



Attention Deficit Hyperactivity Disorder



What is Attention Deficit Hyperactivity Disorder?

The core symptoms of ADHD, as the name implies, are inattentiveness, hyperactivity and impulsivity. These are excessive and long-term and occur across situations in affected children, resulting in significant functional problems including school difficulties, interpersonal relationship problems and low self-esteem.



How does Attention Deficit Hyperactivity Disorder affect children?

Inattention: A child with ADHD will find it difficult to maintain attention or to engage in activities for as long as other children of the same age. The child may also have problems in selectively attending to relevant information in the environment, and may become easily distracted. Following rules, completing tasks and organizing activities are frequently difficult for them.

Hyperactivity: The child climbs or runs excessively compared with peers, fidgets and is unable to stay seated when required, has difficulty playing quietly.

Impulsivity: The child has a tendency to act rashly and is disinhibited when playing or talking, hence frequently interrupting others, and having difficulty taking turns.

Clinical features evolve with the children's age:

Infancy and preschool age: Excessive crying and irritability are often seen, with difficulty in being soothed. Eating and sleeping problems, negative temperament and greater emotional response to events may be present. The average age of onset is around 3 to 4 years.

School age: During this period difficulties will manifest in school tasks and social skills. They may show non-compliance, oppositional behaviour, aggression, risk-taking and/or dangerous behaviours.

Late childhood and early adolescence: Although core features often remain, a quantitative decline in severity is often seen, particularly in the domain of hyperactive behaviour. However, new areas of potential problems may emerge, including in dating, sexual relationships and driving risks.

Adulthood: Symptoms of inattention, disorganization, distractibility and impulsivity may persist into adulthood.



Does my child really have Attention Deficit Hyperactivity Disorder?

Symptoms of other conditions may be confused with those of ADHD. These include oppositional defiant disorder, conduct disorder, anxiety and mood disorders, bipolar disorder, learning disorders such as reading, spelling and/or mathematics disorders and tic disorders.



What Causes Attention Deficit Hyperactivity Disorder?

In ADHD, several important areas of the brain are differently activated when tasks requiring attention and inhibition are carried out. These include the right pre-frontal region, the basal ganglia, and the cerebellum.

The exact cause of this condition has yet to be elucidated. Research has demonstrated increasing evidence to support ADHD as being partially familial and genetically mediated.

An executive function impairment has been suggested, where working memory, control of behaviour and emotions, and self regulation through internal speech are affected. These are believed to lead to problems in behavioural inhibition and resultant symptoms of ADHD.

Although biological factors play an important role in the manifestation of the condition, psychosocial environmental factors are also crucial in affecting its severity.






How common is Attention Deficit Hyperactivity Disorder?

Internationally, ADHD affects about 3-7 per 100 school age children, with a male preponderance ranging from 2-9 boys to 1 girl being affected.

The prevalence in Hong Kong Chinese school boys was shown to be 6.1%. More recently when figures included females, the proportion of school-aged children affected was shown to be approximately 3-5%, with boys more frequently affected than girls.

Possible co-occurring problems

-  Learning disorders in reading, spelling or mathematics
-  Conduct and mood problems
-  Tic disorder



What is the mainstay of treatment for children with Attention Deficit Hyperactivity Disorder?

According to a large multi-centre study on models of intervention in 1999, medication alone and the combined approach of using medication together with behavioural intervention were found to be the most efficacious and preferred treatment for ADHD. The concurrent use of drug therapy may assist the implementation of psychosocial strategies to improve the child's learning.

Medical – A wide range of medical treatments can help the child in his/her everyday activities and overall learning. However, these should not be thought of as curative. Stimulants work to improve concentration and allow the child or adult to focus on activities. These include methylphenidate (Ritalin, Concerta), amphetamine (Dexedrine, Adderall) and pemoline (Cylert). These medications are shown to be effective in about 75% of patients. Common side effects include appetite suppression (which may lead to weight loss), mild sleep disturbance, and irritability. These side effects are usually mild, short-lived and responsive to dosing and timing adjustment. Long-term studies suggest that stimulant therapy in childhood is associated with a reduction in the risk for subsequent drug and alcohol use disorders. Second and third line medications sometimes considered include tricyclic antidepressants such as imipramine (Tofranil), selective norepinephrine reuptake inhibitor such as atomoxetine (Strattera), and others such as antihypertensive such as clonidine (Catapres).

Behavioural – Parental involvement is integral for successful treatment. Behavioural modification techniques are taught to parents to assist parents them in developing appropriate skills to manage disruptive behaviours (e.g. providing more frequent and immediate reinforcement, setting up more structure in advance of potential problem situations with the aim to improve the child's impulse control, social skills and organizational skills.) The concurrent use of drug therapy may assist the implementation of psychosocial strategies and improve the success rate.

Educational – Classroom academic management (e.g. frequent breaks between learning tasks, written instructions, breaking tasks into smaller steps, visual aids) and the appropriate arrangement of the learning environment (e.g. reducing noise levels, seating children in front seats) will enhance the child's ability to learn and focus.



What services are available in Hong Kong to help a child with Attention Deficit Hyperactivity Disorder?

The Child Assessment Service of the Department of Health offers behavioural and developmental assessment for the child, and interim support in form of information workshop and parenting skills training groups.

Under the Hospital Authority, child-adolescent psychiatric centres provide medical and psychological treatment for children with ADHD.

Furthermore, paediatricians, general practitioners and family medicine specialists may also prescribe medical treatment for ADHD.

In schools, support is offered to teachers and the child by educational psychologists, while child training and parent support activities are organized by community centres



Can children with Attention Deficit Hyperactivity Disorder grow up normally?

The symptoms of ADHD persist to adolescence in 80% of children, and to adulthood in 65%. However, the extent to which an individual can cope or adjust depends on several other factors, including the severity and type of symptoms exhibited, the severity and number of associated conditions, the individual's intelligence, the family situation and treatments received.



Relevant Websites

American Academy of Pediatrics	http:// www.aap.org/healthtopics/adhd.cfm
American Psychological Association	http:// www.apa.org/topics/topicadhd.html
CHADD (Children and Adults with Attention Deficit/Hyperactivity Disorder)	http:// www.chadd.org
Attention Deficit Disorder Association (The World's Leading Adult AD/HD Organization)	http:// www.add.org
學習行為輔導計劃 — 學校、家庭與社區的協作活動	http:// www.ha.org.hk/kch/adhd
Special Education Service, Education and Manpower Bureau, HK	http://www.emb.gov.hk/index.aspx?langno=1&nodeid=238



Child Assessment Service, Department of Health
Hong Kong Special Administrative Region Government