If your doctor is concerned that your child may have Autism Spectrum Disorder (ASD), he or she should refer your child to other professionals for a complete and thorough evaluation. The elements of an evaluation are determined by the areas of development that are in question. Some evaluators have a comprehensive “standard battery” of tests or evaluations that they use to decide about an ASD diagnosis. In the most comprehensive evaluation, the components described below are assessed.

Usually, these components are completed by different professionals who have specific expertise in each area. If the evaluation is done by a team, the team talks together about the results, the diagnosis, and recommendations. If the clinicians are working independently, it is important for you to keep and coordinate all of the reports from each evaluator and bring them to each appointment so that each clinician has the benefit of incorporating what other specialists have found in their evaluations into his or her own impressions, recommendations, and report.

Many of the evaluation components described below are followed by a list of tests. Not every test needs to be used. The evaluator will choose measures that best fits each individual’s needs.

**Hearing Screening:** Hearing impairments not only impact learning, but they could also affect speech and language development as well as social functioning. When ASD or a communication problem is suspected, a hearing evaluation is often recommended. This test can be ordered by your pediatrician or primary care provider.

**Developmental/Cognitive Testing:** Sometimes this is done by a brief screening, or it may be a more thorough assessment of developmental/cognitive levels performed with standardized instruments (tests). While screening may indicate whether a more thorough assessment is recommended, a comprehensive assessment is
needed to determine whether an individual meets full criteria for ASD. For children under the age of six, intellectual/cognitive functioning or IQ is considered to be very “plastic,” or changeable. Screening or testing yields an approximation of developmental level compared to same age peers, but it doesn’t necessarily predict what future abilities will be. After the age of six, IQ is much more stable. It is important to know where your child’s developmental level or IQ is, compared to other children his or her age, as this provides important information about what to expect with regard to learning, talking, and interacting with others. Because ASD is a developmental disorder, evaluators need to know what a child’s overall developmental level is before they can determine if social and communication development has not kept up with other areas of development. Developmental and cognitive tests for young children can include pictures, puzzles, blocks, drawing, cards, matching items, and other toys and games. Typically used cognitive or developmental tests are:

- Mullen Scales of Early Learning
- Bayley-IV Scales of Infant and Toddler Development
- Stanford-Binet (SB-5) – Intelligence Tests
- UNIT-2 – Universal Nonverbal Intelligence Test
- DAS-II – Differential Ability Scales
- WPPSI-IV – Wechsler Preschool and Primary Scale of Intelligence
- Leiter-3 – Nonverbal test of Cognitive Abilities
- WISC-V – Wechsler Intelligence Scale for Children
- IDA-2 – Infant Toddler Development Assessment

**Speech and Language:** An assessment of speech and language functioning is important for the diagnosis of ASD. The assessment may be a structured testing session, a brief set of screening activities, or a clinical observation as a speech-language pathologist (SLP) plays with the child. SLPs focus on two fundamental features: language and speech. Language includes how much a child understands (receptive) and speaks (expressive), as well as the child’s pragmatics, grammar, and how the child is using the language he or she has to communicate with others. Speech involves articulation, stuttering, lisps, volume, speed, etc. Practitioners are also interested in how children use language socially – to share interests and excitement and to ask for help. Because we live in a verbal world, difficulties in any aspect of speech and language functioning have important implications for everyday life. Speech and language testing can include pictures, toys, and games.
Speech-language measures and questionnaires include:

- CCC-2 – Children’s Communication Checklist
- CELF-5 – Clinical Evaluation of Language Fundamentals
- PPVT-4 – Peabody Picture Vocabulary Test
- EVT2 – Expressive Vocabulary Test
- CASL – Comprehensive Assessment of Spoken Language

Parent Interviews: Practitioners give parents questionnaires or conduct interviews to learn important information about a child’s developmental and medical history. These questionnaires and interviews help to provide some context and background for current concerns parents may have about their child. Generally, questions are asked about pregnancy, labor and delivery, developmental milestones, medical illness (for example, seizures, serious infection, chronic conditions, concussion, loss of consciousness, injuries, picky eating, and sleep problems), and extended family medical/developmental and psychiatric history. Also, information will be gathered regarding the child’s educational programming and any learning difficulties, as well as questions related to social functioning. Parents can use this time to talk to the examiner about specific questions they have related to their child’s development, as well as specific concerns and expectations about the evaluation. In addition to practitioner specific interviews, the following standardized interviews are used:

- ADI-R – Autism Diagnostic Interview – Revised
- DICA IV – Diagnostic Interview for Children and Adolescents

Child Observation: Clinical observations of the child are made either within the testing situation and/or in a classroom setting or home. These observations are particularly important because the practitioner can collect vital, first-hand information regarding the child’s behavior and symptoms to help identify the correct diagnostic classification. While parent report is extremely important, an evaluation is not considered to be comprehensive without direct child observation. Some structured and semi-structured tests or observation systems have been developed to help guide and organize practitioner observations, but expert clinicians are able to gather critical information from observations even without these tools. Observations include activities that are appropriate to the child’s developmental level and interests. Besides practitioner-specific observation methods, the most common structured observation tool is:
• ADOS-2 – Autism Diagnostic Observation Scale

Adaptive Functioning: Adaptive functioning refers to the assessment of functional skills in everyday life in order to determine level of independence. When thinking about a child’s adaptive functioning, it is important to focus on a child’s typical performance rather than his or her optimal or best ability. The adaptive functioning assessment usually targets areas like functional communication, writing, self-help skills, social skills development, and, when an individual is older, work skills. These independent living skills are often a focus of intervention. Adaptive information is gathered in an interview or through a questionnaire. The most commonly used measures of adaptive functioning are:

• VABS (Vineland) III – Adaptive Behavior Scale
• ABAS-II – Adaptive Behavior Assessment System
• SIB-R – Scales of Independent Behavior Revised

Co-occurring or Differential Diagnoses: At all times, practitioners use their clinical expertise, observations, and sometimes structured questionnaires and assessments to assess the presence of other diagnoses or conditions that might be relevant in addition to ASD or perhaps instead of ASD. Co-occurring or co-morbid disorders are ones that occur along with another disorder, while differential diagnoses are separate disorders, which better explain a child’s specific symptoms.

Genetic Testing: Given the high rates of genetic conditions or abnormalities in children on the autism spectrum and those with other developmental disorders, practitioners routinely recommend genetic testing. In fact, the American College of Medical Genetics and Genomics recently recommended genetic testing for all children with developmental disabilities, including ASD. Along with providing information that might be useful for other family members, identifying known genetic conditions may help to clarify the child’s learning and behavioral profile, thereby allowing for more targeted interventions. Some genetic disorders have typical pathways of development that can help parents to know how their child might change and grow in the future.

Depending on the individual being assessed, an evaluator may recommend that other elements also be tested. These may include:

Motor Skills: An assessment of fine (finger movements) and gross (large muscle
movements) motor skills can also be important to help determine if difficulties in these areas are causing downstream effects on learning and behavior as well as adaptive functioning. While not considered a core symptom of ASD, many children on the autism spectrum and those with other developmental disorders have difficulties with motor skills. These skills are often assessed by an occupational therapist or physical therapist. Some of the most commonly used measures include:

- PDMS2 – Peabody Developmental Motor Scales, Second Edition
- Beery VMI – Beery-Buktenica Developmental Test of Visual-Motor Integration, 6th Edition
- BOT-2 – Bruininks-Oseretsky Test of Motor Proficiency, Second Edition

*Sensory Sensitivities:* In 2013, for the first time, sensory reactivity or interest was included in the fifth edition of the Diagnostic and Statistical Manual (DSM-5) as a symptom of ASD. DSM-5 is used by clinicians to diagnose individuals with psychiatric and developmental conditions, including ASD. Sensory sensitivities are often assessed by an occupational therapist. Some of the most commonly used measures include:

- Sensory Profile-2 Caregiver Questionnaire
- Sensory Profile-2 Caregiver Questionnaire Infant/Toddler
- SIPT – Sensory Integration and Praxis Test

*Executive Functioning:* This term refers to a collection of cognitive processes that are responsible for purposeful, goal-directed, problem-solving behavior. Difficulties in this area can lead to problems with changing from one activity to another, regulating emotions, and getting school work done. Many children with developmental disorders like ASD have difficulties in this area. Knowing which areas of executive functioning a child is struggling with helps to target intervention. Measures of executive functioning include:

- D-KEFS – Dellis-Kaplan Executive Functioning System
- BRIEF-2 – Behavior Rating Inventory of Executive Function
- NEPSY-II – Developmental Neuropsychological Assessment
- TEA-Ch – Test of Everyday Attention for Children

*Neurological Testing:* Neurological testing can provide useful information regarding neurological (brain and nervous system) processes or abnormalities that may be
affecting behavior/development. Techniques like neuroimaging have helped to identify brain differences or structural malformations, which can have important and quantifiable behavioral/learning impacts. Once again, gaining information like this will help to better clarify your child’s profile, which is important for intervention. Neuroimaging and EEG are not standard components of an ASD evaluation, but may be recommended if any neurological symptoms are reported or observed. Neuroimaging tests include:

- MRI – Magnetic Resonance Imaging
- MEG – Magnetoencephalography
- fMRI – functional Magnetic Resonance Imaging
- EEG – Electroencephalography

Related Articles:

- Getting an Evaluation for Autism Spectrum Disorder
- Who is Able to Diagnose Autism Spectrum Disorder
- Autism Spectrum Disorder Measures
- Autism Diagnostic Interview – Revised (ADI-R)
- Autism Diagnostic Observation Scale (ADOS)
- Speech, Language, and Communication
- Clinical Genetics Evaluations
- Co-Occurring Conditions or Co-Morbidities
- Sensory Processing and Sensory Integration in Individuals with ASD
- Executive Functioning Difficulties

Recommended Link:

- CAR Resource Directory (search for diagnosticians)