

Infant Oral Assessment: Assessing Function Beyond the Frenulum

© Melissa Cole, MS, IBCLC

Disclosures

- I have a clinical practice that offers lactation supplies and rental equipment.
- I provide clinical education.
- I acknowledge my inherent biases and the lens through which my material is presented.
- All material in the presentation is copyright protected and may not be used without express permission of Melissa Cole.

Objectives

- After this presentation, learners will be able to:
 - Describe stages of infant orofacial development in embryogenesis
 - Identify normal and abnormal infant oral anatomical presentations
 - Understand basic infant oral assessment techniques

Scope of Practice and Clinical Competencies:

- The IBCLC has the duty to ...
 - Perform comprehensive maternal, child and feeding assessments related to breastfeeding and human lactation.
 - Assess oral anatomy, neurological responses and reflexes of the infant.
 - Work collaboratively with the health care team to provide coordinated services to clients

Why assessment matters...

- Provides comprehensive info
- Connects the dots
- Provides depth, credibility to documentation
- Optimizes care plan strategies

It's not just a mouth, it's a baby!

- Make it a fun, connective, quick
- Assess when baby is in good state
- Oral somatosensory awareness

Oral function starts in the womb

Embryonic Orofacial Development

- Weeks 4-6
 - Face, mouth forming from pharyngeal arches
 - Tongue, external face developing
 - Pharynx (connects nose, mouth to esophagus) forms from buccopharyngeal membrane
 - Thyroid, anterior pituitary developing
- Weeks 6-8
 - Primary palate (frontonasal, maxillary process)
 - Salivary glands
 - Primary teeth

- Upper lip
- Facial and cranial bone ossification centers
- Weeks 9-12
 - Secondary palatal, soft palate closure
 - Lingual frenum apoptosis
 - Increased bone ossification, development
 - Facial muscles and innervation developing
- Weeks 12-17
 - Rapid development
 - Muscles move tongue in prep for more complex movements
 - Taste pores, mucous develop
 - Eyes in front of face, still widely space
 - Muscles for facial expression developed wk 16
- Weeks 18-20
 - Lingual movement, cupping more vigorous
 - Mouth opening more
 - Permanent tooth buds developing
- Weeks 20-25
 - Anterior to posterior peristalsis increases
 - Fluid propelled to pharynx
 - Lingual protrusion, licking intrauterine environment Facial feature usually same at birth
 - Facial adipose tissue deposition
- Weeks 24-35
 - Increased adipose tissue
 - Facial muscles further develop
 - Significant increase in facial expressions
 - “cry” “laughter” faces
 - 19 facial actions identified, movement complexity increases with GA
 - Increased oral movement, sucking

How might fetal positioning impact feeding?

Overall facial assessment

- How does baby’s face and body look in neutral?
- Noticeable asymmetries?
- Head tilt, turning preference?
- Eyes, nares, ears aligned?
- Tone and strength?

Jaw Assessment

- Movement:
 - smooth, rhythmic; choppy, arrhythmic
 - deviation, clonus
 - observe at rest, during feed
- Tension
 - Palpate, gently move jaw
 - Smooth, stuck, clenching
- Maxillary, mandibular symmetry, asymmetry
 - Observe with mouth open, closed

- Size, placement: positional retrognathia, congenital micrognathia
 - Observe at rest, in profile

Cheek assessment

- Cheek (buccal) pads:
 - Well-developed, underdeveloped
- Frenula
 - Palpable, tension
- Buccal strength, tension
 - Palpate, elicit contraction

Lip assessment

- Lip tone:
 - Quality of lip tone at rest, tension, clenched, open posture
 - Observe at rest, during feed
- Lip strength:
 - How do the lips respond to challenge, input
 - Apply gentle input, pressure
- Lip structure:
 - Notable features, clefting, frenulum placement and tension
 - Observe, move lips

Kotlow diagnostic classifications of maxillary frenum attachments

- Class 1: attachment is above the free and attached gingival tissue
- Class 2: inserts at the zone of the free and attached gingival tissue
- Class 3: inserts at the zone between the areas of the future central incisors
- Class 4: inserts at the zone extending into the anterior palatal

Superior Maxillary Labial Frenulum Examples

Palate Assessment

- Hard palate: Intact, shape (wide, broad, narrow, bubble, channel)
- Palatal suture buckling, WNL
- Soft palate: Intact, tone
- Observe, palpate

Lingual Assessment

- Elevation
 - key to good transfer
 - helps shape palate
 - Observe when open, gently open mouth when baby is at rest
- Cupping and Peristalsis
 - helps form proper seal
 - aids bolus control
 - reduces air intake
 - Elicit a sucking response, observe during feed (click, dribble, drop, thrust)
- Extension
 - Keeps tongue over gum line for latch, comfort

- Stimulate lower lip
- Lateralize
 - Helps maintain latch, moves bolus, cleaning
 - Rub along lower gum line
- Strength
 - Helps stabilize during a feed, aids movement
 - When poor, jaw/lip compensation often noted
 - Side of tongue pushes

Functional Suck Assessment

- Mature suck pattern: 10+ sucks per sucking burst
- Transitional: 5-10 sucks per burst
- Immature: 3-5 sucks per burst
- Suck patterns vary according to flow, more variability at breast is expected
- 40+ wk, expect mature patterns unless there is oral dysfunction or other issues causing compensatory behaviors
- Inability to start or stop a burst pattern is a problem

Lingual Elevation

- Poor elevation
- Moderate elevation
- Good elevation

Lingual Extension

- Poor extension
- Moderate extension
- Good extension

Lingual Frenulum Classification

- Several classification systems
 - Coryllos, Genna, Salloum typing system
 - Type 1: attachment of frenulum to tongue tip
 - Type 2: 2-4 mm behind tongue tip
 - Type 3: attachment of frenulum to mid tongue
 - Type 4: attachment at the base of the tongue
- Classification system ≠ assessment technique
- “Eiffel Tower”

Communicating with providers

- Oral assessment:
 - Maxillary labial frenulum type III attachment, flexible, non-restrictive at present
 - Lingual frenulum type III attachment - restricts adequate tongue mobility and functionality - particularly elevation and stamina.
 - Buccal and lingual strength-moderate.
 - Lingual lateralization, extension-moderate.
 - Elevation-poor.
 - Slight retrognathia noted.
 - Jaw, lip tension noted.
 - Palate slightly elevated.

- Oral fatigue with feed noted

Communication with Caregivers

- ...My exam shows that your baby has moderate lingual lateralization and poor tongue strength. Their tongue struggles to maintain extension, elevation and cupping throughout the duration of a feed...
- ...they are clamping more with their jaws and lips to hold on to the breast rather than stabilizing with their tongue and cheeks...
- ...there is some tightness to their lingual frenulum that to be impacting mobility and functionality...
- ... I want to provide you with enough information so you can understand your care options and make an informed choice moving forward...

Summary

- Aim to do oral exams on every baby
- Find YOUR style
- Be systematic
- Assessment should help guide care plan
- Chart, document, refer appropriately
- Identify areas of uncertainty, continue to learn

Thank you!

- Be a skilled clinician...not a feeding technician!
- Assess beyond the frenulum

Melissa Cole, MS, IBCLC

melissa@lunalactation.com

www.lunalactation.com