

Attention deficit hyperactivity disorder - drug therapy

Attention deficit hyperactivity disorder (ADHD) is one of a number of behavioural and developmental disorders that affect young children. A child with ADHD has three main behavioural issues: inattention, impulsivity and overactivity.

All young children have a limited attention span and sometimes do things without thinking. Only a few of these children have ADHD. Treatment for ADHD is complex and may include drug therapy, behavioural management, psychological counselling and family support groups. Treatment using medication is fast and – in many cases – effective, but research suggests that using a multifaceted approach ensures a greater success rate.

Drugs target the brain's neurotransmitters

Neurotransmitters are brain chemicals. There is some evidence to suggest that genetic abnormalities may prevent the child with ADHD from metabolising key neurotransmitters in normal ways. However, no specific brain defect has been found that could account for ADHD, which also means there is probably no single drug that can correct the problem.

Stimulant drugs

Stimulant drugs have been used for more than 50 years. Stimulants like dexamphetamine and methylphenidate (such as Ritalin) work by acting on the neurotransmitters that release the chemical dopamine. Greater amounts of dopamine help to curb the hyperactive and impulsive behaviours typical of the child with ADHD.

Dexamphetamine and methylphenidate are the two main stimulant drugs used in the treatment of ADHD, but they are different in their chemical makeup and effects, so a child may be more suited to one drug than the other. Some trials have found greater success in controlling ADHD symptoms if the child takes a combination of the two.

There are short-acting forms of stimulants that last about three to four hours (including Ritalin 10, Attenta and dexamphetamine), and long-acting forms (including Ritalin LA that lasts six to eight hours and Concerta that lasts ten to twelve hours).

Dosage schedules

Any adjustments to medications should always be supervised by a doctor. Dosage and timing may need to be adjusted for the individual child to maximise control of ADHD symptoms while minimising potential side effects. For both dexamphetamine and methylphenidate, the dosage may be incrementally increased over three or four weeks, using half tablets if necessary.

The medication may be discontinued if there is no improvement at the end of four weeks and the other drug can then be trialled in a similar way. If the medication works, its dose will gradually be increased as the child grows.

Side effects of medication

There have been few conclusive studies that document the long-term side effects of drug treatment for ADHD. The main short-term side effects of stimulants are poor weight gain and decreased appetite. Some other possible short-term side effects of these stimulant drugs include:

- Sleeping problems, such as insomnia

- Headache
- Drowsiness
- Stomach pains
- Nausea
- Vomiting
- Dry mouth
- High blood pressure
- Tachycardia (increased heart rate)
- Emotional changes such as irritability, depression, nervousness or anxiety
- Hallucinations or psychotic symptoms
- Development or worsening of tics.

Follow-up treatment

Once medication has been established to relieve symptoms, the child should be monitored by their health professional regularly, every three months or so. The check-ups include:

- Thorough physical examination to check for side effects such as high blood pressure
- Review of behaviours to see if the ADHD symptoms remain improved.

Other drugs

Other drugs may be used in the treatment of ADHD, such as antidepressants and antipsychotics. However, these drugs are not as effective as stimulants and may have more serious side effects. The practice of multiple drug treatment, 'drug cocktails', should be avoided in very young children.

Where to get help

- Your doctor
- Paediatrician
- The Specialist Children's Services, Department of Human Services Victoria Tel. (03) 9096 0000
- The Resource Centre for Child Health and Safety (CHAS) Tel. (03) 9345 6429
- Attention Deficit Disorder Victoria (ADDVic) Tel. 1800 233 842

Things to remember

- Attention deficit hyperactivity disorder (ADHD) is one of a number of behavioural and developmental disorders that affect young children.
- Approximately one in every hundred Australian children is presently taking drugs to manage ADHD symptoms.
- The two main stimulant drugs used in the treatment of ADHD symptoms include dexamphetamine and methylphenidate (Ritalin).

This page has been produced in consultation with, and approved by:

Monash Alfred Psychiatry Research Centre, School of Psychiatry and Psychology

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