



# Autism Spectrum Disorder



## *What is Autistic Spectrum Disorder?*

Autism Spectrum Disorders (ASD) is a group of behavioral disorders with a characteristic group of signs and symptoms. These include impairment in reciprocal social interaction and communication, and the presence of stereotyped behaviours, interests, and activities. ASD includes Autistic Disorder, Atypical Autism, and Asperger's Syndrome.

These characteristic changes often persist throughout the individual's lifetime, and are typically evident within the first 3 years of life. ASD affects many different aspects of a child's development.



## *How does Autistic Spectrum Disorder affect children?*

Children with ASD may show different degree of impairment in reciprocal social interaction, communication and behavior. The clinical features are also different in different age group.

*Infants and pre-school children* appear to be unresponsive with little eye contact and atypical attachment with the caretaker. They are unable to share enjoyment or show objects of interest to others. They show delayed or deviant speech and language development. Some may have

better visual perceptual skill, rote memory, and other special skills. Often times they are preoccupied with repetitive, ritualistic and restricted behavior patterns, e.g. lining of objects. They insist on sameness and are intolerant to changes. Symbolic or imaginative play such as make believe toys and family role playing are often absent. They may be hyperactive, impulsive, and even become aggressive or display self-injurious behavior.

*School-age children* continue to show a lack of empathy or perspective of the others' emotion, and are passive in social interaction. They have impaired ability for social use of language, and may experience difficulty to initiate and sustain conversation. Some may have stereotypic and repetitive speech. Preoccupation with one or more interest continues, as do ritualistic and obsessive behaviors. Repetitive questioning may also be present. Understanding of abstract concepts, organization and problem-solving skills may also be impaired.

*Adolescents* usually find it difficult to comprehend the idea of social conventions, despite having the interest in forming friendships. They may find it difficult to understand the perspective of others, and fail to develop higher verbal language skills. Narrow interests and repetitive behavior persist, as well as impairment in abstract and logical thinking, organization and other executive functions. Anxiety, depression and other mental disorders may appear at this stage.



## ***Does my child really have Autistic Spectrum Disorder?***

Other disorders may present with features similar to ASD. These include: 1) mental retardation, 2) severe sensory impairment (hearing or visual), 3) language-based learning disability with poor social adjustment, 4) syndrome of early-onset epilepsy and speech regression (Landau-Kleffner Syndrome), and 5) various neurodegenerative disorders. Therefore detailed assessment is needed to establish the diagnosis of ASD and exclude other possibilities. ASD could however occur together with the above disorder(s).



## ***What causes Autism Spectrum Disorder?***

The cause of ASD is believed to be due to deficits in the central nervous system, which has a fundamental role in the control of behavior. The cause could be genetic or non-genetic, and is believed to have affected the patient before he/she is born. Specific medical conditions can be found in 6-10% of cases only. Associated genetic diseases include Fragile X, Tuberous Sclerosis and Rett's syndrome.



## ***How common is Autism Spectrum Disorder?***

According to the report of American Psychological Association in 2000, 20 out of 10,000 children are affected by ASD. However, in a recent epidemiological study in 2002, the prevalence was reported to be as high as 90 per 10,000. The sex ratio of boys to girls is 4-5:1.

According to service statistics from the Child Assessment Service (CAS) of Department of Health in Hong Kong, and figures derived from special preschool enrolment and waiting list statistics of the Social Welfare Department, the incidence of ASD in 2004 was 2.3 per 1,000 children aged 2 to 5. In 2004, CAS diagnosed 621 children to have ASD. Among them, 40% were diagnosed as having Autistic Disorder. The exact prevalence of ASD in Hong Kong still awaits further study.



### *What is the mainstay of treatment for children with Autistic Spectrum Disorder?*

There is no proven cure and no consensus regarding the best intervention strategy. The current mainstay of treatment for ASD lies in early identification and assessment, educational training and social adjustment, with emphasis on continual parental support.

*Approaches with good evidence* include two well-known educational programs: Applied Behavioral Analysis and the Treatment and Education of related Autistic and Communication handicapped Children (TEACCH) program.

*Approaches with some evidence* include: the Floor Time, use of Social Story to teach social skills, teaching theory of mind (TOM), picture exchange communication system (PECS) and sensory integration therapy. All these approaches should only be applied after detailed assessment.

*Other approaches that have little or no evidence* of their efficacy, and some may even be harmful. These include: psychotherapy, auditory integration therapy, music therapy, play therapy, lens and spectacles, special diets (e.g. Feingold diet that forbids foods that contain preservatives, coloring or other additives, and salicylates; other diets that exclude sugar, milk, wheat, egg, corn, chocolate and citrus fruits, and casein/gluten-free diet), minerals and vitamins supplement, secretin, dimethyl-glycine (DMG), detoxification (e.g. for lead and mercury poisoning) and treatment of infection (e.g. overgrowth of virus/yeast/bacteria in intestinal tissue, viral infection from live-attenuated Measle-Mumps-Rubella (MMR) vaccine). Clinicians should caution parents who wish to try these approaches.



### *Can Autistic Spectrum Disorder be treated by medication?*

Medication has not been shown to be able to cure core social or communication impairments of autism.

However, reduction of some specific behaviour, such as aggression, self-injurious behavior, anxiety, stereotypes, compulsive behaviors, mood disturbances, hyperactivity, inattention, and sleep problems could enhance the child's ability to benefit from other educational and behaviour modification interventions. These drugs include:

*Dopamine antagonists (Haloperidol and Risperidone)* – many controlled trials have shown their effectiveness in reducing stereotypic and withdrawal behaviors, hyperactivity, impulsivity, obsessive

preoccupations, aggression, and self-injurious behaviors in children with ASD. But their potential adverse effects limit their use.

*Stimulants (dextroamphetamine and methylphenidate)* – promising evidence for treating hyperactivity in children with ASD is still lacking; some studies even suggested an adverse effect.

*Drugs that affect other neurotransmitter function (e.g. norepinephrine, serotonin)* – their efficacies have NOT been proven.



### ***Do children with Autistic Spectrum Disorder need special education?***

Preschool children (aged 2 to 5) with mild disability can receive training in Integrated Child Care Centers, while those who need more intensive support may be trained in Special Child Care Centers. For school aged children with ASD, the choice of special schools or mainstream schools often depends on their cognitive ability. Special schools have additional resource teachers to implement specific programs on behavioral management, as well as training of communication and social skills. For children with ASD in mainstream schools, guidelines are given to teachers for providing special support.

For English speaking children, preschool services are provided mainly by English speaking Early Education and Child Care Centers, and school age services are provided by a special school of the English School Foundation and other private agencies.



***Can children with Autistic Spectrum Disorder grow up normally?***

The outlook of a child's subsequent development depends largely on the severity of ASD and the child's cognitive ability. Unfavourable factors include (1) presence of mental retardation, (2) seizures, and (3) absence of speech by the age of 5-6 years.



***If I wish to have more children, what are the chances that they will be affected by Autistic Spectrum Disorder?***

According to the American Psychological Association, the chance of a subsequent sibling being affected by ASD is 5 in 100, although the mode of inheritance is still unknown.



### ***Relevant websites***

自閉症人士福利促進會	<a href="http://www.swap.org.hk">http://www.swap.org.hk</a>
香港自閉症資源中心	<a href="http://www.geocities.com/autismhongkong">http://www.geocities.com/autismhongkong</a>
香港自閉症聯盟	<a href="http://www.autism.hk/c_hk_index.htm">http://www.autism.hk/c_hk_index.htm</a>
Special Education Service, Education and Manpower Bureau, HK	<a href="http://www.emb.gov.hk/index.aspx?langno=1&amp;nodeid=238">http://www.emb.gov.hk/index.aspx?langno=1&amp;nodeid=238</a>
The National Autistic Society	<a href="http://www.nas.org.uk">http://www.nas.org.uk</a>
Autism Society of America	<a href="http://www.autism-society.org">http://www.autism-society.org</a>
TEACCH	<a href="http://www.teacch.com">http://www.teacch.com</a>
National Institute of Mental Health	<a href="http://www.nimh.nih.gov">http://www.nimh.nih.gov</a>



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