

**OPEN ACCESS**

SUBMITTED 13 March 2025

ACCEPTED 09 April 2025

PUBLISHED 11 May 2025

VOLUME Vol.05 Issue05 2025

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Specific Speech Features in Children with Congenital Cleavage of The Upper Lip and Palatine

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Abstract: This article examines the specific characteristics of speech development in children with congenital cleft lip and palate. It discusses the anatomical and physiological factors affecting speech formation, different types of rhinolalia, and the importance of speech therapy for these children. Additionally, the article outlines the main tasks of preoperative and postoperative speech therapy, focusing on articulation, phonation, and breathing development techniques.

Keywords: Congenital cleft lip and palate, speech disorder, rhinolalia, preschool age, articulation, phonation, voice, breathing, speech breathing, massage, education, speech therapy correction, rehabilitation.

Introduction: Cleft lip and palate (CLP) is one of the most common craniofacial anomalies, significantly affecting the development of speech in children. This congenital defect occurs in approximately 1 in 700-1000 infants, and its frequency varies by ethnic group. CLP is a complex pathology that affects not only the appearance of children, but also speech formation, hearing function, development of the dentofacial system and psychological state.

Types of CLP and its impact on speech

Clips of the upper lip and palate are divided into the following types:

1. Isolated cleft of the upper lip.
2. Isolated cleft of the palate (open or hidden).
3. Combined cleft of the upper lip and palate.

The localization and degree of the cleft directly affect the severity of speech disorders. Cleft palate leads to anatomical and functional deficiencies of the articulation apparatus, which causes the following specific speech disorders:

Rhinolalia. The most common speech disorder in children born with Cleft palate is open rhinolalia, in which the air flow is incorrectly distributed due to the connection between the oral and nasal cavities. In this case:

sounds are emitted through the nose, as a result of which speech acquires the appearance of "nasal speech";

difficulties arise in pronouncing consonants, especially the articulation of plosive and gliding consonants is impaired;

the differences between sounds are reduced, and speech intelligibility decreases.

Studies show that, despite good surgical results, varying degrees of rhinolalia are observed in 50-80% of children born with Cleft palate.

Articulation disorders. In children with cleft lip and palate, the articulation process is impaired due to the lack of anatomical structures necessary for the correct pronunciation of sounds:

labial sounds (b, p, m) - impaired due to the cleft lip;

lingual sounds (t, d, n) - difficulty in touching the tip of the tongue to the palate;

gliding sounds (s, z, sh, j) - difficulties in directing the air flow;

plosive sounds (k, g) - impaired due to the lack of palate adjustment.

Compensatory articulation. Children born with cleft lip and palate develop inadequate articulation mechanisms to compensate for the incorrect pronunciation of sounds:

glottal stop - production of sounds at the level of the larynx;

pharyngeal fricatives - production of sounds using the posterior wall of the larynx;

dorsal articulation - activation of the back of the tongue;

nasal surdo-alternation - the production of sounds in the nose.

These compensatory mechanisms further reduce the intelligibility of speech and complicate the process of speech therapy correction. Hearing impairment and its impact on speech. Up to 90% of children born with CTE develop middle ear inflammation (otitis media) and hearing loss. The reasons for this are:

Eustachian tube dysfunction - due to an anomaly of the palatine muscles;

Improper development of ear tissues;

Recurrent infections.

Hearing impairment further complicates speech development:

Phonemic perception is impaired;

It becomes difficult to hear and control speech sounds on your own;

Articulation accuracy decreases.

Speech development delay. Children with CTE may have delayed speech development stages:

The number of sounds that can be pronounced is limited;

The vocabulary is less than normal;

Difficulty mastering grammatical structures;

Difficulty understanding and expressing complex speech constructs;

Studies show that 30-40% of children born with CTE have varying degrees of language development delays.

The impact of surgical intervention on speech.

Surgery to close the cleft palate (uranoplasty) is important for speech development. The timing and quality of surgical intervention directly affect the outcome of speech:

early uranoplasty (up to 18 months) - creates more opportunities for speech development;

delayed uranoplasty - leads to the formation of compensatory articulations;

the quality of surgery - affects the restoration of the function of the velopharyngeal valve.

According to modern approaches, the optimal timing of the operation is 9-12 months, since it is during this period that the child begins to actively form speech.

Speech assessment in children born with Cleft Palate. The following examinations are performed to accurately assess speech pathology:

1. Clinical examination:

assessment of the anatomical structure of the articulation apparatus;

examination of facial expressions and articulatory motor skills;

assessment of palatopharyngeal function.

2. Instrumental assessment of speech:

nasoendoscopy - movements of the palatal-pharyngeal ring;

videofluoroscopy - movements of the soft palate during

speech;

aerodynamic examinations - distribution of air flow through the mouth and nose;

acoustic analysis - spectral characteristics of sounds.

3. Perceptual assessment:

Speech intelligibility;

Degree of hypernasality;

Type and degree of articulation errors;

Pitch and quality of sound.

Features of speech therapy. Speech therapy work with children born with CLS is carried out in the following areas:

1. Preparation of the speech apparatus:

development of articulatory muscles;

breathing exercises - differentiation of nasal and oral breathing;

activation of the muscles of the soft palate and larynx.

2. Development of phonetic-phonemic perception:

formation of the ability to hear and distinguish sounds;

development of the ability to control one's own speech.

3. Correction of sounds:

teaching correct articulatory positions;

strengthening sounds separately, in syllables, words and sentences;

elimination of compensatory articulations.

4. Development of prosodic components of speech:

regulation of speech tempo and rhythm;

normalization of voice volume and pitch;

work on intonational expressiveness.

5. Development of lexical-grammatical structures:

increase vocabulary;

mastery of grammatical rules;

formation of connected speech.

Speech development in children born with CLP is a complex process and requires a multidisciplinary approach.

The joint work of all specialists allows achieving high results in speech development.

Speech disorders in children with cleft lip and palate are complex and include problems such as rhinolalia, articulation disorders, compensatory articulation, auditory dysfunction, and general speech development delay.

The success of speech correction depends on many factors: the timing and quality of correction of the

anatomical defect, the timing of the start of speech therapy, the participation of parents, an individual approach to the child and the effective cooperation of the multidisciplinary team.

Due to the development of modern diagnostic and rehabilitation methods, most children born with ASD have the opportunity to form normal speech, which gives them the opportunity to fully integrate into society, receive education and successfully engage in professional activities in the future.

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