A Team Approach: Interdisciplinary Treatment of a Pediatric Maxillofacial Patient

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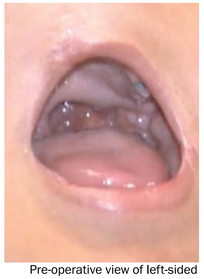
Introduction

One important responsibility of prosthodontists in comprehensive patient care is communication with other healthcare professionals to provide the best possible outcomes for our mutual patients. While prosthodontists often work in concert with various other dental specialists, in a hospital clinic setting, it is not uncommon to collaborate with our medical colleagues as well. Each member of the team brings a unique skill set to the treatment with the hope of improving overall patient care and quality of life, especially when treating our maxillofacial prosthodontics patients.

Patient Presentation

A 10-year-old male patient was referred by Pediatric Otolaryngology and Speech-Language Pathology (Children's Hospital at Montefiore) for evaluation of velopharyngeal insufficiency (VPI). Significant elements of medical history include:

- Left-sided hemifacial microsomia with facial cleft
- Extensive history of corrective surgeries, including an incomplete closure of palatal defect with pharyngeal flap procedure
- Speech therapy for hypernasal speech due to VPI



Pre-operative view of left-sided palatal defect

Management of Pediatric Prosthodontic Patients

Trust between pediatric patient and adult caregiver = critical for successful treatment

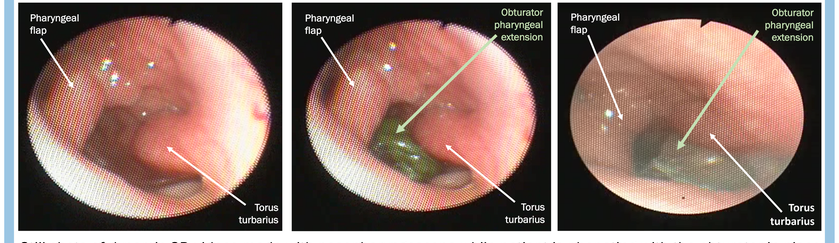
- Meet-and-greet appointment & finger statue
- Tell-show-do
- Appropriate appointment length

Patient's "finger statue"

Nasal Endoscopy

Patient preparation:

- 1% lidocaine sprayed intranasally
- Otolaryngologist passed flexible fiber optic scope through the left nostril allowing nasopharyngeal examination



Still shots of dynamic 3D videos made with nasopharyngoscope while patient is phonating with the obturator in place

Clinical procedure:

- SLP instructed patient to phonate in order to demonstrate the extent of the defect in dynamic movement
- Using green impression compound, adjusted shape of pharyngeal extension before conversion to clear self-cure acrylic

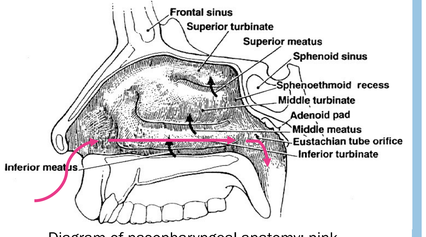
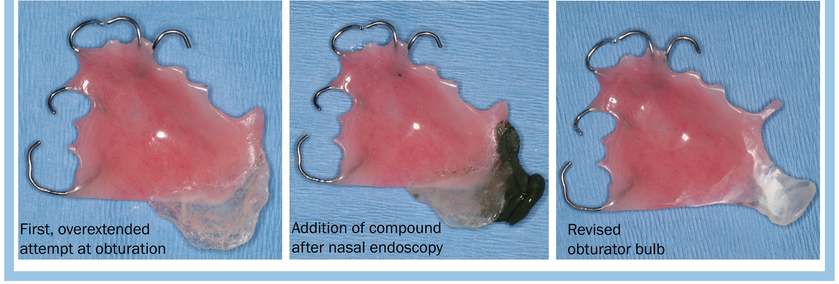


Diagram of nasopharyngeal anatomy; pink arrows indicating path of nasopharyngoscope



Hemifacial Microsomia

- Underdevelopment of facial features arising from embryonic first and second pharyngeal arches
- Wide spectrum of phenotypic severity
  - OMENS classification
- M/F incidence = 1.09:1
- Laterality incidence (R/L) = 1.12:1

Discussion

By utilizing a nasopharyngoscope during phonation, the otolaryngologist and speech-language pathologists were able to assist with visualizing the extent of cleft in function. This aided in the fabrication of a well-fitting, properly functioning, and well-tolerated prosthesis. Although prosthodontists frequently fabricate obturator prostheses without this additional tool, it allowed for more directed and accurate adjustments of the overextended areas. This is useful for a patient with a limited attention span. We also aided our SLP colleagues in their speech therapy plans and goals. The use of a nasopharyngoscope may be considered as a useful adjunct to obturator treatment in particularly complex situations. As a whole, the experience gave each team member a greater appreciation of the contributions of our different specialties to reach a common goal.

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