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Vision = Champions for Persons with Autism Spectrum Disorder

**Autism Virtual Early Screening Tool (AVEST)**

**Handbook for Families**

# Foreword



Autism is a developmental condition that affects how a person communicates, interacts, and relates with others. Early identification of Autism is crucial for providing timely and appropriate interventions that can improve the child with Autism's social relationships, educational, and employment outcomes. In Malaysia many children with Autism are identified late, often after the age of 3-4 years; at times due to limited access to services. Having seen many such children, it is clear that the long outcome is significantly affected when Autism is identified late. It is critical to perform routine developmental surveillance and screening to identify Autism in the first two years of life and the AVEST is one such useful screening tool. Early identification enables early intervention and can help children with Autism achieve their full potential in life.

## Dato' Dr. Amar-Singh HSS

Consultant Community Paediatrician  
Advisor, National Early Childhood Intervention Council (NECIC), Malaysia  
Honorary Senior Fellow, Galen Centre for Health and Social Policy



Early diagnosis and intervention in Autism Spectrum Disorder has been shown to have long term positive outcomes as a result of brain plasticity in the first 3 years of life. Intervening early has been shown to arrest and even reverse some of the symptoms of autism. Access to early diagnosis is difficult due to availability of professionals experienced in early diagnosis, logistics and cost. AVEST is the first step in obtaining a diagnosis. With the help of trained professionals, parent reporting through standardised screening tools and the use of videos of children in their natural environment, we hope to reach out to many more families and identify children at risk so interventions can take place immediately without lengthy waits for a formal in-person diagnosis.

## Dr. Rajini Sarvananthan

Consultant Developmental and General Paediatrician  
ParkCity Medical Centre  
Baby and Beyond Child Specialist Centre  
Visiting Consultant, Universiti Malaya Medical Centre



Early identification and screening for autism are crucial in enabling timely intervention and support for affected individuals. However, families often face significant challenges when accessing in-person assessments. Limited availability of specialised healthcare professionals, long waiting times, and geographical constraints can hinder families from obtaining crucial evaluations for their children. AVEST leverages technology to provide accessible online assessments that can be conducted remotely, eliminating the barriers of distance and time. This revolutionary platform ensures that families in Malaysia and beyond can safely have their children screened from the comfort of their homes. We hope that assessment results can empower families with the early identification necessary to initiate appropriate interventions promptly and embark on a journey of understanding, support, and empowerment for their children with autism.

## Prof. Dr. Toh Teck Hock

Paediatrician & Head of Clinical Research Centre, Sibu Hospital, Ministry of Health Malaysia  
Professor, Faculty of Medicine, SEGi University  
Vice President, National Early Childhood Intervention Council (NECIC), Malaysia

# What is Autism Spectrum Disorder (ASD)?

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder that affects communications, behaviour, and learning.

ASD symptoms may appear by 12 to 18 months of age or earlier.<sup>1</sup> Studies have proposed that screening can be initiated as early as 6 months old with non-ASD specific tools covering communicative and social developmental domains.<sup>2</sup> People with ASD often have challenges in areas of social communication and interaction, and restricted or repetitive behaviours or interests. However, the way ASD presents itself can vary greatly between people. For example, some people with ASD may require a lot of support and help in their daily activities, while some people can carry out their daily activities with little to no support.

Although ASD has been found to be more prevalent in boys, it is a condition that occurs among all genders, races, ethnicities, and economic backgrounds. ASD is a lifelong condition. With early detection and intervention, a child's quality of life and functional ability can be improved. Therefore, it is important to diagnose a child as early as possible.

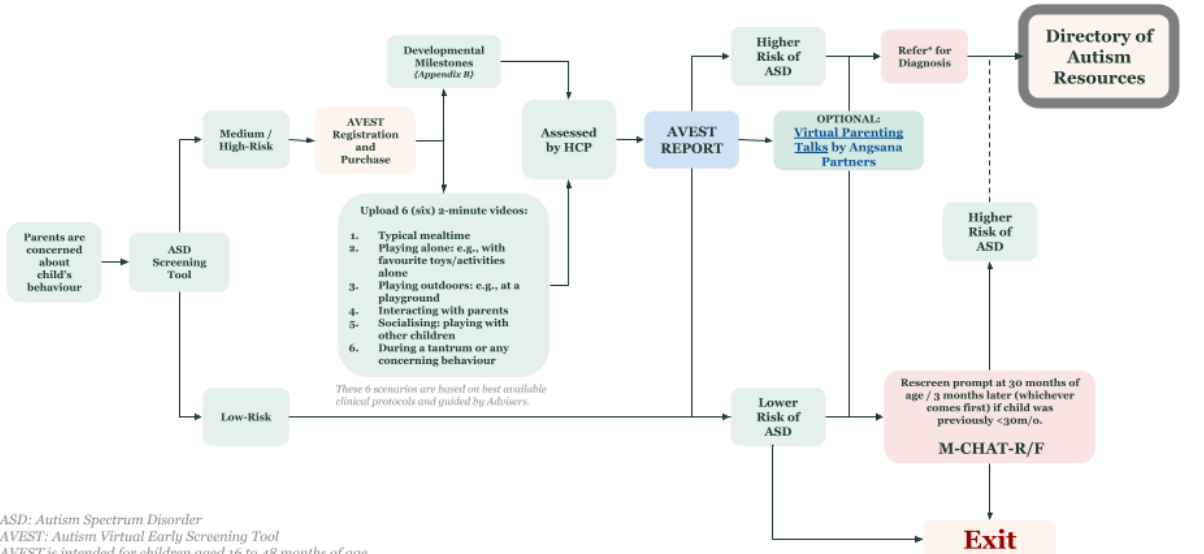
Currently, it takes **up to 21 months** to obtain a referral letter for an ASD diagnosis in Malaysia. The NASOM-Angsana AVEST tool helps to **reduce this long wait**, to as short as **2 weeks**.<sup>3</sup>

<sup>1</sup>Office of Communications. When do children usually show symptoms of autism? [Internet]. U.S. Department of Health and Human Services; 2017 [cited 22 May 2023]. Available from: <https://www.nichd.nih.gov/health/topics/autism/conditioninfo/symptoms-appear#f2>

<sup>2</sup>Wetherby, Amy & Prizant, Barry. Communication and Symbolic Behavior Scales Developmental Profile Infant/Toddler Checklist. 2002.

<sup>3</sup>Jayanath S, Ozonoff S. First Parental Concerns and Age at Diagnosis of Autism Spectrum Disorder: A Retrospective Review from Malaysia. Malays J Med Sci. 2020 Oct; 27(5):78-89.

# What is your AVEST journey?



Private and Confidential for Angsana and NASOM. The content of this slide are subject to change at the discretion of Angsana and NASOM.

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# AVEST Manual for Families

## Video Upload Guidelines for Families

Please upload 1 video per scenario (max 300MB, <2 minutes per video) with the following guidelines:

1. Capture natural expressions. Avoid excessive interactions or induced environments.
2. Start recording ahead and then trim video clips to a **minimum of 1 minute and maximum of 2 minutes**.
3. Avoid shaky footage. Either slow down or use a mounting device.
4. Record in landscape view.
5. Ensure good lighting. Avoid using a flashlight.
6. Maintain distance (at least 1 metre away). Keep your child at the centre of the recording screen.
7. You may repeat recording for certain scenarios and select the best clip for each specified scenario.
8. Where necessary, provide caption during video upload to specify which is your child if there are multiple individuals in the video. For example, my child is the boy in a red shirt and blue shorts.
9. If the uploaded videos are of insufficient quality, you may be requested to re-record.

## Video Scenarios Specifications for Families

Description of Scenarios	Do(s)	Don't(s)	Communication Styles
Scenario 1: Typical mealtime E.g., allow your child to feed himself or herself with utensils, if possible.	<ul style="list-style-type: none"> <li>• Capture the typical mealtime process of your child at home.</li> <li>• It should include calling for a meal, having the child be seated, eating and drinking, finishing the meal.</li> <li>• Provide just a little amount of one or two mouths to stimulate your child to request for more when they finish.</li> </ul>	Let your child eat alone just for video recording if you usually sit and eat with them.	<ul style="list-style-type: none"> <li>• If your child is feeding himself or herself, you can try to offer more food or another type of food.</li> <li>• If your child is spoon-feeding, please pause for 2 seconds before the next feeding, waiting for your child to request it.</li> <li>• Try only 2 attempts at a mealtime.</li> </ul>
Scenario 2: Playing alone E.g., with favourite toys/activities alone in his or her play area.	<ul style="list-style-type: none"> <li>• Let your child choose their preferred toy or activity to engage with (e.g., blocks, doll).</li> <li>• Make sure other toys are also visible so that your child can change the toys any time.</li> </ul>	Force a toy to your child or fabricate the playtime.	<ul style="list-style-type: none"> <li>• If your child is not interested in toys, you can try to offer them activities that might interest them. E.g., drawing, reading books, jumping on trampoline.</li> </ul>
Scenario 3: Playing outdoors E.g., at an indoor/outdoor playground, walk in a park or own garden.	<ul style="list-style-type: none"> <li>• Follow his or her lead in their exploration in the outdoor environment.</li> <li>• If it is at school/pre-school, you may ask for the teacher's help to record for you.</li> <li>• Make sure your child is always in your visible attention.</li> </ul>	Interact with your child by force or try extra hard to interact with the child.	<ul style="list-style-type: none"> <li>• You may offer activities such as jumping, climbing, sliding, running.</li> <li>• If you are in the park, you may allow your child to run around. If within a few seconds, your child is not turning back, please call his or her name, wave your hand to ask them to come back.</li> </ul>
Scenario 4: Interacting with parents E.g., playing together with toys, playing	Play, interact or engage with your child as you normally would.	Interact with your child by force or try extra hard to interact with the child.	<ul style="list-style-type: none"> <li>• Be sensitive and respond to your child's gestures or verbal requests.</li> <li>• Always pause for 2 seconds</li> </ul>

peekaboo, tickling, swinging in air.			<p>before going to the next question to allow your child to respond to you.</p> <ul style="list-style-type: none"> <li>• If your child does not respond when you pause, please proceed as usual.</li> </ul>
<p>Scenario 5: Socialising E.g., playing toys together with other children, running together in the playground.</p>	<ul style="list-style-type: none"> <li>• Capture a typical scenario of your child playing in the presence of other children.</li> <li>• If your child doesn't play with other children, you can record it during a group activity, such as breaktime at school or meet in a playground.</li> <li>• You may ask for the pre-school/school teacher's help to record for you.</li> </ul>	<p>Keep an obvious distance that distracts your child or forces your child to play with somebody.</p>	<ul style="list-style-type: none"> <li>• Observe and be silent when your child is playing with other children.</li> <li>• Avoid intervening in the game your child is playing, unless your child is asking you for help. You can ask your child to ask for help from his/her friend.</li> </ul>
<p>Scenario 6: During a tantrum or any concerning behaviour E.g., any time when you intervene in your child's play, when you are not fulfilling your child request, giving an instruction to do something.</p>	<ul style="list-style-type: none"> <li>• Capture a natural behaviour of your child that is of your particular concern.</li> <li>• Does not matter if your child's behaviour is making sense or not, as long as you feel it is awkward.</li> </ul>	<p>Provoke your child to throw a tantrum or concerning behaviour.</p>	<ul style="list-style-type: none"> <li>• Observe and remain silent until your child comes to you to ask for comfort.</li> <li>• Only talk to your child after your child settles down slightly.</li> </ul>

