Managing Medication for Children and Teenagers with AD/HD

Children or teens with attention-deficit/hyperactivity disorder (AD/HD) often have more problems than other people with paying attention, being hyperactive, or being impulsive (doing things rashly or suddenly, without thinking first). These problems may last throughout their lives.

If AD/HD is not diagnosed and treated early, it may lead to failing in school or dropping out. The symptoms might also lead to not doing well in a job, depression, and serious behavior problems. AD/HD can also cause children and adolescents problems with relationships, not living up to their ability, substance abuse, or serious antisocial or even criminal behavior.

About 3 percent to 7 percent of children – boys and girls -- have AD/HD. Research shows AD/HD tends to run in families.

AD/HD is not caused by bad parenting, or by other factors in the child’s home or family life.

DIAGNOSIS OF AD/HD

There is no single test to diagnose AD/HD. Anxiety, depression, and some learning disabilities are conditions that may seem like AD/HD. Health
professionals (for example, pediatricians, psychologists or psychiatrists) must find out if the child has any of these conditions instead of—or along with—AD/HD.

To diagnose AD/HD, a health professional needs to know how the child or teenager is doing both at home and in school, socially as well as emotionally. The healthcare provider will ask questions of parents, teachers, and, of course, the child.

A physical exam by a medical professional should include hearing and vision checkups. This exam is also done to rule out other medical problems with symptoms that seem like AD/HD, but are not.

**TREATMENT FOR AD/HD**

Properly treating children and teens with AD/HD includes medical, educational and behavioral treatments. The term for this combination of treatments is multimodal treatment.

Part of the treatment is teaching the parents and the child about AD/HD. Parents will learn how to manage the child's behavior, about medications and other therapies, and how to get the school programs the child needs.

Treatment should be based on the unique needs of each child and family. Multimodal treatment is usually thought to be the best treatment plan.

**THE ROLE OF MEDICATION**

For most children and teens, the medication prescribed by a doctor is an important part of AD/HD treatment. Medications are not used to control behavior. Instead, they are used to make the symptoms of AD/HD better.

**STARTING MEDICATION**

The child, the family, and the medical professional should work together to decide on a treatment plan. If medication is used, the doctor prescribes it. If the first medication is not helpful or has unacceptable side effects, the doctor will probably change the dose or try another medication.

**STIMULANT MEDICATIONS**

Stimulant medications are medications that stimulate the frontal parts of the brain that are not filtering out distractions as well as they should. The three most common types of stimulants used to treat AD/HD are methylphenidate (brand names: Concerta and Ritalin) amphetamine (brand name: Adderall) and dextroamphetamine (brand name: Dexadrine).

Between 70 percent and 80 percent of children with AD/HD do well with these medications. Their symptoms lessen. But the right medication and the right dose must be found for each individual.

Methamphetamine hydrochloride (brand name Desoxyn) is a central nervous stimulant and is also approved by the FDA for the treatment of ADHD. Because it can be abused or lead to dependence, it is classified as a controlled substance. This medication is not commonly prescribed, except in rare circumstances.

“Medications are not used to control behavior. Instead they are used to make the symptoms of AD/HD better.”

**NONSTIMULANT MEDICATIONS**

Some people do just as well or better by taking medications that are not stimulants. Nonstimulants are often used when people do not do well on stimulants. A new medication (called Strattera) is specifically for AD/HD. It is not a stimulant, but it also helps with inattention and with hyperactive and impulsive symptoms of AD/HD.

Antidepressant medications are sometimes used for AD/HD, but not as often, to help with hyperactivity, anxiety or serious sleeping problems. Common antidepressants are Prozac, Zoloft, and Celexa.

**POSSIBLE SIDE EFFECTS OF MEDICATIONS FOR AD/HD**

Most of the side effects of stimulant medication and Strattera when first using AD/HD medications are mild and may not last long. The most common side
effects are loss of appetite, headache, stomachache, and sleeping problems. The doctor usually can help manage these side effects.

**FREQUENTLY ASKED QUESTIONS**

**Q. How long does it take to find the right individual dose of medication?**

A. The effects of a stimulant medication usually can be seen in 30 to 60 minutes, but finding the right dose and schedule for taking it may take a few weeks. Nonstimulant medications often need several weeks before they fully work.

**Q. As my child grows, will the dosage need to be changed?**

A. Not necessarily. Many teens and adults continue to do well on the same doses of stimulant medication. But others may need a higher dose.

**Q. Will my child need to take medication forever, even into adulthood?**

A. These medications can be stopped at any time. However, AD/HD is an ongoing (or chronic) condition. However, about one-third of people who have AD/HD as children seem to outgrow the symptoms. People will have different long-term experiences and may find they need to take medication into adulthood.

**Q. Should medication be taken only when my child is in school?**

A. Talk to your doctor about this. Medication taken outside of school can help children get along with friends, avoid symptoms when at home, and pay attention while doing homework or at activities like sports.

**Q. Are children who take stimulant medications more likely to have substance abuse problems later in life?**

A. No. Many studies of children with AD/HD have found that using stimulant medications under a doctor’s care does not increase the risk of later substance abuse. In fact, many studies have shown that children and teens with AD/HD not treated with stimulant medications can have a higher risk of abusing illegal drugs.

**MORE INFORMATION**

If you would like detailed information about the many medications used to treat AD/HD, CHADD will send you a fact sheet with details about each, or you can visit the NRC Web site at www.help4adhd.org.

The information provided in this information and resource sheet is supported by Cooperative Agreement Number 5U38DD000335-02 from the Centers for Disease Control and Prevention (CDC). The contents are solely the responsibility of the authors and do not necessarily represent the official views of CDC. It was adapted from What We Know #3, “Managing Medication for Children and Adolescents with AD/HD.”

The full version of this fact sheet, “Managing Medication for Children and Adolescents with AD/HD,” is also available online at www.help4adhd. This fact sheet should be read together with What We Know #7, “Behavioral Treatment for Children and Teenagers with AD/HD.”

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For further information about AD/HD or CHADD, please contact:

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Children and Adults with Attention-Deficit/Hyperactivity Disorder

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1-800-233-4050

www.help4adhd.org

Please also visit the CHADD Web site at www.chadd.org.
# Medications Used in the Treatment of AD/HD

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Brand Names</th>
<th>Duration</th>
<th>Form</th>
<th>Dosage Range</th>
<th>Common Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stimulants</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methylphenidate</td>
<td>Methylphenidate</td>
<td>Immediate release</td>
<td></td>
<td>5 mg</td>
<td>Moderate appetite suppression, mild sleep disturbances, transient weight loss, irritability, emergence of tics.</td>
</tr>
<tr>
<td></td>
<td>Methylphenidate</td>
<td>Immediate release</td>
<td>3-4 hours</td>
<td>tablets</td>
<td>10 mg</td>
</tr>
<tr>
<td></td>
<td>Ritalin</td>
<td>Immediate release</td>
<td></td>
<td>20 mg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Metadate ER</td>
<td>Extended release</td>
<td>6-8 hours</td>
<td>tablets</td>
<td>10 mg</td>
</tr>
<tr>
<td></td>
<td>Methylphenidate ER</td>
<td>Extended release</td>
<td></td>
<td>20 mg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Metadate CD</td>
<td>Extended release</td>
<td>8-10 hours</td>
<td>capsules</td>
<td>10 mg</td>
</tr>
<tr>
<td></td>
<td>Methylphenidate CD</td>
<td>Extended release</td>
<td></td>
<td>20 mg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ritalin LA</td>
<td>Extended release</td>
<td>8-10 hours</td>
<td>capsules</td>
<td>10 mg</td>
</tr>
<tr>
<td></td>
<td>Concerta</td>
<td>Extended release</td>
<td>10-12</td>
<td>capsule</td>
<td>18 mg</td>
</tr>
<tr>
<td></td>
<td>Daytrana</td>
<td>Transdermal Patch</td>
<td>10-12 hours (9 hours applied + up to three hours after removal)</td>
<td>transdermal patch</td>
<td>10-30 mg</td>
</tr>
<tr>
<td></td>
<td>Ritalin SR</td>
<td>Sustained release</td>
<td>4-8 hours</td>
<td>tablet</td>
<td>20 mg</td>
</tr>
<tr>
<td></td>
<td>Focalin</td>
<td>Sustained release</td>
<td>4-6 hours</td>
<td>tablets</td>
<td>2.5 mg</td>
</tr>
<tr>
<td></td>
<td>Focalin XR</td>
<td>Extended release</td>
<td>6-10 hours</td>
<td>capsule</td>
<td>5 mg</td>
</tr>
</tbody>
</table>

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| **Dextroamphetamine**  
*Short acting* | Dextedrine  
DextroStat | 4-6 hours | tablet | 5 mg  
10 mg | Moderate appetite suppression, mild sleep disturbances, transient weight loss, irritability, emergence of tics. |
| --- | --- | --- | --- | --- | --- |
| **Intermediate acting** | Dextedrine  
Spansule | 6-8 hours | capsule | 5 mg  
10 mg  
15 mg | Same as for short-acting dextroamphetamine |
| **Lisdexamfetamine Dimesylate**  
*Prodrug* | Vyvanse | 10-12 hours | capsule | 20 mg  
30 mg  
40 mg  
50 mg  
60 mg  
70 mg | Moderate appetite suppression, mild sleep disturbances, transient weight loss, irritability, emergence of tics. |
| **Mixed Amphetamine salts**  
*Intermediate acting* | Adderall | 4-6 hours | tablets | 5 mg  
10 mg  
15 mg  
20 mg  
30 mg | Moderate appetite suppression, mild sleep disturbances, transient weight loss, irritability, emergence of tics. |
| **Extended release** | Adderall XR | 8-12 hours | capsule | 5 mg  
10 mg  
15 mg  
20 mg  
25 mg  
30 mg | Moderate appetite suppression, mild sleep disturbances, transient weight loss, irritability, emergence of tics. |
| **Nonstimulants** |  |  |  |  |  |
| **Atomoxetine**  
*Extended release* | Strattera | 24 hours | capsule | 10 mg  
18 mg  
25 mg  
40 mg  
60 mg | Nervousness, sleep problems, fatigue, upset stomach, dizziness, dry mouth. In rare cases, may lead to severe liver injury or possibly to suicidal ideation. |
| **Atypical Antidepressants** |  |  |  |  |  |
| **Bupropion** | Wellbutrin | 4-5 hours | tablets | 75 mg  
100 mg | Difficulty sleeping, headache, and in rare cases, seizures. |
|  | Wellbutrin SR | 12 hours | tablets | 100 mg  
150 mg  
200 mg |  |
|  | Wellbutrin XL | 24 hours | tablets | 150 mg  
300 mg |  |
### Tricyclic Antidepressants

<table>
<thead>
<tr>
<th>Drug</th>
<th>Brand Name</th>
<th>Duration</th>
<th>Form</th>
<th>Doses</th>
<th>Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imipramine</td>
<td>Tofranil</td>
<td>8-24 hours</td>
<td>tablets</td>
<td>10 mg, 25 mg, 50 mg</td>
<td>Nervousness, sleep problems, fatigue, upset stomach, dizziness, dry mouth, accelerated heart rate, possible risk of cardiac arrhythmias.</td>
</tr>
<tr>
<td>Desipramine</td>
<td>Norpramin</td>
<td>8-24 hours</td>
<td>tablets</td>
<td>10 mg, 25 mg, 50 mg, 75 mg, 100 mg, 150 mg</td>
<td>Has been associated with deaths from cardiac problems. Not recommended for children.</td>
</tr>
<tr>
<td>Nortriptyline</td>
<td>Aventyl Pamelor</td>
<td>8-24 hours</td>
<td>capsules</td>
<td>10 mg, 25 mg, 50 mg, 75 mg</td>
<td>Nervousness, sleep problems, fatigue, upset stomach, dizziness, dry mouth, accelerated heart rate, possible risk of cardiac arrhythmias.</td>
</tr>
</tbody>
</table>

### Antihypertensives

<table>
<thead>
<tr>
<th>Drug</th>
<th>Brand Name</th>
<th>Duration</th>
<th>Form</th>
<th>Doses</th>
<th>Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clonidine</td>
<td>Catapres</td>
<td>4-6 hours</td>
<td>tablets</td>
<td>0.1 mg, 0.2 mg, 0.3 mg</td>
<td>Fatigue, dizziness, dry mouth, increased activity, irritability, behavior problems, low blood pressure; abrupt discontinuation may lead to elevated blood pressure.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24 hours</td>
<td>skin patch</td>
<td>0.1 mg/24 hrs, 0.2 mg/24 hrs, 0.3 mg/24 hrs</td>
<td></td>
</tr>
<tr>
<td>Guanfacine</td>
<td>Tenex</td>
<td>6-8 hours</td>
<td>tablets</td>
<td>1 mg, 2 mg</td>
<td>Fatigue, dizziness, dry mouth, increased activity, irritability, behavior problems, low blood pressure; abrupt discontinuation may lead to elevated blood pressure.</td>
</tr>
<tr>
<td>Intermediate acting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Intuniv</td>
<td>12 - 24 hours</td>
<td>tablets</td>
<td>1 mg, 2 mg, 3 mg, 4 mg</td>
<td>Fatigue, dizziness, dry mouth, increased activity, irritability, behavior problems, low blood pressure; abrupt discontinuation may lead to elevated blood pressure.</td>
</tr>
</tbody>
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