Speech Disorders in Individuals with 22q11.2 Deletion Syndrome – an Overview

Speech problems are common in children with 22q11.2 deletion syndrome (22q11.2DS) and can affect the child's ability to communicate effectively. While speech improves in many children as they grow older, some speech sound issues may continue into the teenage and adult years. This sheet lists the common problems in 22q11.2DS. Please see additional info sheets in this series for more details.

Common Disorders in 22q11.2DS

- Resonance
  - ❑ **Hypernasality** (too much air flows into and out of the nose)
- Voice
  - ❑ High pitch
  - ❑ **Dysphonia** – Problem with voice production. There are many causes, often due to abnormalities in vocal cord structure and/or function
- Speech sound disorders
  - ❑ Delay or difficulty forming the sounds of speech
  - ❑ **Compensatory articulation disorder** – Atypical sound production using a different place of articulation
  - ❑ **Phonological disorder** – Difficulty learning the rules and patterns of speech sound production
  - ❑ **Developmental articulation disorders** – Use of substitutions, omissions and distortions of the sounds of speech. Speech sound errors may persist longer than expected.
  - ❑ **Obligatory or passive errors** – Forced sound errors due to structural abnormalities in the speech system, such as VPD (example: /m/ for /p/ or /b/)
  - ❑ **Abnormal speech prosody** – Differences in speech rate, rhythm, and/or stress patterns
- Motor speech disorders
  - ❑ **Childhood apraxia of speech (CAS)** – Difficulty planning and coordinating the movements needed for speech
  - ❑ **Dysarthria** – Weakness or abnormal tone in muscles of respiration, phonation, articulation and/or resonation
  - ❑ Mixed features of CAS and dysarthria
  - ❑ **Speech motor delay**

Velopharyngeal Dysfunction (VPD)

Velopharyngeal dysfunction (VPD) is also called:

- Velopharyngeal incompetence (VPI)
- Velopharyngeal insufficiency (VPI)

VPD occurs when the back of the palate and the throat do not close the space that connects the mouth and the nose during speech and swallowing. Nasal emission of food or fluid occurs primarily in infancy and usually resolves by age one. Speech features of VPD include:

- Nasal emission of air during speech production
- Hypernasal speech
- Weak pressure on consonants
- Compensatory speech sound disorders

For more information about VPD, please have a look at the **Palate Series** in the **Health Conditions Explained** section of our website.

Recommended Evaluations

It is recommended that individuals affected by 22q11.2DS be evaluated by a **speech-language pathologist** at each of these time points:

- ❑ **At Diagnosis**
- ❑ **Between 0-1**
- ❑ **Between 1-5**
- ❑ **Between 6-11**
- ❑ **Between 12-18**
- ❑ **Every 1-2 years in adulthood**

Individuals should also be routinely evaluated by an audiologist.

- ❑ **Routine hearing screening**

Please see Speech-Language Disorders in 22q11.2 Deletion Syndrome: Best Practices for Diagnosis and Management for details.

References / Resources

- Updated clinical practice recommendations for managing children with 22q11.2 deletion syndrome – 2023
- Updated clinical practice recommendations for managing adults with 22q11.2 deletion syndrome – 2023
- Speech-Language Disorders in 22q11.2 Deletion Syndrome: Best Practices for Diagnosis and Management – 2019

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