For Parents: Speech/Language Intervention for Children with Cleft Palate

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Children born with cleft palate may have difficulties related to:

- Understanding and expression of spoken **language**, often encouraged by fluctuating middle ear problems (fluid buildup in the middle ear space).
  - Fluctuating conductive hearing loss, may sound like everything is underwater; treatment usually with placement of tubes in the eardrums to allow fluid to drain from the middle ears.
Children born with cleft palate may have difficulties related to:

- How to produce the consonants of the English language (articulation) related to:
  - **Mislearning of high pressure consonants** in the context of velopharyngeal dysfunction/insufficiency (difficulty with closing off the oral cavity from the nasal cavity).
  - **Their developmental learning of consonants** because kids tend to simplify how words are made. These are differences which can be entirely appropriate to their chronological age, or may be inappropriate to their age, requiring therapy assistance to change.
  - **Physical differences of the upper or maxillary arch formed, or how their jaws relate to each other** (different types of malocclusion that require structural/surgical intervention).
  - **Other factors**, such as a second language learning, for which the phonetic features of sounds of their first language are erroneously applied to their second language learning of English.
Parents' Role

- Parents spend the most time with the child; therefore, they have the ability to make significant changes in the child's speech and language capabilities.

- Let's talk about the types of misarticulations you, as the parent, can help prevent or correct, related to learning oral place features and oral pressure buildup and release for 16 high intraoral pressure consonants of the English language.
How do we encourage improvement in the skills of understanding and expressing language for babies and toddlers?

- Babies with unrepaired cleft palate:
  - Can easily produce vowels, [m], [n], 'y' as in yes, and [w].
  - Most babies with unrepaired cleft palate produce rough laryngealizations (growling sounds) and [m].
  - Encourage your child to produce sounds [n], 'y', and [w]: nanana, yayaya, wawawa as well as [m] mamama.
  - At this pre-palate repair time, we want to encourage sounds in the mouth that do not require intraoral pressure build-up.
How do we encourage improvement in the skills of understanding and expressing language for babies and toddlers?

- Ignore growling sounds by not looking or immediately responding to them. Do not repeat them.
- Teach siblings not to repeat the growling, too.
- Do not immediately look at your child when he/she makes those growling sounds, as this positively reinforces them.
- Do not label growling sounds (e.g., dog sound).
- Change your child's preference for using these throat sounds. Wait a bit after he/she produced them, then use [m], [n], [w] or 'y' sounds in response (Are you calling Mama? Mama? mamama).
How do we encourage improvement in the skills of understanding and expressing language for babies and toddlers?

- Model short two and three word phrases about our daily activities which we repeat often. Narrate your daily activities (mealtime, bath time, bedtime, reading time) with these types of short utterances.

- These utterances are produced with slower rate and with periods of patient waiting, to encourage the child to repeat what you say. (Use a Mister Rogers' pace, it's not easy, but it's very effective.)
How do we encourage improvement in the skills of understanding and expressing language for babies and toddlers?

- Read books and sing songs every day using these types of short utterances and slower rate of speech.
- Build their single word vocabulary by using new vocabulary in your short utterances. Labeling items when narrating your daily activities will help build that vocabulary.
How do we encourage improvement in the skills of understanding and expressing language for babies and toddlers?

- Maintain routine ENT/hearing checks to minimize the effect that fluctuating hearing loss can have on the learning of our language and the sounds of our language.
How do we teach normal articulation of the high-pressure consonants for babies and toddlers with cleft palate?

- Obtain cleft palate repair in the context of multidisciplinary team care. (See ACPA Standards of Care; ACPA Team Credentialing.)
- Maintain routine evaluations with that multidisciplinary team.
- Have the team and community SLPs share information about the child's speech characteristics. Bring community SLP reports to your team visits, and share team visit recommendations with the community SLP. (Parents must provide release of information on both ends to facilitate this sharing of information.)
How do we teach normal articulation of the high-pressure consonants for babies and toddlers with cleft palate?

● The earliest developing high pressure consonants are the stops consonants 'b,' 'd' and 'g' (as in "bye," "Daddy," "go"), followed by 'p,' 't,' 'k' (as in "puppy," "two," "cookie") so work on these six sounds in your vocabulary-building with your toddler, after the cleft palate has been repaired.

● Do not expect the development of these sounds until after the child's palate has been repaired, because these sounds require the separation of the oral from the nasal cavity.
How do we teach normal articulation of the high-pressure consonants for babies and toddlers with cleft palate?

- You can teach these as consonant-vowel syllables "bababa" followed by a real first word "baby," or "dadada," followed by real word "Daddy."

- Make sure that your child is looking at your mouth when you do this. Get excited "yay!" or "good sound!" when you think that he/she is trying to imitate one of these sounds (/b/, /d/, /g/, /p/, /t/, /k/) using a place in their mouth for pressure build-up.
Moving on to more high-pressure consonants as your child is a bit older

- As your child develops over time, there are more high pressure consonants that he/she must master. They are the fricatives ‘f,’ ‘v,’ ‘th,’ ‘s,’ ‘z,’ ‘sh’ and the affricates ‘ch’ and ‘g’ as in “George.”

- Usually 'sh' or 'ch' appear after the stops have become mastered in single words, but this can vary. 'S' and 'z' are really the same sound with 's' just having oral airflow and no voice (hiss like a snake) and 'z' adds the voicing (buzz like a bee).
Moving on to more high-pressure consonants as your child is a bit older

- You may need to teach these sounds by **plugging the child's nose** (with your index fingers so you can see the mouth) to get your child started on learning these sounds.
- If your child makes the air come out of his/her nose, then use the nasal plug with your two index fingers and force the air to go through his/her mouth.
- Then you can reinforce the sound coming through the mouth. ("Yay, that was your mouth sound.")
Moving on to more high-pressure consonants as your child is a bit older

- Nasal occlusion should help your child learn oral place and oral pressure buildup/release if the cleft palate repair has established adequate function of the soft palate to close off the nasal cavity from the oral cavity. A fistula or non-reconstructed area of the cleft palate can also impact a child's attempts to learn these high pressure consonants.
- If your child always needs nasal occlusion to obtain intraoral pressure buildup (i.e., make powerful sounds) for these consonants, this is important diagnostic information to share with the team SLP.
Moving on to more high-pressure consonants as your child is a bit older

- As your child gets older, you can be very specific what you liked about that sound (“You made the sound in your mouth, that’s a mouth sound.” OR “That one sounded like it was in your throat. Try it again using your mouth sound.”)
Moving on to more high-pressure consonants as your child is a bit older

- You can also work on these later developing sounds by shaping sounds the child is already producing accurately
  - For example, if the child has a good /t/ production, you can shape that into an /s/ by doing a "long t" sound, having the child produce t-t-t-t-t-t-t-t-s-s-s-s-s-s-s-s.
  - Another example: if the child has an /s/, you can shape that to an 'sh' by having the child move his/her tongue back and pursing the lips like a kissy face.

- Communicate with your community/team SLP about what cues or strategies might work best for your child to elicit oral place features, with oral pressure build-up and oral release of that pressure build-up.
No two repaired cleft palates look the same

- A repaired cleft palate does not look perfect, but it ideally should not have fistulas, or holes, patent to the nasal cavity. If the gum area had a cleft, it may not be repaired until 8 or 9 years of age with a bone graft surgery.
- If the cleft gum is not widely open to the nasal cavity, it may not impair the child’s ability to impound sufficient oral pressure, allowing for adequate development of these high pressure consonants.
This non-reconstructed alveolar cleft could impact development of the oral place features for the tongue tip to gum high pressure consonants /t/, /d/, /s/, /z/.

This child needed a maxillary obturator (to cover the hole) to make progress in therapy until the very difficult bone graft surgery was done at 9 years of age.

This is a mirror view of the roof of the mouth.
This child also required a maxillary obturator (like an orthodontic retainer) until the bone graft surgery was done to close those open gum areas.
Types of Errors and Tools to Change the Errors

- It’s not the therapy materials that teach your child how to make these sounds, it is the ability to hear and shape phonetic features of sounds that teaches your child (where and how the sound is produced). Your child must learn to discriminate oral articulations from the throat or nasal substitutions that he/she has adopted. The tools just help you target the appropriate sound(s).
- Ask your SLPs to model the differences in throat or nasal sounds vs. mouth sounds for you, to learn this discrimination for yourself. You may also ask for therapy techniques to elicit sounds.
Types of Errors and Tools to Change the Errors

- Children with cleft palate often use incorrect throat or nasal sounds as substitutions for their oral pressure consonants. Your job is to learn to use your ear to hear the difference between a mouth sound and a throat or nasal sound. The trained ear is the most important tool for changing these speech articulation patterns.

- Sometimes we use a technique of plugging the nose with our index fingers, to make the airflow go through the mouth while modeling the oral sound.
  - For example, plug the child's nose while modeling "puppy" or "papa" to target the /p/ sound. Then after about four or five times, see what happens when you don't plug the nose or just pretend to plug.
Hypernasality is not targeted with therapy intervention in children with cleft palate

- If the hypernasality persists after the misarticulation of the high pressure consonants has greatly improved, then the team SLP will want to assess how the soft palate works when correctly articulated high pressure consonants are produced.
- If your child is producing the high pressure oral consonant accurately but you hear nasal air emission or hypernasality, this is likely a structural problem.
- This does not need speech therapy intervention.
- Contact your team SLP to discuss the assessment to determine how the soft palate works for speech.
Hypernasality is not targeted with therapy intervention in children with cleft palate

- If your child has been producing these throat or nasal sounds for the high intraoral pressure consonants, hypernasal vowels may be heard. Use of throat and nasal sounds eliminates the need for the soft palate to be part of the articulation, so vowels next to these throat or nasal sounds can sound hypernasal.

- Working on the *consonant articulation* (establishing an oral place feature with oral pressure buildup and release) will likely reduce or eliminate hypernasality of vowels as the child learns to use the soft palate appropriately for high pressure consonant production.
There are several instruments that help us understand how the soft palate works for orally directed speech:

- Videonasendoscopy
- Multi-view fluoroscopy
- Pressure/flow testing

The team SLPs can discuss these options with you.
Still shot of videonasendoscopy looking at the soft palate during production of correct oral consonants and vowels. Treatment for this velopharyngeal insufficiency requires surgical intervention, not therapy intervention.
Contraindication of Adenoidectomy

• Adenoidectomy in children with a history of cleft palate (both repaired and un repaired) is generally contraindicated, as the sudden change in dimension of the nasopharynx can result in velopharyngeal insufficiency and the need for additional surgery to the soft palate.

• ALWAYS consult with the cleft/craniofacial team if an outside provider recommends an adenoidectomy for your child.
Please do not hesitate to contact us if there are any questions about this presentation or your child's speech/language development in the context of cleft palate:

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