

Table 13-1 FDA-Approved Medications for Attention-Deficit/Hyperactivity Disorder

GENERIC MEDICATION	BRAND NAME	INITIAL-MAXIMUM DOSE	DURATION (h)
STIMULANTS			
Mixed amphetamine salts	Adderall*	2.5 mg–40 mg	6
	Adderall XR*	5 mg–40 mg	10
Lisdexamfetamine	Vyvanse	20 mg–70 mg	10–12
Methylphenidate	Concerta	18–54 mg (<13 years)	12
	Daytrana	18–72 mg (≥13 years)	12
	Metadate CD	10 mg [†] –30 mg [†]	Apply for 9 h
	Methyl ER	20 mg–60 mg	6–8
	Methylin	10 mg–60 mg	8
	Ritalin*	5 mg–60 mg	3–5
	Ritalin LA	5 mg–60 mg	3–5
	Ritalin SR*	20 mg–60 mg 20 mg–60 mg	6–8 2–6
dexamethylphenidate	Focalin*	2.5 mg–20 mg	3–5
	Focalin XR	5 mg–30 mg	8–12
NOREPINEPHRINE-REUPTAKE INHIBITOR			
Atomoxetine	Strattera	0.5 mg/kg/d then increase to 1.2 mg/kg with max 1.4 mg/kg 40 mg/d for adults and children weighing >154 lb titrate up to 100 mg/d	At least 10–12
ALPHA AGONISTS			
Clonidine	Kapvay	0.1 mg/d–0.4 mg/d	At least 10–12
Guanfacine	Intuniv	1 mg/d–4 mg/d	At least 10–12

Adapted from AAP: Implementing the key action statements: an algorithm and explanation for process of care for the evaluation, diagnosis, treatment, and monitoring of ADHD in children and adolescents. Pediatrics S11–S121, 2011.

*Available in generic form.

[†]Dosages for the dermal patch are not equivalent to those of the oral preparations.

Anticipatory guidance includes providing proactive strategies to mediate adverse effects on learning, school functioning, social relationships, family life, and self-esteem. Children with ADHD respond to **behavioral management**, including structure, routine, consistency in adult responses to their behaviors, and appropriate behavioral goals. Children also benefit when parents and clinicians work with teachers to address the child's needs. Daily behavior report cards and accommodations may be helpful. Social skills training or additional mental health treatments may assist some children with behavior change or preservation of self-esteem, particularly when they have coexisting developmental or mental health conditions also requiring treatment.

Stimulant medications (methylphenidate or amphetamine compounds) are the first-line agents for treatment of ADHD due to extensive evidence of effectiveness and safety. Stimulant medications are available in short-acting, intermediate-acting, and long-acting forms. Preparations include liquid, tablets, capsules, and a transdermal patch. These options allow the clinician to tailor the choice of medication to the child's needs. Nonstimulant medications, including atomoxetine (norepinephrine-reuptake inhibitor), guanfacine, or clonidine (alpha agonists), may be helpful in situations such as nonresponse to stimulant medication, family preference, concerns about medication abuse or diversion, and coexisting tic or sleep problems. ADHD medication options are listed in [Table 13-1](#). Common side effects include appetite suppression and sleep disturbance with stimulant medications, gastrointestinal tract symptoms with atomoxetine, and sedation with alpha agonists. These side effects usually can be managed by careful adjustment of medication dosage and timing. Screening (by history and exam) for cardiac disease and monitoring of cardiac status is prudent given concerns raised by a retrospective

study suggesting extremely rare but slightly increased odds of sudden cardiac death in those taking stimulant medication.

COMPLICATIONS

ADHD may be associated with academic underachievement, difficulties in interpersonal relationships, and poor self-esteem. These can have long-reaching effects (e.g., lower levels of educational, employment attainment). Adolescents with ADHD, particularly those who are untreated, are at increased risk for high-risk behaviors such as drug use, early sexual activity, and automobile accidents. Despite parental concerns of illicit drug use and addiction from stimulant medication, there is actually decreased risk of drug abuse in children and adolescents with ADHD who are appropriately medically managed.

PREVENTION

Child-rearing practices including promoting calm environments and opportunities for age-appropriate activities that require increasing levels of focus may be helpful. Limiting time spent watching television and playing rapid-response video games also may be prudent because these activities reinforce short attention span. Early implementation of behavior management techniques may assist in curtailing problematic behaviors before they result in significant impairment. Secondary disabilities can be prevented by educating medical professionals and teachers about the signs and symptoms of ADHD and the most appropriate behavioral and pharmaceutical interventions. Collaboration between health care providers, educational professionals, and mental health clinicians will enhance the early identification of and provision of services to children at risk for ADHD.