



Case Study:

IPP Team Helps Child With a Cleft Palate to Improve Feeding, Swallowing, and Speech Sound Production

SIG 5: Craniofacial and Velopharyngeal Disorders

Summary

A Cleft Palate Team collaborated across specialties to help a 13-month-old child with a history of cleft palate to improve feeding, swallowing, and speech sound production. The interprofessional team completed individual assessments, discussed results, and made recommendations for Sam and the family.

Patient Info



SAM
13 MONTH
OLD CHILD

Current Diagnosis:

Cleft palate, post repair;
Feeding disorder;
Speech disorder

Meet The Team



Hospital SLP
(feeding and
swallowing focused)



Hospital SLP
(communication
focused)



Community
SLP



Audiologist



Plastic Surgeon



Developmental
Pediatrician



Dietician



Social Work



Patient



Parents

Background

Sam is a 13-month-old child with a history of cleft palate that was repaired 6 weeks prior to the family's visit to the Cleft Palate Program. Palate repair was delayed due to a history of feeding and swallowing difficulties that resulted in poor weight gain and eventual need for a gastrostomy tube. The parents brought Sam to this current team assessment and were eager to hear how Sam was healing since surgery; they hoped to begin working with Sam on eating and drinking more frequently by mouth.

How They Collaborated

Sam was seen by multiple members of the Cleft Palate Program, including the plastic surgeon, members of the feeding team (developmental pediatrician, speech-language pathologist [SLP], and registered dietician), an SLP focused on communication, an audiologist, and the team social worker. These team members completed individual assessments, discussed results, and made recommendations for Sam and the family.

At the team visit, the plastic surgeon was happy with Sam's recovery post-palate repair and lifted all eating and drinking restrictions that had been imposed post-surgery, based on the discretion of the feeding team. The feeding team was happy with Sam's weight gain and gross motor developmental progress and the SLP spent most of the visit (a) educating Sam's parents about the results of a recent videofluoroscopic swallow study (VFSS) that showed aspiration with thin liquids and (b) assessing current function to help design a plan for home and local therapy to continue to advance feeding skills by mouth. The SLP demonstrated how to mix liquids to a mildly thick consistency, how to introduce and practice open-cup drinking and how to model and encourage a more age-appropriate chewing pattern. Sam's parents were given an opportunity to practice these skills and strategies as well as written instructions for home use. Recommendations were to continue with local feeding therapy, incorporating strategies as given and advancing in therapy as appropriate.

The audiologist was happy with Sam's testing after ear tubes were placed during the palate-repair surgery. Sam had a history of a bilateral conductive hearing loss, but after placement of tubes, his soundfield testing was within normal limits. Similarly, the team social worker had provided support to Sam's parents throughout much of the medical care up to this visit; however, Sam's parents denied having any current concerns or needs.

Unfortunately, Sam was seen by the SLP to evaluate his communication skills at the end of the clinic visit—and, by that time, Sam had fallen asleep. Parent report suggested age-appropriate receptive language skills but concerns for expressive delays and a restricted speech sound inventory. Given the large amount of information that Sam's parents were asked to digest and remember from today's visit, the SLP focused on a few specific home strategies to encourage the development of oral consonants and to decrease the risk of developing compensatory articulation errors.

Outcome

Sam returned to the Cleft Palate Program a year later, close to Sam's second birthday. The plastic surgeon continued to be happy with the progress and Sam was no longer followed by the feeding team as Sam had advanced to meeting the nutrition and hydration needs by mouth during that time. Speech and language skills continued to be delayed and were concerning for the development of glottal stop substitution errors. Given the minimal speech sound development that occurred over the past year, increased importance on collaboration with the local SLP and need for closer follow-up with the team SLP was discussed. Over the next few years, focus will be on speech and language development as well as Sam's velopharyngeal function for speech, monitoring for resonance disorders and/or nasal air escape.

Ongoing Collaboration

Sam will continue to be assessed through the Cleft Palate Program through facial maturity, generally on an annual basis. Other medical professionals may be added to Sam's team based on future needs or concerns.

Case Rubric:

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Audiologist



Plastic Surgeon



**Developmental
Pediatrician**



Dietician



Social Work



Patient



Parents

[Continue for more](#)

History and Concerns

(Share key information gathered from team)

Sam is currently a 13-month-old child with history of cleft palate status post-repair. **Sam** presented with a history of feeding difficulties (including silent aspiration with bottle feeds at 9 months of age), resulting in poor weight gain as an infant and early involvement with the team SLP, developmental pediatrician, and registered dietician. Weight gain issues eventually resolved through placement of a gastrostomy tube; however, palate repair was delayed, and **Sam** is currently 6 weeks post-op at 13 months of age.

Sam has been followed closely by the feeding team (plastic surgeon, registered dietician, and SLP) through the Cleft Palate Program since birth and returns to the clinic for an assessment by the broader multidisciplinary cleft palate team. Currently, **Sam's** nutrition and hydration needs are met primarily via gastric tube (g-tube); however, he does consume some purees by mouth. **Sam** and the parents arrive today for a post-operative palate-repair appointment with the plastic surgeon. They report being hopeful that **Sam** will begin eating and drinking more frequently by mouth now that the cleft palate is repaired. **Sam** will see other members of the cleft palate team as well.

Assessment Plan

(Determine roles/responsibilities for evaluation)

As is typical, Sam saw the plastic surgeon for a post-operative evaluation and saw the feeding team (developmental pediatrician, SLP, registered dietician) because of the parents' concerns with eating and drinking. The team also wanted Sam to see the SLP for a more thorough assessment of communication skills. Because of the volume of patients in our program, we have SLPs that focus more specifically on feeding and SLPs that focus more specifically on cleft palate-related speech disorders—although at times, overlap occurs. An audiogram was also planned, as ear tubes were placed at the time of palate-repair surgery due to a history of conductive hearing loss in both ears. Finally, the team social worker planned to meet with Sam and his family.

Assessment Results

(Summarize key diagnostic results)



Plastic Surgery Results: The plastic surgeon was happy with the healing inside the mouth after the palate repair. Sam was cleared to begin working on any textures and types of foods per the discretion of the SLP.



Audiology Results: Sam had bilateral ear tubes placed by the ENT at the time of the cleft-palate repair because of a history of bilateral conductive hearing loss. This was diagnosed initially via Auditory Brainstem Response (ABR) at 3 months of age, which was completed after referral from a newborn hearing screen. Sam was seen by the ENT again around 9 months of age and presented with flat tympanograms—and absent Distortion Product Otoacoustic Emissions (DPOAEs) in both ears with elevated sound-field testing. Now, 1 month post palate repair and tube placement, Sam presented with flat tympanograms/open tubes and normal sound-field testing.



Feeding Team Results: Sam and his parents met with the feeding team, including the developmental pediatrician, SLP, and dietitian. Since Sam had been using a g-tube for primary nutrition and hydration needs after palate repair, Sam presented with wonderful weight gain! The developmental pediatrician was also very pleased with Sam's progress toward physical developmental milestones. Sam's mother reported that Sam had met all of the physical therapy goals through early intervention.



Sam's family was very eager to introduce solid foods and cup drinking. Today, the SLP reviewed the results of the most recent swallow study with the parents. A Videofluoroscopic Swallow Study (VFSS) was completed at 9 months of age and revealed silent aspiration with thin liquid via Dr. Brown Specialty Feeding System + level 1 nipple and mini open cup. Recommendations were to practice with mildly thick liquids via open cup in feeding therapy. However, little practice had happened as the family prepared for surgery and then had been on post-operative feeding restrictions. So during the visit today, Sam was seated in a supportive highchair. The SLP demonstrated mixing instructions for mildly thick formula and strategies for open-cup drinking.

Assessment Results

(Summarize key diagnostic results)

Sam eagerly took to the cup with mild anterior loss of bolus. The SLP also reviewed strategies to improve Sam's chewing pattern. These included exaggerated modeling, use of meltable solids and lateral placement of food. Additionally, the surgeon and the dietician worked with Sam's parents on transitioning to a toddler formula.



Speech-Language Assessment Results: Sam was seen for an evaluation by the SLP to focus on communication skills at the end of the clinic visit. Unfortunately, by then, Sam had fallen asleep, so the visit was spent more on providing general education to Sam's parents. Sam's parents reported that Sam is vocal throughout the day and enjoys social play; however, they hear little babbling. They reported consistently hearing the consonant sound /m/ and an attempt at saying the word "mama." Relative strengths included responding to his name; understanding routine phrase words like "nigh nigh" and "bye bye"; and recognizing words for common items. Sam has received physical therapy and speech therapy for feeding through the local early intervention system; speech therapy for communication was recommended, but it has not started.

Because Sam's parents were receiving a wealth of information on this date and Sam was sleeping throughout the visit, the SLP decided to focus on a few important pieces of information that the parents were more likely to digest and retain. Sam's restricted phonemic inventory was concerning, particularly in the context of reportedly relatively age-appropriate receptive language skills. Time was spent educating the parents as to Sam's restricted speech sound inventory, risk for speech and language delays related to Sam's history of cleft palate, and risk for developing cleft palate-related compensatory articulation errors.



Social Work Results: Social workers have supported Sam's parents with emotional support and occasional physical resources (e.g., gas cards) over the last year while they were traveling over an hour multiple times a month for Sam's medical appointments. The social worker met with the family on this date; the family reported feeling more secure with the medical plan, feeling comfortable with the early intervention therapy plan, and having no immediate needs at this time.

IPP Treatment Plan

(Discuss, reflect, and modify recommendations to develop a coordinated plan)

All team members reviewed the evaluation results and the IPP team made the following recommendations:



Plastic Surgery: No immediate recommendations at this time. Will follow up at the next coordinated team appointment in 1 year.



Audiology: Follow up annually to monitor hearing, and return sooner (vs. later) with any concerns or change in medical history.



Feeding Team: Sam was transitioned to a toddler formula today for g-tube feeds. The SLP provided education on feeding therapy strategies and initiated a practice plan with mildly thick formula via open cup. The SLP reinforced the need to continue with early intervention feeding therapy. Sam will have a swallow study in 2 months. After the swallow study the SLP will collaborate with Sam's early intervention feeding therapist to discuss results and recommendations. The developmental pediatrician and dietician plan to monitor Sam's weight through a weight check at the family's local pediatrician's office in 3 months.



The SLP provided Sam's parents with the following recommendation handout and encouraged them to share it with Sam's early intervention feeding therapist.

1. Begin new toddler formula diet - 6 oz of Pediasure 5 x a day with a 1-2 oz water flush via g-tube.
2. Offer 2 oz of mildly thick formula (2 oz Pediasure + 20 ml of oatmeal cereal) via small open cup while Sam is seated in supportive highchair 3 x a day before g-tube feeds.
3. Subtract the volume that Sam consumes in the cup from the total volume going through the g-tube.
4. May continue to offer a wide variety of puree, mashable soft foods and meltable solids. Focus on side placement of meltable solids to encourage improved chewing.

IPP Treatment Plan

(Discuss, reflect, and modify recommendations to develop a coordinated plan)

5. Restart First Steps feeding therapy. Work with therapist on advancing mildly thick volumes via cup and advancing solid food textures. Therapist may introduce trial straw cup with mildly thick liquids too (now that cleft palate is repaired).
6. A repeat Swallow Study is scheduled in 2 months to assess the safety of thin liquids via cup system.



Speech-Language Pathology: Begin incorporating speech therapy goals through early intervention, even if combined with feeding therapy strategies. Sam's parents were asked to fax the therapy plan for review of goals and interventions after the Individual Family Service Plan (IFSP) was updated and new goals were written. Recommendations were to follow up with another evaluation at the next coordinated team appointment in 1 year. Additionally, speech and language stimulation strategies were provided for Sam's parents to begin incorporating at home. These included modeling and encouraging sounds made in the front of the mouth as well as introducing more oral consonant sounds now that Sam's palate was repaired. Specific examples in natural play were given and included:

Blowing bubbles: emphasizing "pa" "pa" "pa" each time one pops

Flying planes: modeling the oral "sh" sound as the plane flies through the air

Driving cars: modeling words like "beep beep" or "crash" in play instead of engine noises

Replacing "uh oh": modeling "oh no" instead of the glottal "uh oh"

Incorporating early developing words: emphasizing words like "more," "bye bye," "no," and "nigh nigh," etc.

A written handout with these and other examples of more play-based speech/language stimulation activities was provided.



Social Work: Continue to be available as needed.

Treatment Outcomes

(Discuss results of treatment)

Sam continued to receive speech therapy services with the local early intervention therapist, although these services continued to be largely focused on developing age-appropriate feeding skills. Sam returned for a VFSS 2 months after Sam began practicing cup drinking and continued to demonstrate aspiration with thin liquid through both an open cup and a straw. Mildly thick liquids continued to be recommended. By Sam's follow up team visit 1 year later Sam was meeting all nutrition and hydration needs on a diet of mildly thick liquids and age-appropriate table foods. Sam's parents are hopeful to have the g-tube removed.

Sam's communication skills have been slower to develop. At the follow-up team visit 1 year later Sam continued to demonstrate a restricted speech sound inventory and, perhaps more concerning, was starting to show the use of glottal stop substitutions.

Team Follow-Up

(Determine meetings & communication plan)

Team follow-up will largely continue on an annual basis over the next few years, although professionals involved in Sam's team care will vary based on the child's age and needs. Sam will no longer be followed by the feeding team in the Cleft Palate Program; however, Sam will be followed more closely by the SLP team to assess for and manage cleft-palate related speech disorders. Primarily, the focus will be on collaboration with the local SLP to increase Sam's speech sound inventory and decrease use of glottal stop productions. Unfortunately, this collaboration can be difficult due to time/schedules, location, and/or interest of the local SLP. However, it was felt that a lack of contact and collaboration over the year from Sam's prior assessment contributed to a lack of focus on the necessary goals to encourage speech sound development and decrease the risk of glottal stop substitutions. Additionally, cleft palate team visits typically occur on an annual basis, which is helpful for the family members who travel a distance to attend and is appropriate for most of the professionals on the team. However, significant speech and language development can occur over that time and the lack of development over the past year was frustrating. Therefore, the SLP brainstormed suggestions like a virtual check-in in 6 months, another visit to the cleft palate

Team Follow-Up

(Determine meetings & communication plan)

team only to see the SLP in 6 months, and so forth. Ultimately it was decided to try to coordinate a return SLP assessment with another medical appointment in approximately 6 months. In addition to guiding local therapy as necessary, over the next few years, the SLP will be monitoring Sam's velopharyngeal function for speech. This includes closely assessing for resonance disorders and nasal air emission. In the future, other team members like Dental and Orthodontics may become involved. Plastic Surgery and ENT needs will continue to be monitored and assessed through facial maturity.

Acknowledgement

ASHA extends its gratitude to the subject matter expert(s) who were involved in the development of the original version of this IPP case:

Kaitlyn Schmitt, MS, CCC-SLP

Angela Frazer, MA, CCC-SLP

Special Interest Group 5 (SIG 5): Craniofacial and Velopharyngeal Disorders

Citations

American Speech-Language-Hearing Association. (n.d.). IPP team helps child with a cleft palate to improve feeding, swallowing, and speech sound production. <https://www.asha.org/practice/ipe-ipp/case-studies/case-study-19/>

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