Speech & Language Disorder
ADHD
ASD
Intellectual Disability
Intelligence Testing

Symptoms

Versus

Impairments

Speech Disorders

Speech and Language delay

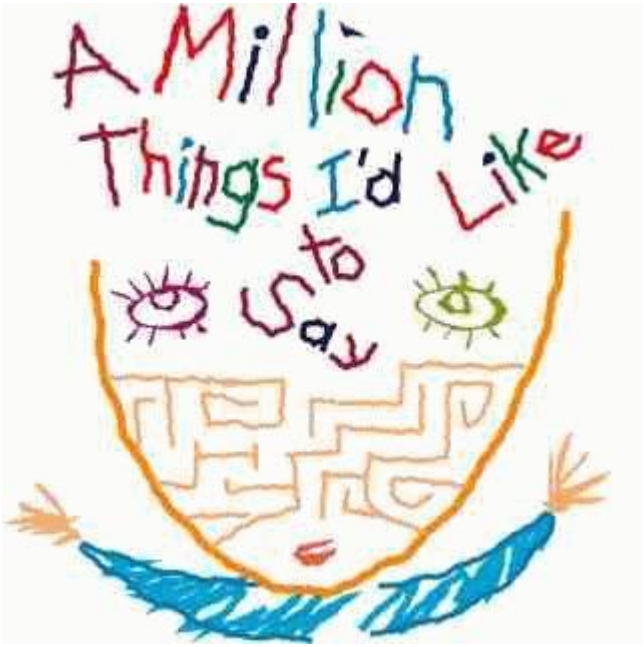
Stuttering

Severe Childhood Speech and sound disorders: i.e. Childhood apraxia of speech

Speech and Language delay

Stuttering

Stuttering affects the fluency of speech. It begins during childhood and, in some cases, lasts throughout life. The disorder is characterized by disruptions in the production of speech sounds, also called "disfluencies." Most people produce brief disfluencies from time to time.



For instance, some words are repeated and others are preceded by "um" or "uh." Disfluencies are not necessarily a problem; however, they can impede communication when a person produces too many of them.

Stuttering

- Usually appears between 2 ½ - 4 years.

- The exact cause of stuttering is unknown. Recent studies suggest that genetics plays a role in the disorder. It is thought that many, if not most, individuals who stutter inherit traits that put them at risk to develop stuttering. The exact nature of these traits is presently unclear. Whatever the traits are, they obviously impair the individual's ability to string together the various muscle movements that are necessary to produce sentences fluently.

Childhood Apraxia of Speech

Childhood apraxia of speech (CAS) is a motor speech disorder. Children with CAS have problems saying sounds, syllables, and words. This is **not** because of muscle weakness or paralysis.

The brain has problems planning to move the body parts (e.g., lips, jaw, tongue) needed for speech. The child knows what he or she wants to say, but his/her brain has difficulty coordinating the muscle movements necessary to say those words.

www.asha.org

General things to look out for:

A Very Young Child

- Does not coo or babble as an infant
- First words are late, and they may be missing sounds
- Only a few different consonant and vowel sounds
- Problems combining sounds; may show long pauses between sounds
- Simplifies words by replacing difficult sounds with easier ones or by deleting difficult sounds (although all children do this, the child with apraxia of speech does so more often)
- May have problems eating

- *www.asha.org*

How is childhood apraxia of speech diagnosed?

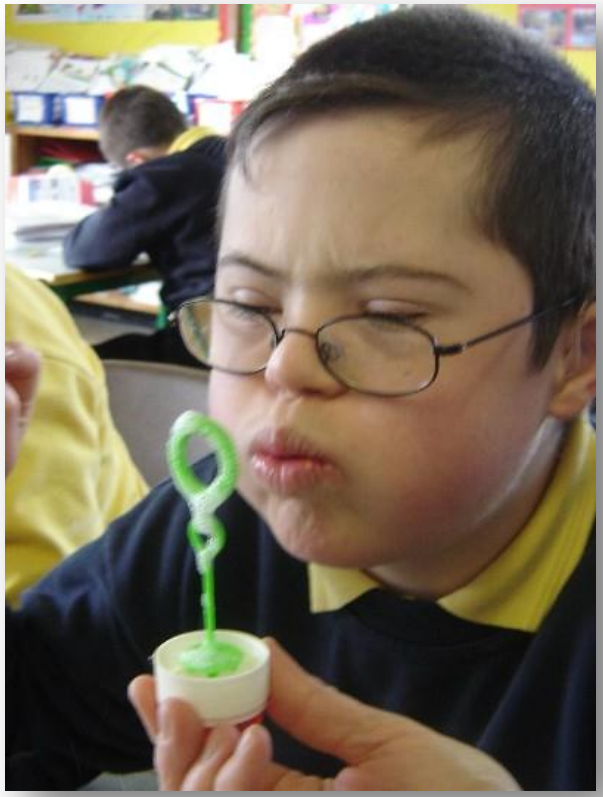
- An audiologist should perform a hearing evaluation to rule out hearing loss as a possible cause of the child's speech difficulties.

- A certified-SLP with knowledge and experience with CAS conducts an evaluation. This will assess the child's oral-motor abilities, melody of speech, and speech sound development. The SLP can diagnose CAS and rule out other speech disorders, unless only a limited speech sample can be obtained making a firm diagnosis challenging.

An oral-motor assessment involves:

- checking for signs of weakness or low muscle tone in the lips, jaw, and tongue, called dysarthria. Children with CAS do not usually have weakness, but checking for weakness will help the SLP make a diagnosis.

- seeing how well the child can coordinate the movement of the mouth by having him or her imitate non-speech actions (e.g., moving the tongue from side to side, smiling, frowning, puckering the lips)



- evaluating the coordination and sequencing of muscle movements for speech

- examining rote abilities by testing the child's skills in functional or "real-life" situations (e.g., licking a lollipop) and comparing this to skills in non-functional or "pretend" situations (e.g., pretending to lick a lollipop)

A melody of speech (intonation) assessment involves:

- listening to the child to make sure that he or she is able to appropriately stress syllables in words and words in sentences
- determining whether the child can use pitch and pauses to mark different types of sentences (e.g., questions vs. statements) and to mark off different portions of the sentence (e.g., to pause between phrases, not in the middle of them)

A speech sound (pronunciation of sounds in words) assessment involves:

Evaluating both vowel and consonant sounds

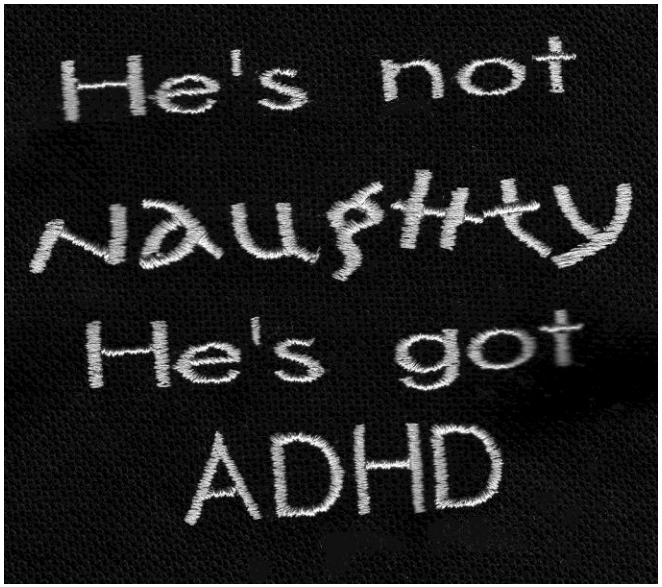
Checking how well the child says individual sounds and sound combinations (syllables and word shapes)

Determining how well others can understand the child when they use single words, phrases, and conversational speech.

Attention Deficit/ Hyperactivity Disorder

Attention Deficit/ Hyperactivity Disorder

- Approximately 3-7% in population
- Mainly males
- Chronic disorder
- Biological basis



Inattention

- ✓ alertness,
- ✓ arousal,
- ✓ selectivity,
- ✓ focus,
- ✓ encoding,
- ✓ sustained attention,
- ✓ distractibility,
- ✓ or span of apprehension,
- ✓ among others

(Barkley, 1988; Hale & Lewis, 1979; Mirsky, 1996; Strauss, Thompson, Adams, Redline, & Burant, 2000).

Hyperactivity

capacity to inhibit or delay prepotent responses, particularly in settings in which those responses compete with rules

Appears

- Active
- Restless
- Fidgety

DSM-IV (Text Revision) Definition

Attention-Deficit/Hyperactivity Disorder

Essential features:

A. Persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequently displayed and is more severe than is typically observed in individuals at comparable level of development.
B. Some hyperactive-impulsive or inattentive symptoms must have been present before seven years of age.
C. Some impairment from the symptoms must be present in at least two settings.
D. There must be clear evidence of interference with developmentally appropriate social, academic or occupational functioning.
E. The disturbance does not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorders and is not better accounted for by another mental disorder.

Three Subtypes:

Attention-Deficit/Hyperactivity Disorder Predominantly Inattentive Type: This subtype is used if six (or more) symptoms of inattention (but fewer than six symptoms of hyperactivity-impulsivity) have persisted for at least six months.

Attention-Deficit/Hyperactivity Disorder Predominantly Hyperactive-Impulsive Type: This subtype should be used if six (or more) symptoms of hyperactivity-impulsivity (but fewer than six of inattention) have persisted for at least six months.

Attention-Deficit/Hyperactivity Disorder Combined Type: This subtype should be used if six (or more) symptoms of inattention and six (or more) symptoms of hyperactivity-impulsivity have persisted for at least six months.

Diagnostic Criteria for the three subtypes of Attention-Deficit/Hyperactivity Disorder according to DSM-IV:

A. "Persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequently displayed and is more severe than is typically observed in individuals at comparable level of development." Individual must meet criteria for either (1) or (2):

(1) Six (or more) of the following symptoms of inattention have persisted for at least six months to a degree that is maladaptive and inconsistent with developmental level:

Inattention

(a) often fails to give close attention to details or makes careless mistakes in schoolwork, work or other activities
(b) often has difficulty sustaining attention in tasks or play activity
(c) often does not seem to listen when spoken to directly
(d) often does not follow through on instructions and fails to finish schoolwork, chores or duties in the workplace (not due to oppositional behavior or failure to understand instructions)
(e) often has difficulty organizing tasks and activities
(f) often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)
(g) often looses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books or tools)
(h) is often easily distracted by extraneous stimuli
(i) is often forgetful in daily activities
(2) Six (or more) of the following symptoms of hyperactivity-impulsivity have persisted for at least six months to a degree that is maladaptive and inconsistent with developmental level:

Hyperactivity

often fidgets with hands or feet or squirms in seat
(b) often leaves seat in classroom or in other situations in which remaining seated is expected
(c) often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)
(d) often has difficulty playing or engaging in leisure activities quietly
(e) is often "on the go" or often acts as if "driven by a motor"
(f) often talks excessively

Impulsivity

(g) often blurts out answers before questions have been completed
(h) often has difficulty awaiting turn
(i) often interrupts or intrudes on others (e.g., butts into conversations or games)
B. Some hyperactive-impulsive or inattentive symptoms must have been present before age 7 years.
C. Some impairment from the symptoms is present in at least two settings (e.g., at school [or work] and at home).
D. There must be clear evidence of interference with developmentally appropriate social, academic or occupational functioning.
E. The disturbance does not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorders and is not better accounted for by another mental disorder (e.g., Mood Disorder, Anxiety Disorder, Dissociative Disorder, or a Personality Disorder).

Attention Deficit/ Hyperactivity Disorder

List of symptoms of ADHD according to the *DSM-IV* (American Psychiatric Association 1994)

Attention deficit

1. often fails to pay close attention to details or makes careless mistakes in school work, work or other activities
2. often has difficulty sustaining attention in tasks or play activities
3. often does not seem to listen when spoken to directly
4. often does not follow through on instructions and fails to finish school work, chores or work duties (not the result of oppositional behaviour or of incapacity to understand instructions)
5. often has difficulty organising tasks and activities
6. often avoids or dislikes tasks that require sustained mental effort (like school or house work)
7. often loses things necessary for tasks or activities (for example, toys, homework, pencils, books or tools)
8. is often easily distracted by extraneous stimuli
9. is often forgetful in daily activities.

Attention Deficit/ Hyperactivity Disorder

Hyperactivity-impulsivity

HYPERACTIVITY

1. often fidgets with hands or feet or squirms in seat
2. often leaves seat in classroom or in other situations when expected to remain seated
3. often runs about or climbs excessively in situations in which it is inappropriate (with adolescents or adults this can be restricted to feelings of restlessness and agitation)
4. often has difficulty playing or engaging in leisure activities quietly
5. is often 'on the go' or acts as if 'driven by a motor'
6. often talks excessively

IMPULSIVITY

7. often blurts out answer before questions have been completed
8. often has difficulty awaiting own turn
9. often interrupts or intrudes on others (for example suddenly intervenes in conversations or games).

(American Psychiatric Association 2000)

Often co-occurs with…

Conduct disorder:

Oppositional defiant disorder:

- Learning disorders: dyslexia (The automation of word identification (reading) and/or typeface forming (spelling) does not develop, or develops very inadequately or very laboriously (Health Council 1997) and dysgraphia (characterised by a writing pattern with a difficult-to-read, chaotic image. The writing takes a lot of time and is a struggle, without really becoming regular (Hamstra-Bletz and de Bie 1985). Occurs in about 10% of population).

Causes

- Strong genetic predisposition: 79% monozygotic twins versus 39% dizygotic twins (Barkley, 1995)
- Poor/ slow maturation of Central nervous system

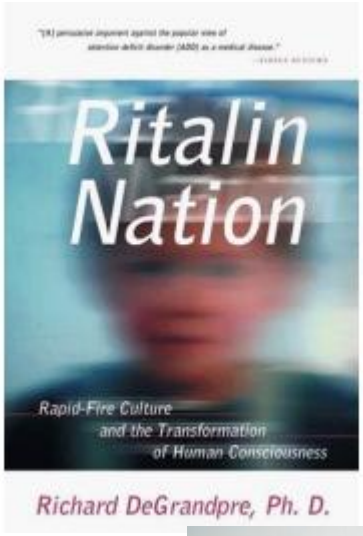
Results in…

- Weak academic performance
- Poor socialisation with peers

Medical treatment

Most common:

Stimulants:
methylphenidate (Ritalin),
dextroamphetamine (Dexedrine)
mixed amphetamine salts (Adderall)



Psychological and educational treatment

- Behaviour modification: time management, use of reinforcement schedules, feedback and increasing physical structures of homes/ classrooms
- Psychotherapy: for co-morbid anxiety/ depression disorders
- Educational: target dyslexia if any and training to improve working memory and organisational/ planning skills

Diagnosing ADHD

from Assessment of Childhood Disorders (2007) page 87

Minimally accepted evaluation of ADHD:

a. Parent rating of ADHD symptoms and other psychiatric disorders
b. Teacher ratings of ADHD symptoms and functioning at school
c. Semi-structured interview with parents to ascertain influences on behaviour, parental skills and knowledge, and developmental history of ADHD –related impairment, co-morbid conditions and various treatments or efforts to change behaviour
d. If the history indicates an, by a physician to rule out plausible physical causes for ADHD symptoms

Recommended Tests

Behavioural Assessment System for Children-2

: Parent Rating Scale

: Teacher rating Scale

Or alternatives:

: Child Behavior Checklist (CBCL; Achenbach, 1991, 2001; Achenbach & Rescorla, 2001)

: Conners Global Index

TABLE 10.2. Recommended Measures of a Core Assessment Battery for ASDs

Measure	Format	Age range[a]	Administration/ completion time	Training need[b]
Autism diagnosis: Parent report				
ADI-R	Interview	18 months–adult	1.5–3 hours	Intensive
SCQ	Questionnaire	4 years–adult	10 minutes	Minimal
M-CHAT	Questionnaire	18–30 months	10 minutes	Minimal
PIA	Questionnaire	2–6 years	20–30 minutes	Minimal
PDDBI	Questionnaire	1–17 years	10–15 minutes	Minimal
Autism diagnosis: Direct observation				
ADOS	Direct testing	2 years–adult	30–50 minutes	Intensive
CARS	Observation	2 years–adult	5–10 minutes	Moderate
Intelligence				
MSEL	Direct testing	Birth–68 months	15–60 minutes	Moderate
DAS	Direct testing	2.5–17 years	25–65 minutes	Moderate
WISC-IV	Direct testing	6–16 years	50–70 minutes	Moderate
Stanford–Binet V	Direct testing	2–85 years	45–75 minutes	Moderate
Leiter—Revised	Direct testing	2–20 years	25–90 minutes	Moderate
Language				
CELF	Direct testing	3–21 years	30–45 minutes	Moderate
PPVT	Direct testing	2.5–90+	10–15 minutes	Moderate
EOWPVT-2000	Direct testing	2–18 years	10–15 minutes	Moderate
TLC	Direct testing	5–18 years	< 60 minutes	Moderate
CCC	Questionnaire	5–17 years	10–15 minutes	Minimal
Adaptive behavior				
Vineland	Interview	Birth–18 years	20–60 minutes	Moderate

Note. ADI-R, Autism Diagnostic Interview—Revised; ADOS, Autism Diagnostic Observation Schedule; CARS, Childhood Autism Rating Scale; CCC, Children's Communication Checklist; CELF, Clinical Evaluation of Language Fundamentals; DAS, Differential Abilities Scale; EOWPVT, Expressive One-Word Picture Vocabulary Test–2000; M-CHAT, Modified Checklist for Autism in Toddlers; MSEL, Mullen Scales of Early Learning; PDDBI, Pervasive Developmental Disorders Behavior Inventory; PIA, Parent Interview for Autism; PPVT, Peabody Picture Vocabulary Test; SCQ, Social Communication Questionnaire; TLC, Test of Language Competence; WISC-IV, Wechsler Intelligence Scale for Children, 4th edition.

[a] Inclusive (e.g., 2–6 years = from 2 years, 0 months through 6 years, 11 months).

[b] Minimal: little to no training required, but presumes familiarity with instrument; moderate: presumes prior basic interviewing/cognitive assessment training; intensive: additional specialized training, such as workshop attendance, suggested.

From: Assessment of Childhood Disorders (2007) page 505

Preschoolers group time

The Early Years
Learning Framework
Professional Learning Program

The Observing Practice Series is brought to you by:

Early Childhood
Australia
A voice for young children

The EYLF Professional Learning Program is funded by the Australian Government Department of Education, Employment and Workplace Relations.

Measuring adaptive behaviour

- Vineland Adaptive Behaviour Scales – II
- Survey interview form
- Parent/ caregiver rating form

- “Third party method”- Semi-structured interviews

Reasons for adaptive behaviour testing

- Diagnostic evaluation for referral/ qualification for special services
- Evaluation to inform differential diagnosis
- Programme planning or treatment plan development
- Progress monitoring

Intellectual Disability

"Intellectual disability" (mental retardation) refers to a particular state of functioning that begins prior to age 18, characterized by significant limitations in both

***intellectual* functioning**

and

adaptive behavior

(AAMR, 2002).

Intellectual assessment

- Weschler Preschool & Primary Scales of Intelligence (WPPSI)
- Weschler Scales for Children (WISC III/ IV)

TABLE 13.1. Subtests of the Wechsler Intelligence Scales for Children—4th Edition (WISC-IV)
Organized by Index

Index Subtest

Verbal Comprehension

• Comprehension: The student is required to answer orally presented questions pertaining to social rules or problems.
• Similarities: The student is required to explain the similarities between oral word pairs.
• Vocabulary: The student is required to name pictures or provide definitions for words.
• Information (Supplemental): The student is required to answer factual questions of learned content.
• Word Reasoning (Supplemental): The student is required to identify a common concept based on successive verbal clues.

Perceptual Reasoning

• Block Design: The student is required to rearrange a set of blocks to match visual patterns presented on a card (timed).
• Picture Concepts: The student is required to choose pictures from rows in an array to form a group with common characteristics.
• Matrix Reasoning: The student is required to draw visual analogies and respond to multiple-choice questions.
•Picture Completion (Supplemental): The student is required to identify missing element of picture of common object or setting (timed).

Processing Speed

• Coding: The student is required visually to match numbers with corresponding
symbols and record appropriate symbols under numbers (timed).
• Symbol Search: The student is required visually to scan an array and mark target
symbols (timed).
• Cancellation (Supplemental): The student is required to scan both a random and a
nonrandom arrangement of pictures and mark target pictures (timed).

Working Memory

• Digit Span: The student is required to repeat orally presented numbers forwards and
backwards.
• Letter-Number Sequencing: The student is required to recode orally presented letter–
number combinations, stating the numbers in ascending order and the letters in
alphabetic order.
• Arithmetic (Supplemental): The student is required to solve mentally and express
orally the answer to orally presented arithmetic problems.