

Overview on Feeding an Infant with a Cleft Palate

Abstract

It is well established that infants with isolated cleft palate, with or without cleft lip, have feeding difficulties that require modifications and/or compensations (Reid et al., 2007). Some infants with cleft lip and/or palate experience only mild difficulties, while others may have more significant feeding difficulties (Masarei et al., 2007). This poster reviews the available evidence and expert opinion to report current feeding guidelines for infants with cleft palate with or without cleft lip. Strategies to facilitate feeding success and optimize growth and development are emphasized.

Impact of Cleft Palate on Feeding

- ✓ Infants with cleft lip alone usually feed without significant difficulty, and can breastfeed and/or use a typical bottle.
- ✓ Infants with cleft palate +/- lip have increased difficulty due to the cleft palate creating a lack of separation between the oral and nasal cavities.
- ✓ 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.
- ✓ Wider, more extensive clefts lead to increased feeding difficulty.
- ✓ In an infant with an isolated cleft palate +/- lip, the pharyngeal phase of the swallow is typically intact, timely, and neurophysiology is normal.



Team Care Is Needed

It's imperative that infants born with cleft palate are referred to a multidisciplinary 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 adequate growth and development. Team professionals who 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, feeding specialist may assist mother with basic pumping needs and use of pump to encourage sufficient supply of expressed breast milk.
- **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 nasoalveolar molding (NAM) 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 - ACPA](#) and click on [Team Composition - ACPA](#) for more information (ACPA, 2025).

Compensatory Feeding Strategies

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, 60 + degree angle aids assists with posterior transfer of bolus and decreases nasopharyngeal reflux.
- ✓ **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.

Nutrition Support/Counseling:

- ✓ Occurs with 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.
- ✓ Increase caloric density of expressed breast milk (EBM) or formula
- ✓ Weekly weight checks with pediatrician or cleft team to ensure adequate 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 was 21.94 days (Kaye et al., 2017).

Adaptive Bottles:

- 1. Dr. Brown's® Zero-Resistance Specialty Feeding System Narrow- and Wide-Neck:** Bottle(s) that features a blue unidirectional valve inserted into the nipple. The valve allows milk to flow forward while preventing backflow, resulting in a nipple that expels liquid when compression is applied. The flow rate is managed by nipple levels (ie altered hole size) ranging from ultra-preemie to Y-cut.
- 2. SpecialNeeds® Feeder by Medela:** Silicone nipple and one-way valve that can be compressed by the feeder or independently by the infant through spontaneous tongue and jaw movements. Flow rate is managed by the three lines along the nipple facing up toward the infant's nose. The shortest line is the slowest and the longest line is the fastest flow.
- 3. Pigeon® Baby Cleft Palate Bottle:** Y-Cut nipple with one-way valve that allows the infant to independently expel the liquid through reflexive tongue and jaw movements. Two nipple sizes are available to manage flow rate: preemie or regular; both with y-cut nipple hole.

**these are examples of bottles for feeding infants with cleft palate +/- lip available when the poster was updated October 2025

Cleft Palate Anatomy

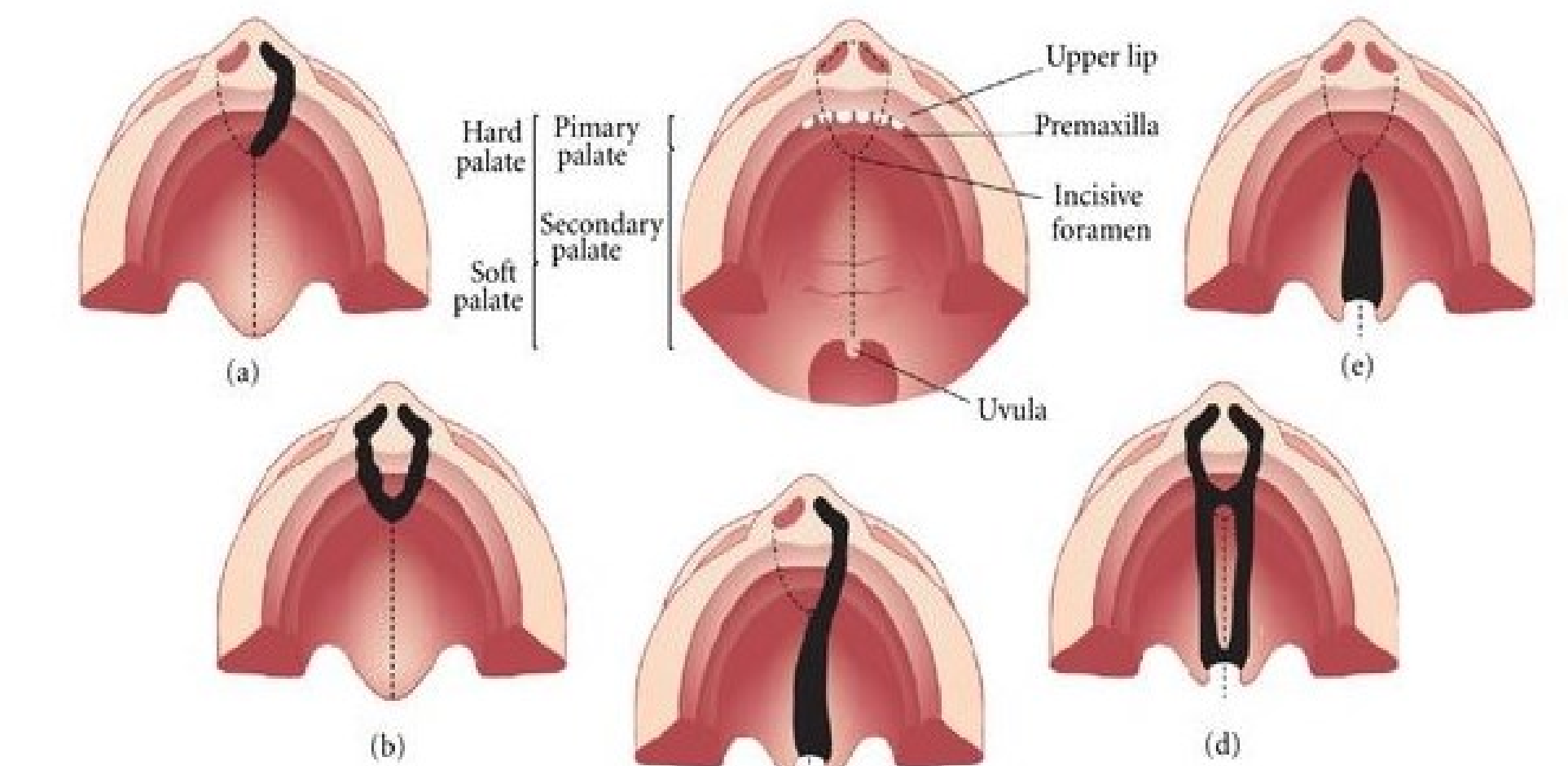


Figure 1: Representation of the most common types of cleft affecting the palate. (a) Unilateral cleft lip with alveolar involvement; (b) bilateral cleft lip with alveolar involvement; (c) unilateral cleft lip associated with cleft palate; (d) bilateral cleft lip and palate; (e) cleft palate only. © Copyright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

Feeding Changes After Surgeries

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.
- ✓ Families should be advised that nasal regurgitation of solids is normal prior to cleft palate repair. This is not a reason to avoid introducing solids.

Post-Palate Repair:

- ✓ Post-palate repair feeding guidelines vary greatly amongst craniofacial centers. It is important to discuss post palate repair feeding guidelines with the infant's plastic surgeon, nurse, or SLP. There is typically an acute period in which solid intake and use of bottles or cups that require suction are 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.
- ✓ Cleft palate repair typically occurs between 9-14 months of age.

Feeding Management & Decision Making

Infants born with a cleft palate should be supported and managed by a craniofacial team, as early as a prenatal consultation.

A listing of credentialed craniofacial/cleft palate teams can be found at: <https://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

Feeding Difficulties Related to Cleft Palate

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

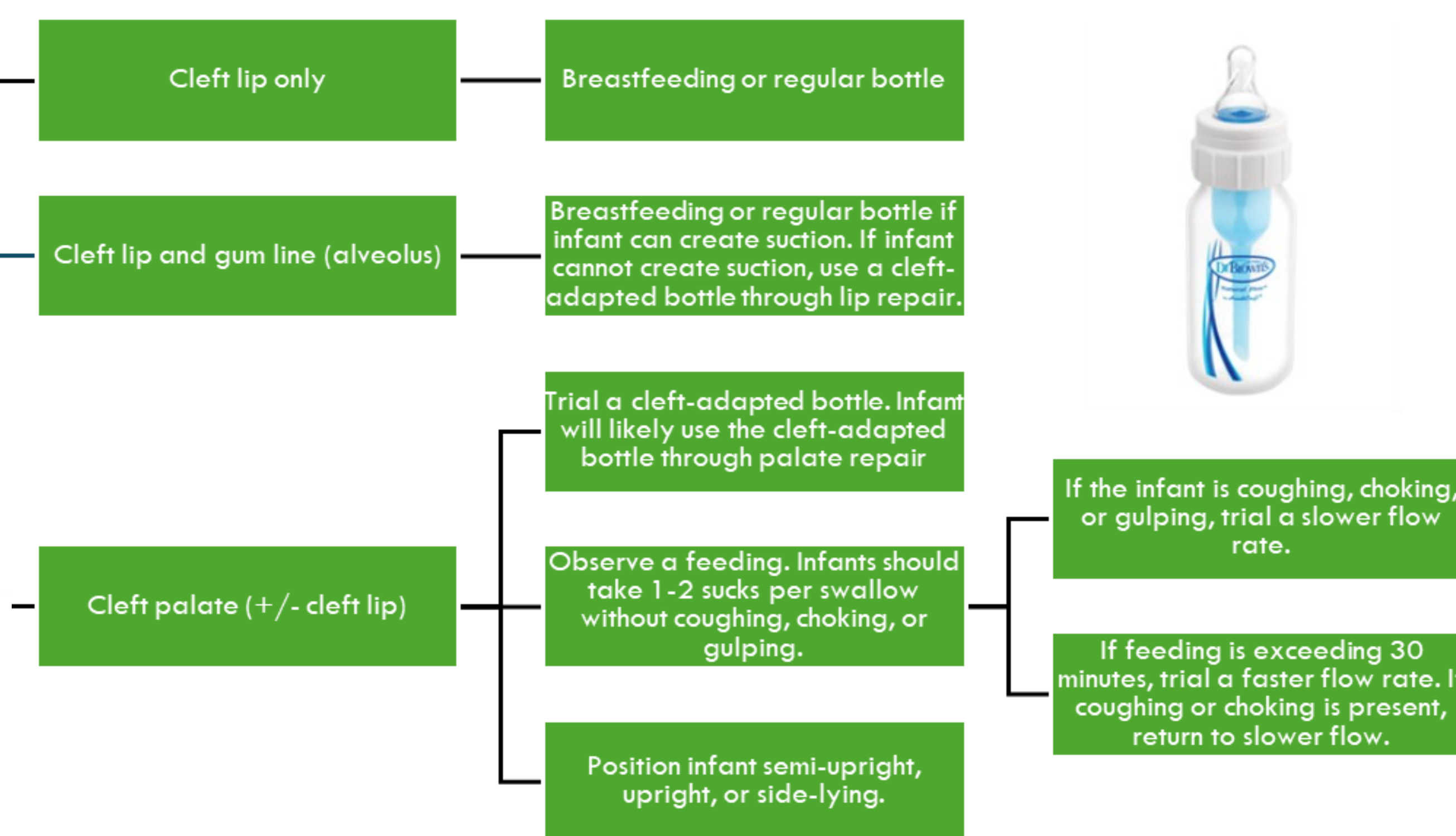
Oral-peripheral examination

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Feeding Modality Selection



*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 & Kolarik, 2025