LAY VERSION ACCOMPANIMENT TO

2023 CLINICAL PRACTICE GUIDELINES

AUTISM SPECTRUM DISORDER

IN CHILDREN AND ADOLESCENTS

ACADEMY OF MEDICINE
SINGAPORE

COLLEGE OF PAEDIATRICS AND CHILD
HEALTH, SINGAPORE

Contents

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INTRODUCTION

This guide has been written primarily for parents and caregivers of children and adolescents on the autism spectrum. It provides relevant information related to autism, adapted from the 2023 Clinical Practice Guidelines on Autism Spectrum Disorder in Children and Adolescents published by the Academy of Medicine Singapore. Clinical Practice Guidelines are recommendations to help doctors, other healthcare professionals and patients make appropriate choices about the patient's condition based on the best scientific evidence currently available. Information on autism is abundant and readily available, but some information can be less credible than others. It can be difficult and overwhelming to deal with the large amount of information, let alone to sieve through and verify facts. Hence, this guide aims to equip parents and caregivers with credible localised information and resources on autism.

This guide is not meant to be a substitute for professional medical advice and care. Please continue to seek professional advice if you have any concerns for your child's development or behaviour. It is important to remember that each child/adolescent is different and the recommendations from the Clinical Practice Guidelines may not always apply to everyone.

SECTION 1: WHAT IS AUTISM?

Autism is a neurodevelopmental condition that was first described in the 1940s. The word 'neurodevelopmental' is used to describe a group of conditions in which differences in how the brain functions have been related to differences in ability across developmental areas such as thinking, learning, communication, social interaction, attention, behaviour and/or motor skills. Such conditions usually start in childhood and continue into adulthood.

The prevalence of autism is estimated to be about 1 in 100 worldwide, although this varies across countries. For every one girl, about four boys have been identified to have autism.

Characteristics of autism

Autism affects a person's social communication and interaction with others, and is characterised by restricted and repetitive behaviours. These are known as the 'core symptoms' of autism.

This means that children on the autism spectrum show differences in how they communicate and interact with others. They may not learn social behaviours as easily as others do, and may pick up language and communication skills later or differently from others. Children on the autism spectrum also think and explore the world in a different way. They may be repetitive in their speech or actions, prefer sticking to fixed routines, have unusually high or very focused interests, or have sensory experiences that are different from others.

Children on the autism spectrum can be affected in a variety of ways – the symptoms and severity of autism are different for every person, and the needs of persons on the autism spectrum may change over time. Some autism differences can be a strength, but some can bring difficulties in daily living, particularly in school and in the community, because these places require more social skills of our children.

Features of autism are usually seen in early childhood and signs of autism can be detected as young as between 1–2 years of age in many children. *

Early signs of autism at 12 months of age:

- Little or no eye contact
- Lack of social smiling or shared excitement with a glance or smile
- Lack of babbling
- Little or no use of waving bye, reaching for hugs, pointing to needs, or holding up objects to show someone
- Little or no response to name being called.

Early signs of autism at 18 months of age (all signs mentioned above and including):

- No single words (e.g., mama, papa, bye-bye, etc.)
- Lack of imitation of actions (e.g., nursery rhyme actions) or words (e.g., trying to say a word when taught)
- Lack of interest in other children.

Signs of autism at <u>any age, including adolescents</u>:

- Avoidance of or difficulty maintaining eye contact
- Poor response to name being called
- Loss of previously acquired speech, babbling, or social skills (*regression*)
- Preference to be alone or play alone, or difficulty making friends
- Difficulty in sharing interests or enjoyment with others
- Difficulty in understanding other people's feelings, or reading their facial expressions
- Delayed speech and language development
- Repetitive language, echolalia (often repeating words or phrases when not meant to), excessive talking 'at' others, or unusual ways of speaking (monotonous or accented)
- Repetitive play, behaviours, or body movements
- Difficulties in adapting to changes in routines or environment
- Obsessions or extreme fixations on certain objects or topics
- Unusual reactions to the five senses (e.g., oversensitivity to sounds, tendency to stare closely at spinning things, tendency to sniff objects, etc.).

**As a guide, you can refer to the parental concerns sections in the Child Health Booklet, which describes normal development in children up to 72 months of age.*

A loss or reduction (*regression*) in language or social skills under the age of 3 years is also concerning for autism. Although there is ongoing research on brain-based tests (e.g., based on eye-gaze tracking, brain electrical signal or scan measurements) that may suggest the presence of autism, none of these have been developed well enough to be used as screening tools for autism.

Screening tools in the form of parent questionnaires can be used to screen for autism, but these are not currently recommended for use in the general population. However, certain groups of children who are at increased likelihood of having autism should be screened routinely starting from 1 year old. These are children having any of the genetic or biological factors listed in ***Section 2: What causes autism?***

Although questionnaire can be used to screen for autism**, if parents, caregivers or teachers of children already have any concerns for autism in a child or notice any of the signs listed above, a specialist evaluation should promptly be sought.** General practitioners

(GPs) (e.g., in polyclinics) or paediatricians should make early referrals for specialist evaluation in order to enable earlier intervention, as this can lead to better long-term outcomes.

In Singapore, the main specialist centres for diagnosing and managing autism in children and adolescents are:

For preschool children (i.e., 6 years and below and not yet in Primary One):

KK Women's and Children's Hospital (KKH), Department of Child Development (DCD)

Tel: (65) 6394 1543/7216

Email: kkh.dcd@kkh.com.sg

Website: https://www.kkh.com.sg/patient-care/areas-of-care/childrens-services/Pages/child-development.aspx

or

National University Hospital (NUH) Child Development Unit (CDU) @ Jurong Medical Centre or Keat Hong

Tel: (65) 6665 2530 (Jurong Medical Centre) or 6769 4537 (Keat Hong)

Email: cdu@nuhs.edu.sg

Website: https://www.nuh.com.sg/our-services/Specialties/Paediatrics/Pages/Developmental-and-Behavioural-Paediatrics.aspx

For school-age children (i.e., Primary One and above):

Child Guidance Clinic @ Health Promotion Board or Sunrise Buangkok

Tel: (65) 6389 2200 (same number for both)

Website: https://www.imh.com.sg

SECTION 2: WHAT CAUSES AUTISM?

The cause of autism is often a result of the complex interactions between the genetic, biological and environmental factors in an individual, rather than a single factor. In many children on the autism spectrum, the actual cause is not known.

Genetic factors

Studies have found that autism is highly inherited – there is an increased likelihood of developing autism in children who are born to families where there is already a family member on the autism spectrum. The likelihood of both children developing autism is also higher in identical twins than in fraternal twins. Having an older sibling on the autism spectrum increases the likelihood of developing autism in the younger child.

A change in the genetic component in hundreds of genes has been identified as among the potential causes for autism, and these may either be inherited or sometimes only appear for the first time in the child and not in either parent. Your child's doctor will evaluate your child for any possible signs of a genetic condition if he/she presents with any of the signs of autism.

Biological factors

There are several other biological factors that appear to be more consistently associated with an increased likelihood of developing autism, including:

- Prematurity (born at <35 weeks gestation)
- Low birth weight (born under 2.5 kg)
- Complications during birth leading to lack of oxygen in the brain
- Older parents (>40 years of age) at the time of the child's birth.

Children with the genetic and biological factors listed above should therefore undergo routine screening for autism from 1 year old onwards.

There is also some evidence linking consumption of certain anti-epileptic medications in pregnant women with an increased probability of developing autism in their child, so the use of such medications should be discussed with healthcare professionals.

Specifically, the use of paracetamol and epidural analgesia during pregnancy and labour have not been associated with higher chance of autism occurrence in the child subsequently. These medications should therefore be used as per the advice of healthcare professionals whenever necessary. In addition, while other medications including anti-depressant medications during pregnancy have been studied, none of these have been associated with a higher chance of autism occurrence.

Environmental factors

Although many reports worldwide have attempted to study the link of various environmental factors (e.g., toxins, heavy metals) to an increased likelihood of developing autism, no single factor has been found to be a definite cause of autism.

Of note, there is no evidence to suggest that any childhood vaccinations, including the Measles, Mumps, Rubella (MMR) vaccine, are associated with a higher occurrence of autism. **All children should receive the standard vaccinations as per the National Immunisation Schedule to protect them against these common childhood diseases.**

You should consult your child's doctor if you still have any concerns about vaccinations.

SECTION 3: HOW IS AUTISM DIAGNOSED?

Autism may be suspected during an initial developmental screening when a child is 1 to 3 years old; in which case, the child should be referred promptly for specialist evaluation.

You should inform your child's doctor early if you have concerns over your child's communication, behaviour or social and play skills, as early diagnosis and intervention is important.

Diagnosing autism is a comprehensive process. It involves the detailed collection of information about a child/adolescent's developmental and medical history; symptoms and behaviours relating to social communication and interaction, and unusual behaviours; and information relating to family, environment, and school. Information about how the child/adolescent is doing at home or in the community could provide an additional understanding of any difficulties in their natural environments. Together with detailed information gathering, direct observations and assessments of the child/adolescent by a specialist trained in diagnosing autism are also required. Sometimes, formal diagnostic tools may be used, but these are not always required.

Following the synthesis of all information and observations collected on a child/adolescent, the specialist then needs to determine if the child/adolescent meets all the criteria required for a diagnosis of autism. There are currently two very similar diagnostic classification systems in use for the diagnosis of autism:

- The Diagnostic and Statistical Manual of Mental Disorders, 5th Edition, Text Revision (DSM-5-TR), and
- The International Classification of Diseases, 11th Revision (ICD-11).

The DSM-5-TR is more commonly used in Singapore. In circumstances where direct observations of a child/adolescent are not possible, telemedicine observations or video recordings may be considered as an alternative, although these are rarely needed in our local Singapore setting.

SECTION 4: ARE THERE ANY INVESTIGATIONS THAT ARE NEEDED FOR OR AFTER AN AUTISM DIAGNOSIS?

No blood or scan investigations are needed for an autism diagnosis. However, investigations in children and adolescents on the autism spectrum may be done to determine an underlying cause for autism (especially genetic causes), screen for any co-occurring conditions, and counsel parents on the probability of recurrence of autism in future pregnancies. Investigations, such as a hearing test, may also be needed if the child/adolescent has co-occurring conditions such as language delay.

Investigations into the cause for autism may be initiated after a specialist doctor obtains a thorough medical history, explores the family history, and performs a clinical examination on your child/adolescent.

Genetic testing

Identifying a genetic cause through genetic testing can facilitate screening for other associated conditions, and allows genetic counseling on the likelihood of recurrence in the next pregnancy. The approach of genetic testing is dependent on the clinical features in the child/adolescent, family history and parental preferences.

You should discuss the appropriate genetic test(s) for your child with a genetic specialist or similarly-trained healthcare professional, who will be able to advise you on the types of genetic tests available, their costs and other related information.

Other investigations

Other investigations such as magnetic resonance imaging (MRI) of the brain, electroencephalography (EEG) or testing for blood levels of mercury or other heavy metals are not routinely needed in all children/adolescents on the autism spectrum. These tests may be required in selected children who have certain symptoms or signs, and should only be ordered by a specialist doctor. Stool investigations to test for levels of bacteria or yeast are not recommended routinely in children/adolescents on the autism spectrum.

SECTION 5: WHAT ARE THE EVIDENCE-BASED TREATMENTS FOR AUTISM?

Early diagnosis and intervention can make a big difference to many children on the autism spectrum by improving their skills and participation, helping them to be more independent and have a better quality of life.

The goals of intervention are to promote the child's health and well-being, minimise developmental delay, enhance emerging competencies, prevent functional deterioration and promote adaptive parenting and overall family functioning. Every child on the autism spectrum should have an individualised intervention plan tailored to meet the child's developmental, education, and behavioural needs, with support for their families and caregivers. Parents and caregivers should be actively involved in the intervention plans and make informed choices for intervention. It would be useful to involve the child in this planning process as well where appropriate.

In Singapore, most children with autism receive their regular intervention in early intervention programmes provided by various Social Service Agencies (SSAs) or privately. A comprehensive list of services for children and adolescents on the autism spectrum in Singapore is available from:

SG Enable

20 Lengkok Bahru (Enabling Village)

#01-01 Singapore 159053

Tel: 1800-8585-885

Email: contactus@sgenable.sg

Website: www.enablingguide.sg/service-directory

Intervention approaches

There are several evidence-based intervention approaches that are child-focused and target different outcomes associated with the core symptoms of autism.

Intervention	
Augmentative and Alternative Communication (AAC)	Refers to methods of communication apart from talking (e.g., gestures, facial expressions, writing, drawing, spelling words by pointing to letters, pointing to pictures/written words, using an app on a tablet). Use of AAC can lead to improvements in communication, and in some cases improvements in behaviour, attention and play skills.

Cognitive Behavioural Therapy (CBT)	CBT can be used to treat co-occurring emotional difficulties in children/adolescents on the autism spectrum, particularly emotion-related issues such as anxiety and anger. CBT is a psychological therapy approach that helps people reduce their emotional distress by developing more helpful ways of thinking, and using behaviour to change thoughts and feelings. CBT may be used for children/adolescents on the autism spectrum who have sufficient verbal and reasoning ability to engage in the intervention.
Communication-based Interventions	Interventions which promote use of spoken language for communication using various methods including modelling, positive reinforcement and visual supports.
Developmental Interventions	Intervention practices that focus on improving parent-child interaction.
Early Intensive Behavioural Intervention	A class of interventions to help a person acquire new skills or reduce the occurrence of specific behaviours.
Emotional Regulation Therapy	A range of modalities designed to teach emotion recognition, perception, regulation and management skills. May involve computer-based software programmes or applications, videos and games.
Naturalistic Developmental Behavioural Interventions	Intervention practices that integrate behaviour and development strategies, delivered in natural settings and uses child-centred and motivation-based strategies to teach developmentally appropriate skills in the context of play and routine activities.
Play-based Intervention	Focuses on supporting children's learning through play interactions with others, especially for those aged 12 years and below.
Sensory Interventions	Include Sensory Integration Therapy, Sensory Environmental Modification and Sensory Modulation Strategies.
Social Skills Intervention	Intervention practices that help with social interaction difficulties and may be implemented through a variety of formats, including peer-mediated, caregiver-mediated, and professional-mediated programmes.
Visual Supports	A group of strategies that uses visual and concrete cues (e.g., pictures, objects, written words, lists, schedules, choice boards) to inform on an activity or routine, provide clear expectations for behaviour, and teach or prompt children on the autism spectrum to perform target skills and behaviours.

Medications in autism

The core symptoms of autism cannot be cured or improved with medication.

However, some medications can help with co-occurring symptoms – these include attention-deficit hyperactivity disorder (ADHD), challenging behaviours and psychiatric conditions (e.g.,

anxiety), and sleep difficulties. It is important that the use of such medications **should only be initiated by a specialist doctor**, and psychological, behavioural, and environmental strategies should continue to be used in conjunction with these medications.

Some complementary and alternative treatments (*refer to the Section 6*) may also be used in addition to mainstream interventions, but they **should not replace mainstream interventions**.

The following is the summary of recommendations for the use of medications in the management of children and adolescents on the autism spectrum:

CLINICAL FEATURE	SUMMARY OF RECOMMENDATIONS
Core symptoms of autism (social difficulties and repetitive restricted behaviours)	**No medication has sufficient evidence to justify use.**
Co-occurring conditions	*Attention-deficit Hyperactivity Disorder (ADHD)* • Methylphenidate, atomoxetine and guanfacine are possible options. *Challenging Behaviours and Psychiatric Conditions* • Risperidone and aripiprazole can be used for challenging behaviours (irritability and hyperactivity) in the short term. *Sleep Difficulties* • Melatonin can be considered for sleep issues.

SECTION 6: WHAT ARE COMPLEMENTARY AND ALTERNATIVE TREATMENTS FOR AUTISM?

Complementary and Alternative Treatment or Medicine (CAM) refers to treatment approaches that are not usually part of conventional medical care. There is not enough evidence to recommend the majority of the various CAM that has been suggested to potentially help autism. Many of the CAM have been known to cause harm to the child/adolescent and hence should not be used.

The following is the summary of recommendations regarding the use of CAM in the management of children and adolescents on the autism spectrum:

TYPE OF RECOMMENDATION	CAM
CAM that **should NOT be used** in the treatment of children and adolescents on the autism spectrum These treatments **have been associated with significant potential for causing harm** in individuals who use them.	Antimicrobial therapy Aromatherapy Chelation therapy Chiropractic, osteopathy and cranio-sacral therapy Facilitated communication Helminth therapy Hyperbaric oxygen therapy Immunoglobulin therapy Microbial transfer therapy Stem cell therapy Vagal nerve stimulation
CAM that is **not recommended** as treatment for core symptoms of autism in children and adolescents	Acupuncture Amino acid supplementation Animal-assisted interventions Art therapy Auditory integration therapy Camel milk Coenzyme Q10 Dance movement therapy Digestive enzymes Folinic acid Gluten-free casein-free (GFCF) diet Ketogenic diet Mesalazine Mindfulness intervention Minerals including Zinc, Magnesium and Iron Neurofeedback Omega-3 fatty acids Probiotics Qigong massage or other types of massage Secretin

	Sulforaphane Transcranial direct current stimulation Vitamins including B12 and B6
CAM that **may be considered** in some children and adolescents on the autism spectrum	Music therapy Visual motor exercises

You should discuss with your child's doctor the potential benefits and harms associated with any CAM that you are considering for your child/adolescent.

CAM **should not replace mainstream, evidence-based interventions** for children and adolescents on the autism spectrum. Decisions to use CAM should take into account:

1. Whether the CAM can add value to existing intervention programme, and in what way
2. The implications of investing limited resources (time, money, manpower) on approaches which may not produce significant benefit
3. The potential for harm in young, growing children with vulnerable neurological and psychological systems.

In addition, the following are recommended for children and adolescents on the autism spectrum:

- A healthy diet of a variety of fresh foods; intake of vitamins, minerals and probiotics in the form of natural fresh food is encouraged.
- Engagement in a variety of physical activities, at age-appropriate intensity and frequency.

Children and adolescents on the autism spectrum who exhibit symptoms suggestive of a vitamin, mineral, amino acid or other nutritional deficiency, should be evaluated, treated and monitored as per standard clinical practice by trained healthcare professionals.

SECTION 7: ARE THERE OTHER CONDITIONS ASSOCIATED WITH AUTISM?

The prevalence of co-occurring conditions varies widely as autism is a spectrum condition with various causes and symptoms. Some children/adolescents on the autism spectrum meet diagnostic criteria for other neurodevelopmental conditions as well, while some may have a mental health condition or medical condition at any point in their lives.

Neurodevelopmental co-occurring conditions in autism include:

Learning difficulties, attention-deficit hyperactivity disorder (ADHD), developmental coordination disorder, language disorder, and intellectual disability.

Specifically, language disorder occurs in many children/adolescents on the autism spectrum with approximately 30% of individuals having minimal verbal skills even past childhood. Intellectual disability can occur in 30 – 60% of children/adolescents on the autism spectrum.

Mental health conditions in autism include:

Anxiety disorder, oppositional defiant disorder, Tourette's syndrome and tic disorder, obsessive compulsive disorders, depressive disorders, bipolar disorders, schizophrenia, gender variance and eating disorders.

Medical conditions include:

Epilepsy, feeding challenges, gastrointestinal disorders, genetic disorders, hearing disorders, inborn errors of metabolism, obesity, visual challenges, and dental disorders.

It is important that all children and adolescents on the autism spectrum are monitored for co-occurring conditions through regular follow-up with a doctor over their growing years.

Early identification of co-occurring conditions helps us better understand the child/adolescent's needs, and allows for targeted treatment and better outcomes.

SECTION 8: HOW CAN YOU PREPARE YOUR CHILD FOR APPROPRIATE EDUCATION PLACEMENT AND TRANSITION?

Educational interventions and school placements at preschool ages (birth to 7 years old)

Children from birth to 7 years old who have been assessed with developmental needs, including children on the autism spectrum, can receive intervention through government-funded or private early intervention programmes.

Educational interventions and school placements for formal school-ages (7 years old and above)

Parents will need to make important decisions about school placements as part of the transition planning process from early intervention to school-aged provisions when the child approaches the compulsory school age.

You should discuss your child's special educational needs with appropriate professionals who work with him or her to decide on the most suitable educational options when he or she reaches school-going age.

Key questions that you can consider when in discussion with your healthcare professionals around choosing an appropriate school-aged provision for the child may include:

- What are the child's special educational needs?
- What kind of support does the child need to meet these needs?
- Where can this support be found - mainstream primary or special education (SPED) school?

You can assist in preparing your child for the new learning environment and communicate regularly with teachers, and work with school personnel to decide on the appropriate support for your child's changing needs.

Educational support for students on the autism spectrum

The key features of educational support for students on the autism spectrum embraced by both school systems in Singapore include:

- Evidence-based teaching approaches for students on the autism spectrum
- Structured learning environments
- Tiered System of Support.

Students are provided with support based on their individual needs. The school-based supports available in all mainstream schools that could be applicable for students with special educational needs, including those on the autism spectrum, are literacy and numeracy support, Mother Tongue language acquisition, social-emotional wellbeing, sexuality education, education and career guidance, and access arrangements for examinations.

SPED schools are equipped with specialised manpower and customised facilities, and offer customised curricula and programmes. SPED teachers receive specialised training on evidence-based pedagogies to teach and support students with moderate-severe special educational needs. SPED schools are equipped with customised facilities to better support teaching and learning for a range of disability profiles, such as sensory and therapy rooms, hydrotherapy pools, and dedicated rooms to teach Daily Living Skills and Vocational Education.

Transitions between educational settings

Transitions into, out of, and between educational settings are often difficult for children on the autism spectrum because they are accompanied by unpredictability, which may cause confusion and anxiety for the child.

Key periods of transition occur (i) from diagnosis to intervention, (ii) from preschool or early intervention settings to formal schooling, (iii) within and across formal schooling settings, and (iv) from formal schooling to post-school pathways.

With the help from your child's doctor, you can plan ahead and support your child to reduce the impacts of transitions through sharing of information and working closely with receiving schools.

Transitions into adult settings

Most individuals on the autism spectrum generally improve with age (with regard to severity of symptoms of autism, social skills, language and speech development and degree of behaviours and sensory sensitivities). However, challenges can remain with respect to employment, social relationships and independent living.

For caregivers whose children are in SPED schools, you should discuss the transition plans for their children early by reaching out to the Transition Planning Coordinators in these SPED schools.

For caregivers whose children are in mainstream schools, you may want to consider not only your child's academic progress as they progress through the educational system, but also their social adaptation in school and their development of executive functioning skills which

will be critical to their transition to Institutes of Higher Learning, as well as employment and independent living.

For caregivers whose adolescents are likely to transition to open employment after school (rather than higher education, day activity centres or sheltered workshops), you can seek the help of agencies such as Employment and Employability Centre (https://www.autism.org.sg/core-services/e2c), Trampolene (https://trampolene.org/) and Inclus (https://inclus.sg/) for additional support in job placements.

For caregivers whose adolescents are transitioning to day activity centres, sheltered workshops or residential facilities, the Enabling Guide published by SG Enable provides more information on these services (https://www.enablingguide.sg/im-looking-for-disability-support/child-adult-care/).

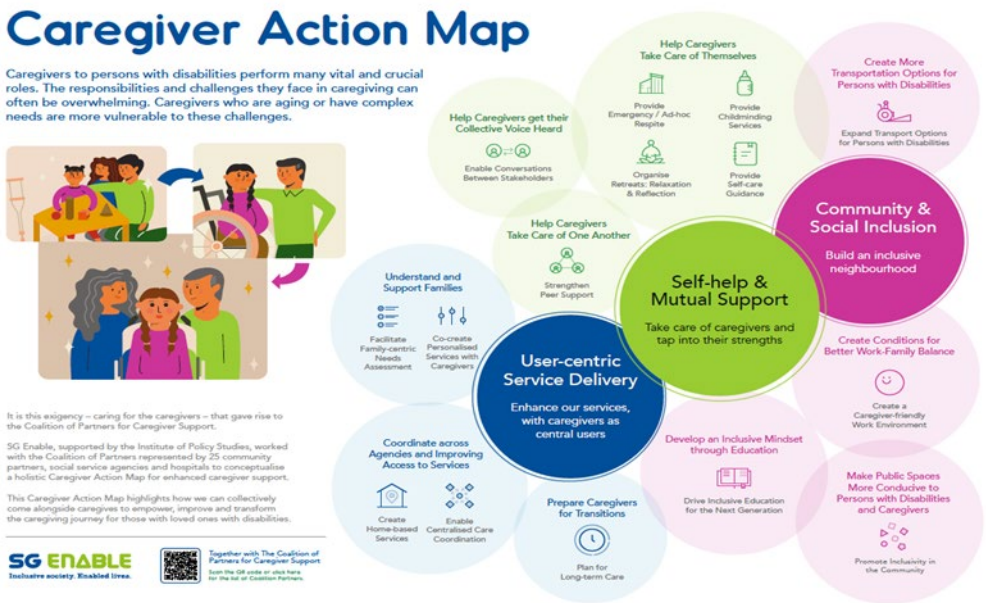
SECTION 9: CAREGIVER AND FAMILY SUPPORT IN SINGAPORE

Having a child or adolescent on the autism spectrum can affect caregivers and families in many ways including in terms of social coping, economic challenges, physical and mental health. Parents and caregivers require information to help them understand the autism diagnosis, education and intervention options, and sources of social and financial support. Interventions for the child that promote positive parenting, mothering and fathering, can help both the family and the child to improve. This can include support structures which help parents to understand their children/adolescent's autism and the associated challenges as early as possible. Parent training on how to respond to behaviours of concern and their participation in support groups should be encouraged.

Parents should also be encouraged to discuss their emotional well-being and family coping with professionals so as to facilitate provision of support and resources as needed.

The caregiver support landscape in Singapore has evolved much since the first enabling masterplan (2007–2011). The development of the Caregiver Action Map (*see infographic below*) by SG Enable in collaboration with Social Service Agencies (SSAs), community partners, hospitals and the Institute of Policy Studies in 2019 further described the need to develop services that are user-centric to promote self-help and peer support, and last but not least, build inclusive neighbourhoods in the community.

It is important that the community, as a whole, supports families and individuals on the autism spectrum by practising inclusion into community and social events while accommodating differences as much as possible.



Source: https://www.sgenable.sg/docs/default-source/default-document-library/resources-library/caregiver-action-map.pdf?sfvrsn=99ad13c4_3

Many useful resources are available to support caregivers in accessing appropriate services for their dependents and themselves:

- SG Enable's Enabling guide (https://www.enablingguide.sg/)
- CaringSG's member resources (https://caring.sg/)

Caregiver Support, Education and Training for children and adolescents with autism are provided by:

- Specific SSAs where the child is receiving services, including: Autism Association Singapore, Rainbow Centre, AWWA, St Andrew Autism Centre, Autism Resource Centre and other early intervention centres and special schools.

  https://www.moe.gov.sg/special-educational-needs/understand/support
- Other institutions and agencies that are not bounded by where the child is receiving services, including ARC Learning Academy (https://learningacademy.autism.org.sg/), Rainbow Centre -Training and Consultancy (https://rainbowcentre.org.sg/training/), SGEnable's Step One training, CaringSG's CAREconnect programmes (https://caring.sg/careconnect/) and CAREbuddy service (https://caring.sg/carebuddy/) and Caregiver Alliance Limited (https://www.cal.org.sg/programme-support).

For more information on **Informal Support Groups**:

https://www.enablingguide.sg/caring-for-caregivers/informal-support-groups

Professionals can provide you with information about relevant support groups and organisations and recommend sources of information as needed.

USEFUL WEBSITES/RESOURCES

Main Specialist Diagnostic and Management Centres

KK Women's and Children's Hospital
*(*https://www.kkh.com.sg/patient-care/areas-of-care/childrens-services/Pages/child-development.aspx*)*

National University Hospital
*(*https://www.nuh.com.sg/our-services/Specialties/Paediatrics/Pages/Developmental-and-Behavioural-Paediatrics.aspx*)*

Child Guidance Clinic
*(*https://www.imh.com.sg/Clinical-Services/Outpatient-Clinics/Pages/Child-Guidance-Clinic.aspx*)*

Parents' Guide for Young Children Who Need Early Intervention

Supporting Your Child – A Parent's Guide for Young Children Who Need Early Intervention
(https://www.moh.gov.sg/resources-statistics/educational-resources/parents-guide-for-young-children)

MOE's Special Educational Needs Resource Page

MOE website on the supports for students with special educational needs
(https://www.moe.gov.sg/special-educational-needs)

Resources on Post-school Pathways and Options

MOE website on the various post-school pathways
(https://www.moe.gov.sg/special-educational-needs/educational-journey)

SG Enable website on the various training and employment opportunities
(https://www.enablingguide.sg/im-looking-for-disability-support/training-employment)

Training opportunities offered by Enabling Academy
(https://www.sgenable.sg/your-first-stop/training-consultancy/enabling-academy/training)