Attention deficit hyperactivity disorder (ADHD) is a particular condition that affects a young child’s behaviour or development (learning). Children with ADHD have three main behavioural problems, being inattention, impulsivity and overactivity.

All young children have a limited attention span and sometimes do things without thinking. But only a few of these children have ADHD. Treatment for ADHD is complex and may include medication, behavioural management, psychological counselling and family support. Treatment using medication is fast and often effective, but research suggests that combining medication with other therapies is often more successful.

Medication for ADHD
Using medication alone is not usually the best treatment for ADHD. Sometimes, a child’s emotions – such as anxiety, panic or hyper-reactivity – contribute to their behaviours. The child’s doctors should address these emotional problems first so that the child can become more stable. Then, if the child continues to have ADHD symptoms, medication may help.

ADHD medication and neurotransmitters
Neurotransmitters are brain chemicals. It seems that some abnormal genes may prevent a child with ADHD from metabolising (chemically processing) important neurotransmitters in normal ways. But scientists have found no specific brain defect that could account for ADHD. This also means there is probably no single medication that can correct the problem.

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

Dexamphetamine and methylphenidate are the two main medications used to treat ADHD. They are different in their chemical makeup and effects, so a particular child may benefit more from one of these medications than the other. Some children benefit most from taking 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). A child will feel the calming effect of these medications within about half an hour of taking them. Non-stimulant medications (like Strattera) may also be used.
Dosage for ADHD medications
Any changes to medications should always be supervised by a doctor. They may need to adjust the dosage and timing for an individual child, to get the best control of ADHD symptoms, while causing minimal possible side effects. For both dexamphetamine and methylphenidate, the dosage may be gradually increased over three or four weeks, using half tablets if necessary.

The doctor may stop the medication if the child shows no improvement at the end of four weeks. The other medication can then be trialled in a similar way. If the medication works, the doctor will gradually increase the dose as the child grows.

Side effects of medication for ADHD
Researchers still do not know a great deal about the long-term side effects of medications for ADHD. The main short-term side effects of stimulants are poor weight gain and decreased appetite. Some others include:

- Sleeping problems, such as insomnia
- Headache
- Drowsiness
- Stomach pains
- Nausea and vomiting
- Dry mouth
- High blood pressure
- Tachycardia (increased heart rate)
- Emotional changes such as irritability, depression, nervousness or anxiety
- Hallucinations (seeing or hearing things that are not really there) or psychotic symptoms (major mental illness)
- Development or worsening of tics (repeated, uncontrolled movement of a muscle, often in the face).

Follow-up treatment
A child who is taking medication to relieve their ADHD symptoms should see their health professional regularly (about every three months). These check-ups include:

- A thorough physical examination to check for side effects such as high blood pressure
- A review of the child’s behaviours to see if the ADHD symptoms remain improved.

Other medications for ADHD
Other medications are sometimes used for ADHD, such as antidepressants and antipsychotics. But these are not as effective as stimulants and may have more serious side effects. The practice of multiple medication treatment, ‘drug cocktails’, should be avoided in very young children.

Non-medication therapies for ADHD
The program for managing ADHD needs to be tailored to the individual child. Some therapies are more useful for controlling anger, while others are better for treating impulsivity.

Generally, the range of non-medication therapies used for ADHD can include:

- Behaviour modification
- Cognitive therapy
- Anger management
- Social training
- Family counselling.

Behaviour modification for ADHD
Research has shown that behaviour modification therapies are more successful when the child has an active role in deciding on the program, its goals and incentives. Therapies that aim to change behaviour by punishment alone
generally do not work. The key is to reward the child for good behaviour.

**Cognitive therapy and ADHD**

Cognitive therapy aims to help the child to better manage ‘thinking skills’, such as problem solving and self-control. Activities can include role playing and working out in advance how to handle particular situations.

The child learns to think through the possible consequences of an action before performing it. For example, the first self-instruction could be ‘Stop!’ followed by ‘What is the problem?’ and ‘What would be the best plan to solve the problem?’ Cognitive therapy is most helpful for children who are impulsive.

**Anger management and ADHD**

Impulsive children who are quick to anger can benefit from anger management training. The child learns how to recognise the signs of their growing frustration and learns a range of coping skills designed to defuse their aggression. They also learn relaxation techniques and stress management skills.

**Social training and ADHD**

A child with ADHD is often unpopular with their peers (children of the same age) because they are aggressive and lack social skills. Being bullied, ignored or teased by peers is a major contributor to the child's low self-esteem.

Social training can teach your child how to interact with others in a proper and satisfying way. Strategies may include role playing.

Your child may learn basic social skills such as:

- Different ways of starting a conversation
- The importance of holding eye contact when speaking
- Listening skills
- How to play cooperatively with others.

**Family counselling and ADHD**

Family counselling aims to help the other members of the household to understand and cope better with the child’s behaviour. For family counselling to work, everyone in the family needs to understand as much as possible about ADHD.

Reading books and perhaps joining a support group can help. For example, parents may learn different management techniques (such as ‘time out’) and how to balance punishments and rewards. Communication skills and anger management techniques are also useful.

**Diet and ADHD**

There is little evidence that ADHD is caused or made worse by certain foods (such as food additives). Some studies have found that small numbers of children with ADHD may benefit slightly from dietary changes, but experts do not recommend changes to diet as a routine part of therapy.

A 2011 study showed that almost two thirds of young children with ADHD show improvements in their behaviour when following a restricted hypoallergenic elimination diet. The researchers investigated individual hypersensitivities to certain foods, rather than focusing on a single preservative or additive. Reintroducing these potentially troublesome foods (which were different for each child) resulted in increased ADHD symptoms in almost two thirds of the children who responded to the restricted diet.

Talk with your doctor or a dietitian before changing your child’s diet to help with ADHD.

**Alternative therapies**

There are various alternative therapies that claim to help children who have ADHD. In many cases, the claims have not been proven.

Some controversial and unproven alternative therapies for ADHD include:

- Patterning – the theory that a child’s development should happen in a certain sequence. A belief, for example,
that ADHD has occurred because the child did not crawl before they walked

- Treatment for allergies – some people believe that allergies cause ADHD. Suggested treatments include homeopathic remedies and special diets
- Vision training – this includes eye exercises and tinted eyeglasses
- Vitamin supplements – typically, large doses of vitamins are recommended. Fish oils with omega-3 fatty acids have recently received special attention, because there is some evidence that children with ADHD have low omega-3 levels. Increasing omega-3 levels may improve behaviour in some children, but not all studies show such improvements.

Where to get help

- Your doctor
- Paediatrician
- Specialist Services for Children and Families, Department of Human Services Victoria Tel. (03) 9096 0000 or 1300 650 172
- The Child Health and Safety Resource Centre (CHAS) Tel. (03) 9345 6429
- Hyperactive Children’s Association of Victoria (ACTIVE) Tel. (03) 9650 2570

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