A Pediatrician's Guide to Communication Disorders Secondary to Cleft Lip/Palate

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KEYWORDS

• Cleft palate • Cleft lip • Speech disorders • Velopharyngeal insufficiency
• Hypernasality • Hyponasality • Compensatory speech • Craniofacial syndromes

KEY POINTS

- Cleft lip/palate can lead to feeding problems, aesthetic differences, hearing loss, dental abnormalities or malocclusion, airway obstruction, velopharyngeal insufficiency, and problems from other associated craniofacial anomalies.
- Communication disorders are common in children with cleft lip/palate. These can include speech-language delay, hearing loss, resonance disorders, nasal emission during speech, speech sound errors, and even dysphonia.
- If a communication disorder is suspected, the patient should be referred to a speech-language pathologist (preferably one associated with a craniofacial team) for evaluation.
- The biggest concern with cleft palate is the risk for velopharyngeal insufficiency, which can result in hypernasality, nasal emission of the airflow, and a speech sound disorder.
- Children born with CLP should be treated by an interdisciplinary cleft palate/craniofacial team for best outcomes.

Video content accompanies this article at http://www.pediatric.theclinics.com.

INTRODUCTION

Anticipating the birth of a new baby is usually an exciting time of life. The expectant couple does many things to prepare for the baby including setting up a nursery, gathering baby clothes and diapers, and deciding on a name. The parents expect to have a "normal" baby, with 10 fingers, 10 toes, and an intact face.

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Unfortunately, not all babies are born with perfect structures. When a child is born with cleft lip/palate (CLP), it can be devastating to the new parents. What was expected to be a happy and exciting time becomes a stressful and emotional time for the parents and other family members. It may be impossible for the parents to initially see past the anomaly to really appreciate and bond with their newborn baby.[1,2]

Cleft lip, with or without cleft palate, is the fourth most common birth defect and the first most common facial birth defect. The prevalence of clefts has been estimated to be 1 in every 600 children born in the United States,[3] although one study showed the prevalence to be about 1 in 1000 for cleft lip, with or without cleft palate, and about 1 in 1500 for cleft lip and palate.[4] In addition, a large number of children born with isolated cleft palate have other associated craniofacial malformations. In fact, cleft palate is a characteristic of more than 400 recognized syndromes.[5] Considering the prevalence of clefts in the general population, pediatricians should have a general knowledge about the management of these patients.

This article describes how different types of clefts affect the child's function and, in particular, the child's communication abilities. This article also describes the evaluation process and various options for the treatment of affected speech. Because these children have many complicated needs over their entire growth period, it is important that they are referred by the pediatrician to a cleft palate/craniofacial team for the best care and best ultimate outcomes.

TYPES OF CLEFTS

Clefts of the lip and/or palate vary in the structures affected and in the severity (eg, length and width) of the cleft. Orofacial clefts can be of the primary palate (lip and alveolus), secondary palate (hard palate and soft palate), or both (**Box 1**, **Fig. 1**).

Box 1
Types of clefts

Orofacial clefts occur because of a delay in the migration of neural crest cells in the first trimester. This delay can result in a cleft of the primary palate, a cleft of the secondary palate, or a cleft of both.

Primary Palate (also called prepalate)

- Forms at 7 weeks' gestation
- Is anterior to the incisive foramen
- Includes the lip and alveolus
- Clefts can be:
  - Complete (thru the lip and alveolus to the incisive foramen) or incomplete (ie, lip only)
  - unilateral or bilateral

Secondary Palate

- Forms at 9 weeks' gestation
- Is posterior to the incisive foramen
- Includes the hard and soft palate (velum)
- Clefts can be:
  - Complete (including the uvula, velum, and hard palate to the incisive foramen), incomplete (ie, a portion of the velum only), or submucous (under the mucosa)
  - Midline only