



# Effective Interventions for Improving Feeding in Children with Dysphagia

Genesis Romero OTD/s; Aaron Picus OTD OTR/L; Sarah Stulberger OTR/L, SWC, PAM; Elizabeth Restivo OTD, OTR/L, SWC, IBCLC



## DCE Site

The Children’s Hospital of Los Angeles (CHLA) is a non-profit pediatric hospital that was founded in 1901 that serves all children from birth until 22 years. CHLA’s mission statement is to “create hope and build healthier futures” by treating and caring for children of all ages and their families, advancing knowledge, and preparing future clinicians. The hospital employs a large variety of disciplines ranging from therapists, nurses, social workers, and so many more (Children’s Hospital Los Angeles, 2021a).

**Services Provided:**

- Over 350 specialty programs ranging from acute pain to vascular anomalies
- Five overseeing departments (anesthesiology, pathology, general pediatrics, radiology, and surgery)
- Rehabilitation services are offered in general pediatrics (acute, inpatient, and outpatient settings)

## Needs Assessment Summary

*Funding* *Cultural Humility*  
*Caregiver Education Classes* *Accessibility*

## Literature

**Recommended Intervention Approaches:** Oral motor exercises (OME) and neuromuscular electrical stimulation (NMES) are an effective treatment for dysphagia (Barlow and Sullivan, 2021). Another recommended intervention for dysphagia is the gradual adaptation in liquids and foods by modifying the consistency, texture, flow, and quantity of foods as children develop their feeding skills (Stanley and D’Amico, 2013). Positional changes, liquid thickeners, pacing, and swallowing maneuvers such as chin tucks are beneficial techniques to improve eating and swallowing (Dodril & Gosa, 2015). Lastly, using adaptive equipment (AE), assistive technology (AT), and parent-directed education as part of the treatment process is also recommended to treat dysphagia (Barlow & Sullivan, 2021).

**Common diagnoses with Dysphagia:** Some common *diagnoses associated with dysphagia include Cerebral Palsy, Brain Injuries, Premature infants, Low birth weight, Airway malformations, Gastroesophageal reflux disease (GERD), Seizure disorder, Tongue-tie, Stroke, Down Syndrome, Developmental Delays, Neuromuscular diseases, and more* (Dodril & Gosa, 2015).

**Caregiver Barriers and Mental Health:** Caregivers face a myriad of barriers including distrust from healthcare workers, lack of knowledge, poor confidence levels, and poor mental health. (Baquys et al., 2021). Caregivers and parents also face increased feelings of stress and decreased confidence levels if their child’s feeding skills are not developing appropriately (Stanley & D’Amico, 2013).

## Project Description

**Week 1:**

- Began observing patients and created patient data chart
- Learned to navigate charting systems and began chart review

**Weeks 2-6:**

- Began researching current literature of interventions provided
- Observed patients and updated patient data chart
- Contributed to parent information resources

**Weeks 7-14:**

- Observed, treated, evaluated, and completed documentation

**Weeks 7-14 (continued)**

- Updated patient data charts
- Continued contributing to parent information resources
- Worked on in-service presentation
- Continued to research for evidence-based interventions

**Week 14:**

- Finalized patient data, student data, and scholarly deliverables
- Presented in-service (*Laryngomalacia*)
- Debrief/Final student evaluation meeting

## Patient Outcomes

Age	Baseline Data	Interventions Used	Post-Data
<b>11 weeks (acute)</b> <ul style="list-style-type: none"><li>• Premature (born @ 29 weeks)</li><li>• Nasogastric (NG) tube dependency</li><li>• Dysphagia</li></ul>	<ul style="list-style-type: none"><li>• ↓ Endurance</li><li>• ↓ SSB (suck-swallow-breathe) coordination</li><li>• ↓ Volume intake</li><li>• Signs of aspiration</li></ul>	<ul style="list-style-type: none"><li>• External pacing + breaks</li><li>• Positioning</li><li>• Change nipple flow size</li><li>• Pacifier dips</li></ul>	<ul style="list-style-type: none"><li>• ↑ SSB coordination</li><li>• ↑ Volume intake by mouth</li><li>• Still required to continue NG feeds at home at time of discharge</li></ul>
<b>4 months (acute)</b> <ul style="list-style-type: none"><li>• Traumatic birth</li><li>• Mild dysphagia</li></ul>	<ul style="list-style-type: none"><li>• ↓ Volume intake</li><li>• ↓ Coordination</li><li>• ↑ Distractibility</li></ul>	<ul style="list-style-type: none"><li>• External Pacing + breaks</li><li>• Positioning</li><li>• Change nipple flow size</li><li>• Minimizing distractibility</li></ul>	<ul style="list-style-type: none"><li>• Able to feed with ↓ distractibility</li><li>• ↑ Coordination</li><li>• Discharged consuming an age-appropriate volume</li></ul>
<b>3 years old (outpatient)</b> <ul style="list-style-type: none"><li>• Cerebral Palsy</li><li>• G-tube for liquids</li><li>• Reflux</li><li>• Dysphagia</li></ul>	<ul style="list-style-type: none"><li>• Aspiration with all liquid consistencies</li><li>• Overstuffing</li><li>• ↓ Self-pacing</li></ul>	<ul style="list-style-type: none"><li>• External pacing</li><li>• Liquid thickeners</li><li>• Dry spoonful’s</li><li>• Effortful swallows</li><li>• Intra-oral motor stimulation</li></ul>	<ul style="list-style-type: none"><li>• Tolerate mildly thick liquids with no signs of aspiration</li><li>• ↑ Self-pacing</li><li>• ↓ Overstuffing</li></ul>
<b>4 years old (outpatient)</b> <ul style="list-style-type: none"><li>• Reflux</li><li>• Dysphagia</li></ul>	<ul style="list-style-type: none"><li>• History of choking and aspiration</li><li>• Unable to self-pace with thin liquids</li><li>• Oral praxis issues</li></ul>	<ul style="list-style-type: none"><li>• Chin tucks</li><li>• Modified Masako exercises</li><li>• Effortful swallows</li><li>• Breath control/endurance</li><li>• Sucking/blowing activities</li></ul>	<ul style="list-style-type: none"><li>• Final swallow study revealed patient was no longer aspirating on liquids</li><li>• Discharged with modifications</li></ul>
<b>15 years old (acute)</b> <ul style="list-style-type: none"><li>• Brain injury</li><li>• G-tube dependency while admitted</li><li>• Dysphagia</li></ul>	<ul style="list-style-type: none"><li>• Aspiration on all liquids</li><li>• ↓ Swallow efficiency (residue at base of tongue, delay trigger of swallow)</li><li>• Low oral tone</li></ul>	<ul style="list-style-type: none"><li>• Positioning</li><li>• Liquid thickeners</li><li>• Effortful swallows</li><li>• Scant trials offered via spoon and straw</li></ul>	<ul style="list-style-type: none"><li>• No longer aspirating (confirmed via swallow study)</li><li>• ↑ Swallow efficiency (increased trigger of swallow)</li><li>• Discharged with modifications, no G-Tube</li></ul>

\* Patients seen in the outpatient setting also had NMES during intervention sessions under the supervision of a certified therapist.

## Evaluation

- The student completed a thorough chart review on each patient prior to starting the project
- A chart was created to document patient progress including frequency of treatment sessions, baseline data at the start of the capstone project, treatment and intervention descriptions, outcome data at the end of the capstone project, daily notes, parent/caregiver concerns, updates, and other relevant information

## Student Learning Objectives

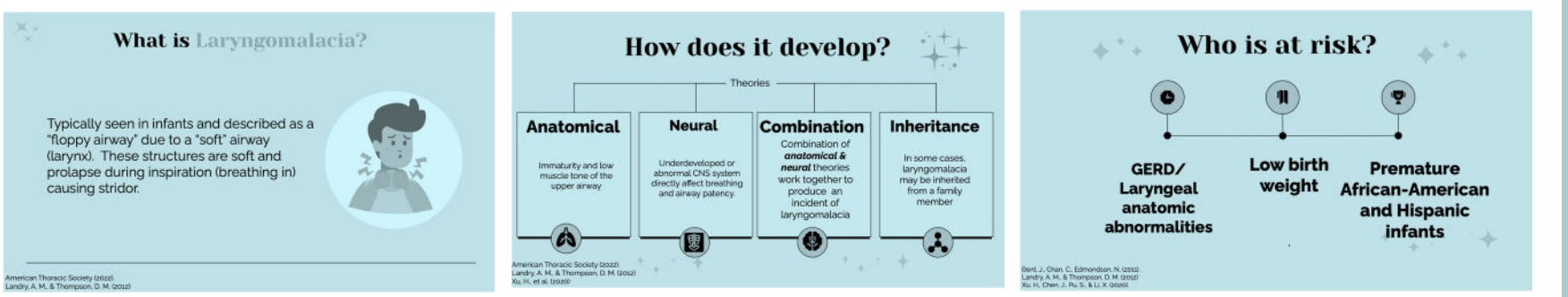
1. Created/modified resources for parent educational materials
2. Presented an in-service on Laryngomalacia to staff members of the facility
3. Accumulated 163.75 direct service hours towards the Swallowing Evaluation and Treatment (SWC) certification
4. Obtained advanced clinical knowledge and skills by utilizing evidenced based interventions to evaluate and treat children with dysphagia
5. Applied communication skills to collaborate with various professions and provide parent education during intervention sessions

## Scholarly Deliverables

Caregiver educational materials

In-service presentation

Student manual



## Limitations

- Varied length of each patient’s stay may have played a role in patient outcome
- Patient cancellations due to sickness, COVID variants, and unforeseen circumstances
- Small sample size

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## References (available upon request)