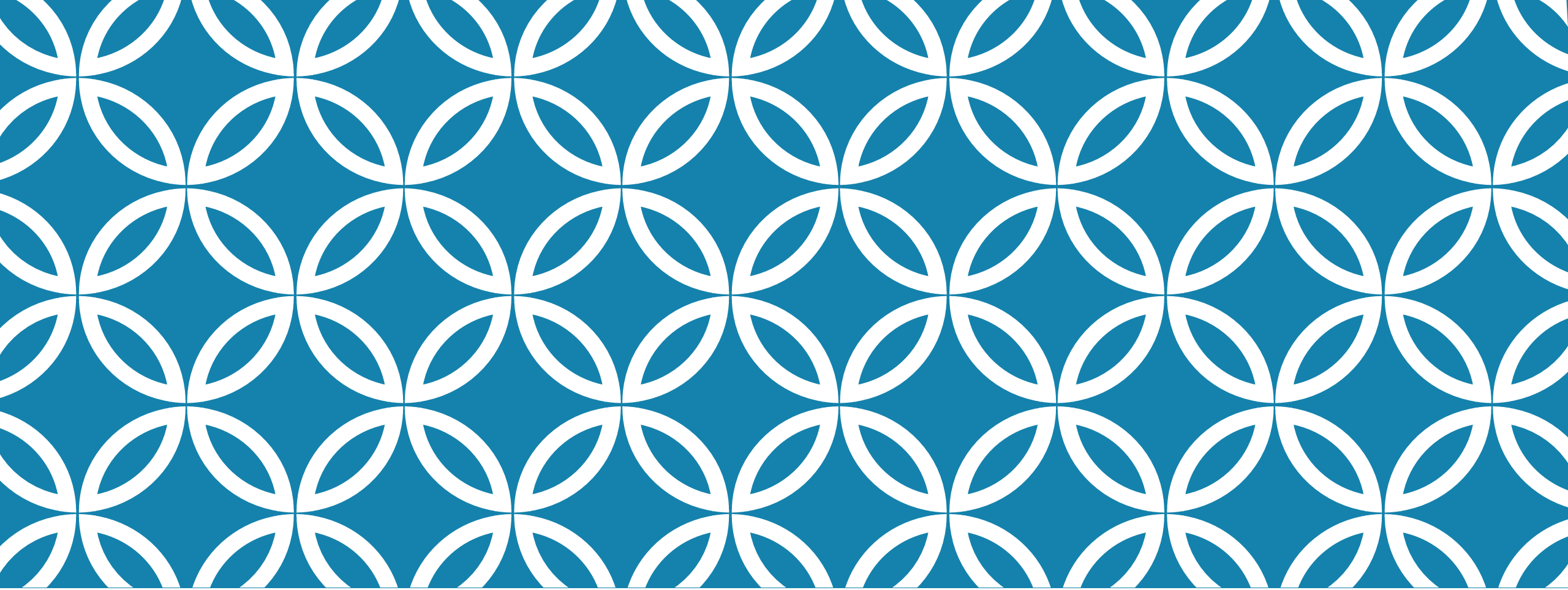

SPEECH AND LANGUAGE LEARNING DISORDERS

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WHY ARE THESE DISORDERS IMPORTANT?

- Most common developmental disability of childhood
- 5-10% of children have some type of language or speech disorder
- Why is this important? Children learn language in early childhood and later use language to learn all other subjects & skills
- Communication disorder – “an impairment in the ability to receive, send, process and comprehend concepts or verbal, nonverbal, and graphic symbol systems”

WHO NEEDS TO BE EVALUATED? HOW DO WE DO THIS?

- Components of an evaluation:
  - Determine if impairment in communication skills exists
  - Specify nature of impairments
  - Initiate appropriate intervention strategies
- Medical evaluation (including audiologic testing) AND Speech & Language evaluation

- Who should be evaluated? Any child with:
  - Concern by any caregiver/teacher
  - Slowed or stagnant speech & language development
  - Excessive drooling
  - Difficulty sucking, chewing or swallowing
  - Difficulty coordinating movements of lips, tongue, jaw
  - No babbling by 9mo
  - No first words by 15mo
  - No word combinations by 24mo
  - Speech difficult to understand for parents at 24mo or strangers at 36mo
  - Dysfluencies
  - Frustrated by communication difficulty, teased by peers for “talking funny”
  - Does not follow instructions without visual cues

WHAT DO THESE DISORDERS ENTAIL?

LANGUAGE-BASED LEARNING DISABILITIES

- Language and Speech disorders
- Range of difficulties related to the use and understanding of spoken and/or written language
  - Phonology (sounds in words)
  - Content (vocabulary)
  - Form (grammar, syntax, morphemes)
  - Pragmatics (narrative, discourse, conversations)
- Usually affects reading comprehension and written expression
- Can affect participation in aural-oral aspects of learning (class discussion, oral presentations) and can struggle with word math problems

LANGUAGE-BASED LEARNING DISABILITIES

- May include phonologic weaknesses and problems with reading (decoding) and spelling (encoding)
- Difficulty understanding and sharing information in spoken or written contexts
- Strong association with reading and writing disability
- Usually have relative strengths in:
  - Ability to perceive visual information
  - Solve problems with visual information
  - Learn & socialize effectively using visual es

SPEECH DISORDER

- Impairment of the articulation of speech sounds, fluency and/or voice
- Disorders included:
  - Articulation disorders – substitutions, omissions, additions or distortions of speech sounds
  - Fluency disorder (stuttering) – interruption in the flow of speaking (atypical rate, rhythm & repetitions in sounds, syllables, words or phrases). May include excessive tension, struggle behavior & secondary mannerisms
  - Voice disorder – abnormal production of vocal quality, pitch, loudness, resonance &/or duration

SPEECH DISORDER – ARTICULATION

- Variety of etiologies but most children with disordered articulation & phonology do not have an identifiable physical reason
- Hearing impairment: difficulties with all parameters of speech
- Neurologic problems: dysarthrias due to neuromuscular impairment (ie.- stroke, brain tumor, nervous system disorder), associated with dysphagia
- Apraxia: impairment in ability to program speech musculature to select, plan, organize & initiate a motor pattern
- Structural defects: cleft lip & palate, ankyloglossia, glossectomy

SPEECH DISORDER – FLUENCY

- Developmental stuttering
  - Degins between 2 & 5 yrs
  - M > F
  - High familial incidence and twin studies suggest genetic & environmental factors

- Neurogenic stuttering
  - Associated with neurologic disease or trauma
  - Less common

SPEECH DISORDER – VOICE

- Misuse or organic changes of the vocal mechanism
- Causes in children – contact ulcers, vocal nodules (children > adults), vocal polyps, cancer, endocrine changes, granuloma, hemangioma, hyperkeratosis, infectious laryngitis, laryngofissure, leukoplakia, papilloma, vocal fold paralysis, webbing
- Most are caused by excessive effort & force while speaking
- Resonance disorders
  - Hypernasality – hard/soft palate clefts, submucous clefts, inadequate length of the velum, velum paralysis or paresis; => velopharyngeal insufficiency
  - Hyponasality – enlarged adenoids, nasal polyps, improper velar timing

LANGUAGE DISORDER

- ”Persistent difficulties in the acquisition and use of language (expressive or receptive) across modalities (spoken, written, sign language) due to deficits in comprehension or production that include reduced vocabulary, limited sentence structure and impairments in discourse (ability to use vocabulary and connect sentences)” – DSMV
- Result in functional limitations in effective communication, social participation, academic achievement or occupational performance
- Onset in the early developmental period
- Not attributable to hearing or other sensory impairment, motor dysfunction or other medical or neurologic condition including ID or GDD

LANGUAGE DISORDER – COMMON FEATURES

- Limited amount of speech
- Limited range of vocabulary
- Difficulty acquiring new words
- Word-finding vocabulary errors
- Shortened sentences
- Simplified grammatical structure
- Limited varieties of sentence types
- Use of unusual word order
- Formulation difficulty
- Difficulty understanding words, sentences or specific types of sentences

LANGUAGE DISORDER – CATEGORIES

- Developmental language impairment or disorder (DLI or DLD)
  - Broad term for a variety of developmental disorders in which speech and language are also affected
- Specific language impairment (SLI)
  - Developmental disorder in the absence of intellectual disability, hearing loss, motor disorder, socioemotional dysfunction or frank neurologic deficit
  - Risk factors – family history, male sex, lower parental education level, lower paternal occupational status, more siblings
  - Probable genetic component with complex inheritance pattern

LETS TOUCH ON READING AND WRITING DISORDERS BRIEFLY…

READING DISORDER (DYSLEXIA)

- 5-12% of school-age children
- Deficits in phonologic processing that are unexpected in relation to the student's intelligence and persist after appropriate instruction
- Skills needed to be able to read:
  - Hear & discriminate sounds of spoken language
  - Produce speech sounds of language
  - Match printed symbols with spoken sounds (phonics)
  - Produce sound associated with a printed letter or combination (reading decoding)
- Present with problems decoding in the 1st-2nd year of school and lead to difficulties with reading comprehension, attention & reading avoidance

WRITING DISORDER

- 7-15% of school-age children
- Caused by a range of neurodevelopmental weaknesses or disabilities in the following spheres:
  - Handwriting – fine motor, graphomotor
  - Visual-spatial perception
  - Spelling – encoding and decoding
  - Grammar & syntax
  - Organizing ideas into written text
- Always include in your differential – developmental coordination disorders, reading disability, language disorders, ADHD

WHAT ABOUT “LATE TALKERS”?

EXPRESSIVE LANGUAGE DELAY ("LATE TALKERS")

- Early expressive language development and communication skills do not progress as expected and may coexist with receptive language delay
- Some "catch-up" during pre-school years but other have persistent delay
  - 10-15% prevalence at age 2yo but only 4-5% remain delay after 3yo
- Risk factors – poverty, low parental educational attainment, low birth weight or prematurity, family history, maternal depression, male sex
- Invalid explanations:
  - "Boys talk later than girls"
  - "Growing up in a bilingual home"
  - "Not saying much but understands everything"

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