groups are antipsychotics, alpha agonists, and sleep aids. These medicines are often used to treat conditions like ADHD, anxiety, depression, bipolar disorder, severe irritability, or sleep disorders. A medication can sometimes be used for more than one reason. For example, a medication that prevents seizures may also improve a child's mood. Treating these symptoms with medication can help children with ASD to better participate in therapy treatments, school, and their community.

The decision to treat a child with medication is made by the caregiver, the provider, and the child (depending on age and ability to understand). Providers that can help with this decision include your pediatrician or a provider that specializes in treating ASD. They may use a rating scale to help understand how much a symptom or disorder is affecting the child's mood and behavior and to track improvement. Before a child starts a medicine, the family, the

child (if able and old enough), and the provider should discuss why the medication is being recommended, what it will be treating, what symptoms might improve on the medicine, common and serious side effects, other available options, and how long the treatment is expected to last.

How might my child react to medication?

Most medications are well tolerated. However, children with ASD may be more sensitive to some medications. For this reason, medications are often started at lower doses and increased slowly. It is often helpful to let your provider know what you are seeing and how your child is feeling after starting, stopping, or changing the dose of a medication. For some families, it is helpful to keep a notebook to track how your child is doing on the medication (please see the Medication Tracking Form at the end of this guide).

How long will my child be on medication?

The time the medicine takes to work is different with each medicine and each symptom. Some medications tend to work quickly, whereas others take weeks or even months to reach their full effect. You may hear your provider use the phrase "medication trial" to describe evaluating whether a new medication will be effective. A medication trial is a time-limited period to see if the medication is working and if there are any side effects. Once a child is at the correct dose of medication and is not having problems with side effects, it is often recommended to observe their response over at least 4 to 8 weeks to determine the full effectiveness of the medication. If a child does not improve after that time period, the provider may talk with you and your child

to recommend changes in the dose, switching to another medication, or about other options for treatment.

For many medications, the provider will recommend your child continue a medication as long as it is effective. Sometimes, medications are used for a period of time and then lowered and stopped. Stopping or slowly lowering the dose of a medication should always be done after a discussion with your provider to make sure lowering or stopping is safe and recommended.

Are there medications my doctor might suggest that don't appear in this guide?

The medications that appear in this guide are the ones that are most commonly

studied and prescribed for autistic children. However, the guide does not cover all medications. You can always ask your provider for more information to learn more about other potential options.

People often ask about the role of natural remedies (such as supplements or herbal medicines) or other treatments for their child. It is important to know that the majority of these treatments are not regulated by the Food and Drug Administration (FDA) or studied to the same degree that prescription medications are. In some instances, natural remedies can have dangerous interactions with prescription medications, or other serious side effects. Before starting any supplements or alternative treatments, it is important to discuss with your child's provider.

Stopping a medication should always be done after a discussion with your provider





Common target symptoms

Irritability

Irritability (becoming easily upset, angry, or disruptive) is a common target symptom in children with ASD. Not all autistic children are irritable. Irritability may look like distress, frustration, frequent emotional outbursts, or severe tantrums. It may also look like aggression toward others. Some children hurt themselves on purpose, such as head banging or biting. These behaviors are sometimes grouped under the word irritability even though the causes can be different. Many things can trigger or worsen irritability in ASD. Communication difficulties, sensitivity to light and sound, changes in routine, problems with sleep, or other mental health conditions can also worsen irritability. Because irritability can disrupt safety, learning, and family life, caregivers, the patient, and providers should work together to find causes and triggers, before major changes in treatment are made. Irritability can be severe and put the child and parent at risk, for example if the child harms themselves or others. In these cases, medicine may be one part of a larger treatment plan. That plan should also include behavioral support and therapies that help reduce aggression.

TREATMENT OPTIONS

The FDA has approved two medicines for irritability in autistic youth. They are risperidone and aripiprazole. Both have been shown to lower aggression, severe tantrums, and self-harm. However, they can have important side effects including weight gain and feeling very sleepy. They can affect movement, raise blood sugar, and raise cholesterol. Because of these risks, a medical provider must follow your child's response closely and will periodically order blood work.

Other medicines may also help irritability. One group is the alpha-2 adrenergic agonists; these include the medications guanfacine and clonidine. These medicines can lower irritability, hyperactivity, and overwhelming emotions that lead to outbursts or aggression. Valproic acid is a medicine in a group that prevents seizures. It is sometimes used when irritability is severe. It may also be used when mood swings or seizures are present.

ADHD

A more detailed description of ADHD symptoms and treatment options for autistic youth can be found in the AACAP's [ADHD in Youth with ASD: Parents' Medication Guide](#). ADHD is very common in children with ASD. There are three types of ADHD: inattentive, hyperactive/impulsive, and combined. ADHD can cause problems with focus, attention, and organization (inattention). It can also cause problems with hyperactivity, acting before thinking, interrupting, and excessive talking (hyperactive). These ADHD symptoms often respond to medication treatment.

TREATMENT OPTIONS

There are two main types of ADHD medications: stimulant and non-stimulant. Stimulant medications include methylphenidate and amphetamine salts. The type of stimulant medication that has been most studied in autistic youth is methylphenidate (Ritalin). There are also many other forms of methylphenidate that are different in how long they stay in the system (duration). For example, the duration of medication effectiveness over the day can range from a few hours (e.g., Ritalin immediate release) to 8-10 hours (e.g., Concerta, Focalin extended release). Amphetamines (e.g., Adderall, Vyvanse) have not been studied

ADHD is very common in children with ASD.



in clinical trials of autistic youth with ADHD, but it may be useful to try one of the amphetamines if methylphenidate is not working. The two non-stimulant medications which have been most studied in autistic youth are guanfacine and atomoxetine, both of which have been shown to be effective in treating symptoms of ADHD in children with ASD (see [ADHD in Youth with ASD: Parents' Medication Guide](#) for more details).

Anxiety

Anxiety disorders (excessive worry) are common in children with ASD. Untreated anxiety can affect a child's development and quality of life. When children have ASD and anxiety, their symptoms can look different than children without ASD. Common symptoms of anxiety in children with ASD include shutting down, becoming more sensitive to light and sound, increasing repetitive behaviors, and having very strong reactions to unplanned or unexpected events. Another common symptom is an increase in overwhelming emotions or outbursts. For more information on anxiety disorder treatment, see [Anxiety: Parents' Medication Guide](#).

TREATMENT OPTIONS

There are very few studies on anxiety medication in children with ASD. The FDA has approved two medications for the treatment of generalized anxiety disorder in youth: duloxetine (a serotonin norepinephrine reuptake inhibitor [SNRI]) and escitalopram (a selective serotonin reuptake inhibitor [SSRI]). Unfortunately, these studies did not look at anxiety in children with ASD. Studies that tested SSRIs for reducing repetitive behaviors in autism showed that approximately one-third had side effects that included agitation, increased energy, and restlessness. Alternative types of medications that may be used to treat anxiety symptoms in youth with ASD include buspirone and mirtazapine.

Depression

Depression can be common in children with ASD, and there are many ways children show signs of depression. Some

signs are more typical symptoms of depression, such as feelings of sadness, wanting to be alone, feeling guilty, or being less interested in what they used to enjoy. For children with ASD who are less verbal, depression may present with more irritability, outbursts, or major changes in eating or sleeping patterns. Some will also show signs of suicidal thoughts, meaning increased thoughts of death or ideas about wanting to hurt themselves. Suicidal symptoms are an emergency and need to be evaluated by the child's provider or in an emergency department.

TREATMENT OPTIONS

There are very few studies that looked at the safety or effectiveness of antidepressant medications for children with ASD. However, there are still medication options that can be tried. The FDA has approved fluoxetine and escitalopram (both of which are SSRIs) for depression in the general youth population. Similar to when these medications are used to treat anxiety, youth with ASD can be more prone to specific side effects, such as agitation, excessive energy, and restlessness. To reduce the chances of side effects, these medications may be started at lower doses and increased more slowly than for non-autistic youth. There are other non-medication treatments your provider might discuss that can address depression such as transcranial magnetic stimulation (TMS), a treatment that has shown to be safe in non-autistic teens with depression (see [Brain Stimulation Treatments for Mental Health: Parents' Guide](#) for more details).

Sleep

Sleep problems are very common in youth with autism and can include trouble falling asleep, trouble staying asleep, or having a disrupted sleep schedule. The safest and most effective treatments for sleep difficulties in children and adolescents are practicing healthy and consistent sleep habits. These include keeping a consistent sleep schedule (even on the weekends), avoiding screens (or other stimulating activities) at least 2 hours before bedtime, being active during the day, and avoiding daytime naps. Of note, sometimes problems with sleep can be caused by other medical or mental health conditions.

If this is the case, treating the medical or mental health issue can greatly improve sleep. See [Sleep Disorders: Parents' Medication Guide](#) for details.

TREATMENT OPTIONS

While the most effective treatments for sleep problems are non-medication options, there are some medications that can be used. Studies have shown that melatonin (which is a natural hormone already produced in the body) is both safe and effective for improving sleep problems, particularly falling asleep, in youth with ASD. Of note, there are certain medications used for other symptoms that can cause sleepiness as a side effect, such as risperidone or aripiprazole. While it is strongly recommended against using these medications only to improve sleep, for youth who are already taking these medications for other symptoms, it may be helpful to take them at bedtime.

Catatonia

Catatonia is a condition that affects movement and can be seen in youth with ASD. It is estimated that between 6% and 20% of autistic people may suffer from catatonia at some point in their life. However, many cases of catatonia in autistic children are not recognized because the symptoms can be atypical. Catatonia can present in very different ways. The child may be unresponsive, or they could show extreme agitation. Symptoms of catatonia also include: changes in speech, inability to follow instructions, agitation not caused by outside factors, repeating what others say, making new or unusual facial expressions, new or more severe repetitive movements (including movements that cause self-injury), general unresponsiveness and limited movement (including not eating or drinking), holding positions when placed in a pose, mimicking the movements of other people, and unusual movements (e.g., hopping or walking on tip-toes). The symptoms may come and go.

TREATMENT OPTIONS

The first treatment for catatonia is a class of medication called benzodiazepines.

Lorazepam is a type of benzodiazepine that is used most often. High doses may be required to be effective. Electroconvulsive therapy (a medically-induced seizure while under anesthesia) can be extremely effective for the treatment of catatonia,

and in some cases may be considered as a second choice of treatment if benzodiazepines have failed. AACAP's [Brain Stimulation Treatments for Mental Health: Parents' Guide](#) has more information about electroconvulsive therapy.



Table 1. Medicines that may help with common problems in youth with ASD

Medicines do not treat the core features of autism. They may help with related problems that interfere with safety, learning, sleep, relationships, or daily life. The benefits below are possible—not guaranteed. A child may have none, one, or several of the possible side effects listed.

What it may help with	Medicine examples	Possible benefit What improvement might look like	Possible side effects and what may need checking
Anxiety or depression	Fluoxetine (Prozac) Escitalopram (Lexapro) Duloxetine (Cymbalta)	Less worry, sadness, withdrawal, or distress; better participation in school, therapy, family life, or enjoyable activities.	Possible side effects: upset stomach, headache, sleep trouble, restlessness, or unusually increased energy. Watch for: worsening depression or new suicidal thoughts.
Anxiety	Buspirone (Buspar)	Less worry, tension, or anxiety-related distress.	Possible side effects: dizziness, headache, or upset stomach.
ADHD symptoms (nonstimulants)	Guanfacine (Intuniv, Tenex) Clonidine (Catapres, Kapvay) Atomoxetine (Strattera)	Better attention and impulse control; less hyperactivity or reactive behavior.	Guanfacine or clonidine: tiredness, constipation, irritability, or may lower blood pressure and/or heart rate. Atomoxetine: upset stomach, lower appetite, or tiredness; watch for new suicidal thoughts.
ADHD symptoms (stimulants)	Methylphenidate (Ritalin, Concerta) Amphetamine medicines (Adderall, Vyvanse)	Better attention; less distractibility, hyperactivity, and impulsive behavior.	Possible side effects: lower appetite, weight loss, or trouble sleeping. Monitoring: blood pressure, heart rate, height, and weight.
Severe irritability, aggression, or self-injury	Risperidone (Risperdal) Aripiprazole (Abilify) <i>FDA-approved for irritability associated with autism in youth</i>	Fewer or less severe tantrums, aggressive behaviors, or self-injurious behaviors.	Possible side effects: increased appetite or weight, tiredness, upset stomach, or restlessness. Monitoring: weight, blood sugar, cholesterol, muscle stiffness, and unusual movements.
Other options for severe irritability or mood instability	Valproic acid (Depakote) Lamotrigine (Lamictal)	Fewer severe outbursts or episodes of irritability. Valproic acid may also help when mood instability or seizures are present.	Valproic acid: weight gain or tiredness; blood tests may be needed. Lamotrigine: headache, dizziness, or tiredness; any new rash should be reported promptly.
Trouble falling asleep	Melatonin Clonidine (Catapres) Mirtazapine (Remeron) Trazodone	Falling asleep more easily and improved sleep. Mirtazapine or trazodone may also help depression.	Possible side effects: vivid dreams or daytime tiredness. Clonidine: may lower blood pressure and/or heart rate. Mirtazapine: may increase appetite or weight.

Rare but important warning signs: Contact the prescriber promptly or seek urgent help, depending on severity, for new suicidal thoughts; unusual bleeding or bruising; a severe or spreading rash; hallucinations; unusually high energy with very little sleep; a seizure; fainting or a major change in heart rate or blood pressure; high fever with confusion, shaking, or severe muscle stiffness; or severe vomiting, confusion, or extreme tiredness.

Medication discontinuation considerations

Medications taken for emotional and behavioral symptoms in autistic youth should be reviewed regularly with the healthcare provider and your child to make sure they are still working, needed, and are not causing side effects. The length of medication treatment will vary based on how well the medication is working, the non-medication supports in place, and the reason the medication is prescribed. Typically, medications

should continue until the youth has been stable with their mental health and functioning well for enough time that tapering off is thought to be safe and possible. A medication taper should involve the healthcare provider, youth, and family closely monitoring mental health symptoms and functioning. Stopping a medication suddenly can cause serious side effects and should only be done after a discussion to form a plan with your provider.



Summary

Although no medications have been shown to improve the core symptoms of autism, medication can be helpful in treating other mental health symptoms in children with ASD. Medications are typically combined with non-medication approaches (i.e., therapies) for the best outcomes. The

decision to trial a medication should be made together with the child, their caregivers, and their provider. Since children with ASD may experience side effects more often with some medications, it can be helpful to start with low doses and work closely with the provider as the medication dose is increased.

Medications are typically combined with therapies for the best outcomes.

Pertinent resources / links	
• AACAP Parents' Medication Guides • US Centers for Disease Control and Prevention (CDC) • Autism Speaks and Autism Speaks Tool Kit	• Association for Autism and Neurodiversity (AANE) • Autistic Women and Nonbinary Network (AWN)





Medication Tracking Form

Use this form to track your child's medication history. Bring this form to appointments with your clinician and update changes in medications, doses, side effects and results.

Date	Medication	Dose	Side Effects	Reason for keeping/stopping

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