

Attention Deficit Hyperactivity Disorder (ADHD)

What is ADHD?

The 3 main symptom categories are:

Inattention

- Poor concentration
- Poor short term memory
- Forgets instructions
- Easily distracted
- Difficulty organising themselves

Impulsivity

- Speaks and acts without thinking
- Interrupts
- Difficulty waiting turn
- Low frustration tolerance
- Aggression

Hyperactivity

- Restless
- Fidgety
- Leaves seat in class frequently
- Runs about a lot
- Talk excessively
- Sleep disturbance

Symptoms must be present in two or more environments (such as school and home) and must cause significant impairment in social or school functioning for a diagnosis to be made.

Types of ADHD

There are 3 main types of ADHD:

- ADHD (Combined type) where features from all categories are present
- ADHD (Predominantly Inattentive type) where only features from the Inattention category are present. Children can appear to be distant, dreamy and “spaced out” and this type is more common in girls than boys.
- ADHD (Predominantly Hyperactive/Impulsive) which is less commonly seen in practice.

Associated difficulties

- Learning difficulties
- Poor self-esteem
- Speech delay
- Poor coordination
- Oppositional/ non-compliant behaviour
- Social problems and difficult peer relationships
- Immature behaviour
- Anxiety
- Mood swings and challenges with emotional regulation
- Sleep disturbance

What causes ADHD?

ADHD is a neurological disorder that seems to be caused by a chemical imbalance in the brain. ADHD is strongly hereditary so many children who are diagnosed with ADHD have a parent or close relative with a similar problem. Adults with ADHD often describe restlessness in their body & minds and problems with impulse control, attention and maintaining stable relationships. Occasionally, parents can have ADHD that is undiagnosed. If a child has ADHD, it is not uncommon that a sibling will also have ADHD.

How is ADHD diagnosed in children?

ADHD is diagnosed by a Paediatrician, Psychiatrist or Mental Health professional such as a Psychologist.

As there is no simple test to diagnose ADHD, a diagnosis is made by gathering a full history and physical examination. Physical (such as Obstructive Sleep Apnoea) and/or sensory (such as hearing and vision impairment) deficits that may affect a child's concentration and behaviour must be ruled out. Detailed and specific information about the child's behaviour from the parents/carers, school/pre-school teachers or anyone else familiar with the child's behaviour is also required. A useful tool to assist health professionals diagnose ADHD is a questionnaire called a 'Conner's Rating Scale' and parents/carers, teachers or patients may be asked to complete these.

How is ADHD managed?

For school aged children, ADHD is usually managed by a combination of medication and behavioural strategies.

Medication

Based on current research, stimulant medication is the single most effective treatment for the symptoms of ADHD and has been used for more than 50 years, and became standard treatment for children with ADHD in the 1980s.

The stimulants available in Australia are:

- Methylphenidate - Short acting - Ritalin 10, Longer acting - Ritalin LA & Concerta
- Dexamphetamine- Short-acting - Dexamphetamine 5, Longer acting- Vyvanse

These two medications have similar actions and side-effects.

- Atomoxetine (Strattera) is another type of medication also used to treat the symptoms of ADHD.

Stimulants act on the parts of the brain involved in self-control. This helps focus attention, and may also help filter out unnecessary information. Stimulant medication is probably the most highly researched of any medication prescribed for children. They greatly improve concentration, impulse control and overactivity in about 7 to 9 children in every 10 with ADHD.

All these medications are available on the PBS (Pharmaceutical Benefits Scheme) and can only be prescribed by doctors with specific authority (Paediatricians and Psychiatrists).

Stimulant medication can have some **side effects** and it is important to note these and discuss them with your prescribing doctor if they occur.

- Loss of appetite and sometimes weight loss
- Minor effects on growth although rarely a problem in practice
- Mood changes, emotional lability
- Increased wakefulness
- Tics or twitches
- Stomachache/ nausea
- Dizziness
- Small increases in heart rate and blood pressure but unlikely to cause a problem in normal hearts. If a child has symptoms or history of heart problems, they will be referred to a Cardiologist for assessment prior to starting medication.

These side effects may calm down after a while but the appearance of these side effects could suggest that the dosage may need adjusting and you should discuss this with your prescribing doctor. The side effects are reversible once medication is stopped.

Behaviour strategies

Positive parenting, home and classroom strategies are helpful. These include keeping structure and routine, providing explicit and firm boundaries and consistent consequences, boosting self-esteem and giving praise for positive behaviours, building social skills, and planning the physical and learning environment (movement breaks, visual timers and supports, and repeating/simplifying/clarifying instructions). Sometimes counselling for the child or the family is also needed. See attached further handout about more strategies that may be useful.

Allied Health Therapy

Due to the complex nature of difficulties that a child with ADHD faces, they may require help from various Allied Health professionals:

- Speech Therapy- for communication including understanding of and memory for information and instructions
- Occupational Therapy-for organisational skills, handwriting, memory, copying from the board
- Psychology-for assessment of family dynamics, providing family therapy, behaviour management and help with emotion regulation
- Dietetics- for assessment of diet, including advice about maintaining or increasing weight if poor appetite and weight loss occurs, avoiding additives & preservatives and supplementing dietary deficiencies as these are all important in optimising a child's behaviour and attention.

Additional Therapy Strategies

Not all additional or alternative therapies suggested to treat ADHD are beneficial and some can be dangerous. Whilst many do not cause harm, it is important to discuss any additional therapies with a doctor. Common ones are briefly discussed here:

- **Physical Activity:** 60 minutes of physical activity a day is recommended for every child over the age of 6. Regular physical activity has been associated with improved cardiovascular health, psychosocial well-being, and cognitive performance.
- **Dietary Changes:** The influence of diet on ADHD core symptoms is controversial. Food additives or intolerances generally do not affect behaviour to a level of significance. However, a healthy diet, low in processed food, and low in added sugar is of benefit to all children. Ensuring your child is receiving adequate nutrition through their diet should be explored with your paediatrician. Trialling an elimination diet or excluding significant food groups should only be done in consultation with a doctor or dietician.
- **Mindfulness:** parents and children with ADHD engaging in short-term mindfulness programs has been shown to reduce parent stress and parent-reported ADHD symptoms, when used in conjunction with a comprehensive pharmacological and behavioural ADHD management plan. However, this had not been widely tested
- **Fish Oil supplementation:** some studies have shown fish oil to be beneficial in treating core symptoms of ADHD, however other studies have shown no benefit at all. Side effects of fish oil supplementation can be fishy breath, nausea, diarrhoea, rash and bleeding issues. Fish oil should not be taken if you have an allergy/intolerance or if your child have a bleeding disorder
- **Neurofeedback/Biofeedback:** Large studies have not shown any benefit in children with ADHD
- **Herbal, mineral and Megavitamins:** Large studies show no evidence of benefit in children with ADHD. Depending on the supplement, they can vary between causing no harm to significant harm.
- **Chelation therapy:** No evidence for any benefit, can cause serious harm.

What does the future hold?

ADHD is a lifelong condition that your child will learn to cope with as they get older. Studies show approximately 50% of children who commence medication in primary school still find it beneficial in high school, and only 25% continue to take it into adulthood. If your child continues to need medication after the age of 18 years they will need a referral to a Psychiatrist or Neurologist who can continue to provide prescriptions. This is especially for children who wish to go on to further study.

Many children and adults with ADHD lead a 'normal' life - going on to further study, getting a job and having stable relationships, as long as they are treated and given all the opportunities that they can when they are younger. A stable home life and good solid boundaries set during their childhood will give your child a better chance to be able to cope later in life.

Where can I get more information?

- The Kids Health website is a site from the USA and has a lot of useful information www.kidshealth.org for parents, children, and teens, as well as educators.
- The Australian website for ADHD is www.adhdaustralia.org.au.
- <http://www.chadd.org/> (US-based), and www.caddra.ca (Canadian ADHD Resource Alliance).
- A book with a good overview of ADHD is *Understanding ADHD* by Dr Christopher Green (2001).
- A useful Australian-based parent and teacher resource is ADHD Go-To Guide by WA developmental paediatrician Prof. Desiree Silva and ADHD coach Michele Toner.

References: The Royal Children's Hospital Melbourne fact sheets;
<http://www.rch.org.au/kidsinfo/factsheets.cfm>
UK NICE Guidelines-ADHD March 2018.
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