American Speech-Language-Hearing Association
SPECIAL INTEREST GROUP 5
Craniofacial and Velopharyngeal Disorders

Overview on Feeding an Infant with a Cleft Palate

Handout to Accompany Poster
Developed by Special Interest Group 5 (2017, updated 2025)

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Cleft Palate Anatomy

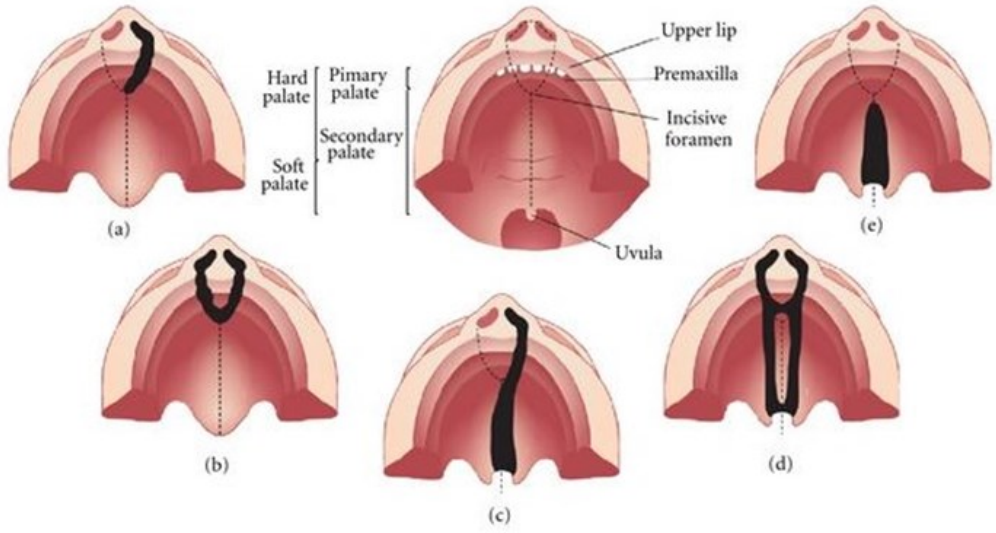


Figure 1: Representation of the most common types of cleft affecting the palate. (a) Unilateral cleft lip with alveolar involvement; (b) bilateral cleft lip with alveolar involvement; (c) unilateral cleft lip associated with cleft palate; (d) bilateral cleft lip and palate; (e) cleft palate only (© Copyright Brito, Meira, Kobayashi, & Passos-Bueno, 2012).

A cleft palate is a congenital anomaly that occurs in utero causing a lack of separation between the oral and nasal cavities. This can cause difficulties with feeding development and weight gain in infancy.

The Impact of Cleft Palate Anatomy on Feeding

Infants with **cleft lip** usually feed without significant difficulty, and can breastfeed and/or use a typical bottle.
Infants with **cleft palate +/- lip** have increased feeding difficulty due to the overt cleft and lack of separation between the oral and nasal cavity.

During typical suckling, the tongue is pressed against the hard palate to create positive pressure for compression of the nipple and negative pressure to draw fluid from the nipple. An infant with a cleft palate has impaired suction and compression of the nipple due to this anatomical difference. Larger, more extensive clefts lead to increased feeding difficulty. It should be noted that with an isolated cleft palate, the pharyngeal phase of the swallow is intact and timely and neurophysiology is normal.

Feeding Difficulties Associated with Cleft Palate:

- Difficulty drawing in nipple to mouth
- Difficulty sealing on the nipple
- Inefficient or ineffective ability to create negative pressure/suction
- Poor weight gain due to excessive energy expenditure
- Nasal regurgitation
- Excessive air intake due to the cleft palate
- Increased feeding time
- Decreased feeding efficiency
- Inadequate volume of oral intake

COMPENSATORY FEEDING STRATEGIES FOR INFANTS WITH CLEFT PALATE WITH OR WITHOUT CLEFT LIP

1. Adaptive Bottles

Adaptive bottles assist the infant with extraction of milk via compression. There are several options for bottles. Below are three of the most commonly utilized bottle systems available at the time the poster was updated October 2025.

Dr. Brown's® Zero-Resistance Specialty Feeding System

This bottle is a compression only bottle (vs. squeeze assist) that allows the infant to independently extract the liquid through reflexive tongue and jaw movements during sucking. The one-way valve fits into the base of the nipple to compensate for the infant's inability to create suction. Both narrow and wide-neck bottle and nipple options are available.

Advantages: Infant-driven; Various nipples are available that allow the feeder to change the flow rate; Typical appearance; Cost effective

Cons: Small hospitals may not have this bottle to trial during newborn period; Feeder cannot provide extra support (manual expression) of the bottle if the infant needs it.

SpecialNeeds® Feeder by Medela

This bottle has a silicone nipple and one-way valve that can be compressed independently by the infant through spontaneous tongue and jaw movements during sucking or can be squeezed by the feeder to expel liquid. This bottle has a variable flow rate which is determined by lining the markings on the teat in line with the infant's nose to represent flow rate (longest line = fastest flow, short line = slow flow).

Advantages: Variable flow rates with no nipple change; Available in most hospitals; Feeder may provide squeeze assist if warranted

Cons: Atypical appearance; Expensive; Feeder may provide squeeze assist when NOT warranted; Learning curve when putting bottle together and regarding filling teat with liquid prior to feedings

Pigeon ® Baby Cleft Palate Bottle

This bottle is primarily a compression bottle that allows the infant to independently extract the liquid through reflexive tongue and jaw movements during sucking, and also has a semi-squeezable bottle that allows the feeder to provide extra support as needed. The one-way valve fits into the base of the nipple to compensate for the infant's inability to create suction. The silicon nipple has a firm and soft side; the firm side is to be placed against gum line and palatal surface and soft side is positioned against the tongue.

Advantages: Infant regulated; Normal appearance; Nipple comes in two sizes

Cons: Small hospitals may not have this bottle to trial during newborn period; Standard size nipple may be too fast for newborn infants; Expensive

2. Facilitative Techniques

Manipulate Flow Rate: Flow rate should allow for easy transmission of liquid from bottle AND support regulated and safe suck-swallow-breath coordination for effective feeding.

Pacing: Supports the coordination of respiration and swallowing by allowing time for ventilation and recovery which aids in coordination of suck-swallow-breath pattern.

Lip, Cheek and Jaw Support: Facilitates labial seal, sucking movements and promotes jaw stabilization.

Postural Support: Holding infant in a semi-inclined, 45 + degree angle assists with posterior transfer of bolus and decreases nasopharyngeal reflux. Some infants may benefit from side-lying position during feeding (Fujiki et al., 2025; Park et al., 2025)

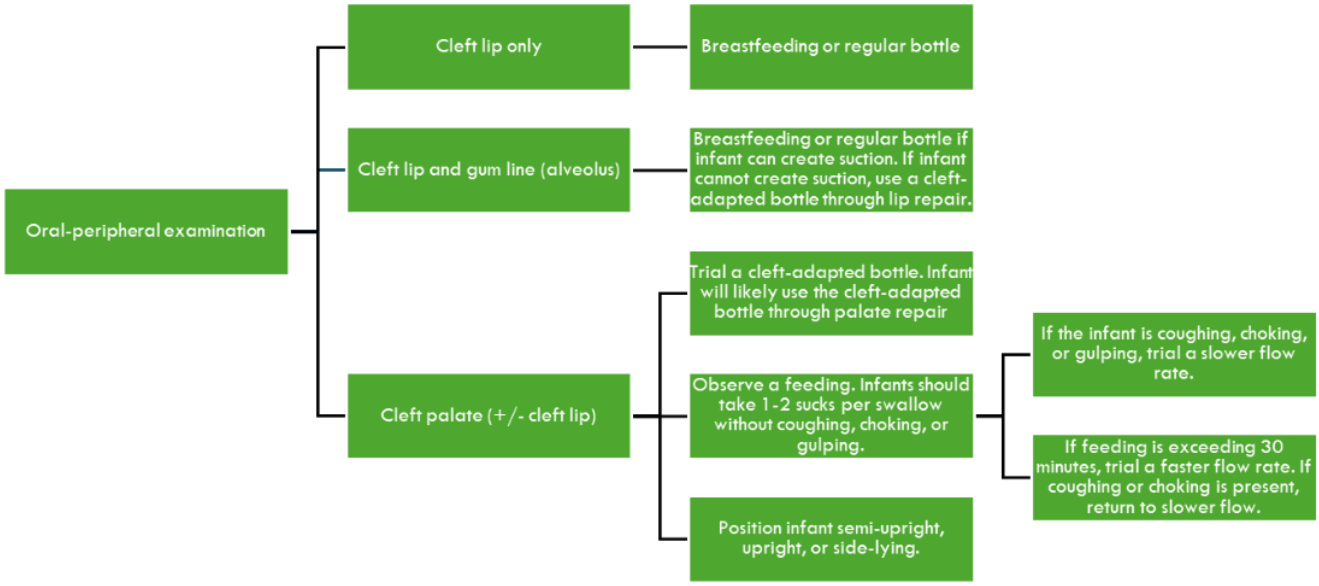
Frequent Burping: Expels air that is ingested during swallowing. Infants with cleft palate ingest more air than an infant without a cleft palate and may require more frequent burping.

3. Nutrition Support/Counseling (coordination between the Speech Language Pathologist, Registered Dietitian, and/or pediatrician)

- Increase volume of feedings or increase number of feedings in a 24-hour period
- Provide feeding log for families to track volume intake in a 24-hour period over several days– infant's intake will vary per feeding. 24-hour volume is the best way to assess caloric intake.
- Increase caloric density of expressed breast milk or formula
- Weekly weight checks with pediatrician or cleft team to ensure adequate weight gain, decreasing in frequency with evidence of weight gain.
- Monitor energy expenditure during feedings. Feeding time should be no more than 30 minutes, 20 minutes being ideal.
- Ideally, infants should be back to birth weight within 14 days. However, a current retrospective study reports the average return to birthweight for infants with cleft palate only at their center was 21.94 days (Kaye et al., 2017).

Feeding Modality Selection in Infants with Cleft Palate +/ Lip

- If the infant is using the right bottle, flow rate, and taking adequate volume, but not gaining weight, recommend the infant see their pediatrician or a dietitian to discuss options.



*Adapted from Chee-Williams & Kotlarek, 2025

Feeding Management (Decision Making/When to Refer/Who to Refer To)

Infants born with a cleft palate should be supported and managed by a multidisciplinary craniofacial team, as early as a prenatal consultation. A list of accredited craniofacial/cleft palate teams can be found on the American Cleft Palate Craniofacial Association website: acpacares.org

If an infant presents with the following clinical feeding observations, further evaluation of swallow function may be warranted.

- ✓ Inability to establish suck–swallow–breathe sequence despite compensatory techniques
- ✓ Arching of back or refusal of nipple
- ✓ Coughing, choking, or gagging despite compensatory techniques
- ✓ Increased respiration rate
- ✓ Oxygen desaturation

Team Care & Professionals Involved

It's **imperative** that infants born with cleft palate are referred to a cleft palate or craniofacial team. Ideally, team professionals should be involved as soon as possible following hospital discharge to ensure feeding is appropriate and supports appropriate growth and development. Team professionals that assist in the feeding process may include, but are not limited to:

Speech-Language Pathologist/Feeding Specialist: Educates family regarding feeding process, bottles, and swallow function. Performs feeding assessment and determines best feeding system and facilitating techniques to maximize feeding success. Additionally, a feeding specialist may assist mother with basic pumping needs and use of pump to encourage sufficient supply of expressed breast milk. If the child has

an isolated cleft lip and mom wishes to breastfeed, collaboration with a certified lactation consultant may be needed.

Plastic Surgeon: Evaluates and performs surgical correction for lip, palate and other congenital anomalies.

Registered Dietitian (RD): Educates family on needed caloric intake, evaluates calories being consumed, and charts growth over routine visits.

Orthodontist/Dentist: During the neonatal time period, these professionals may be involved in providing NAM (nasoalveolar or other pre-surgical molding) for infants to prepare for lip repair.

Pediatrician: Monitors weight and growth, provides preventative care, monitors developmental milestones, and assists with any additional referrals needed to adequately care for the infant.

For an in-depth description of roles and responsibilities of team members, please see *"* About Care Teams from the *American Cleft Palate-Craniofacial Association*'s website https://acpacares.org/team-composition/ (ACPA, 2025)

FEEDING CHANGES AFTER LIP REPAIR AND PRIMARY PALATE REPAIR:

Post-lip repair: Most craniofacial centers allow the infant to resume feeding with the infant's specialty bottle. Lip repair generally occurs between 3-6 months of age. Bottle feeding may improve slightly due to improved labial seal.

Transitional feeding: A baby with an isolated cleft palate +/- cleft lip generally has normal oral motor development and can begin transitional feeding (solids) between 4-6 months of age as typically developing children do. Nasal regurgitation is normal for infants with an unrepaired cleft palate and should not be a deterrent for beginning solids.

Post-palate repair: Post-palate repair feeding guidelines vary greatly amongst craniofacial centers. It's important to discuss specific post palate repair feeding guidelines with the infant's plastic surgeon, nurse, or SLP. There will likely be a brief period (roughly 6 weeks), in which use of bottles or cups requiring suction and solid intake is limited or altered as the palate heals. If there are no other anatomical/physiological difficulties following cleft palate repair, the infant will follow normal feeding guidelines for infants and toddlers. Palate repair typically occurs between 9-14 months of age.

Use of this Handout, or information it contains, should be cited as follows:

ASHA Special Interest Group 5. Overview on Feeding an Infant with a Cleft Palate. Handout to accompany Poster. Developed in 2017, updated 2025.

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