

**Appendix 1**

**LINGUAL FRENULUM PROTOCOL WITH SCORES FOR INFANTS  
Martinelli et al, 2012**

HISTORY	
Name: _____ Birth: ___/___/___	
Examination date: ___/___/___      Gender: M ( )    F ( )	
Mother's name: _____	
Father's name: _____	
Address: _____	
City _____ State _____ ZIP: _____	
Phone home: ( ) _____ office: ( ) _____ cell: ( ) _____	
email: _____	
<b>Family history</b> (any lingual frenulum alteration)	
( ) no (0) ( ) yes (1) Who: _____ What: _____	
<b>Other health problems:</b>	
( ) no ( ) yes    What: _____	
<b>Breastfeeding:</b>	
- time between feedings: ( ) 3hours (0) ( ) 2hours (0) ( ) 1hour or less (2)	
- fatigue during feeding? ( ) no (0) ( ) yes (1)	
- sucks a little and sleeps? ( ) no (0) ( ) yes (1)	
- slips off nipple? ( ) no (0) ( ) yes (1)	
- chews nipple? ( ) no (0) ( ) yes (2)	

**HISTORY SCORES: Best result = 0**

**Worst result = 8**

**CLINICAL EXAMINATION**  
(video to future analysis suggested)

**PART I – ANATOMO-FUNCTIONAL EVALUATION**

**1. Lip posture at rest**



( ) closed (0)



( ) half-open (1)



( ) open (1)

**2. Tongue posture during crying**



( ) midline (0)



( ) elevated (0)



( ) down (2)

**3. Tongue shape during crying**



( ) round or square (0)



( ) V-shaped (2)



( ) heart-shaped (3)

#### 4. Lingual Frenulum



visible



not visible



visible with maneuver (\*)

**IF THE LINGUAL FRENULUM IS NOT VISIBLE, GO TO PART II (evaluation of orofacial functions)**

##### 4.1. Frenulum thickness



thin (0)



thick (2)

##### 4.2. Frenulum attachment to the tongue



midline (0)



between midline and apex (1)

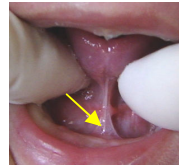


apex (3)

##### 4.3. Frenulum attachment to the floor of the mouth



visible from the caruncles (0)



visible from the crest (1)

\* Maneuver: elevate and push back the tongue. If the frenulum is not visible, the infant must be seen by speech-language pathologist each two months for periodic frenulum evaluation.

**Anatomo-functional evaluation scores: Best result = 0**

**Worst result = 12**

## PART II – EVALUATION OF OROFACIAL FUNCTIONS

### 1. Non-nutritive sucking (little finger suction wearing gloss)

#### 1.1. Tongue movement

- adequate: tongue protrusion, coordinated movements and efficient suction (0)
- inadequate: restricted tongue protrusion, uncoordinated movement and late suction start (1)

### 2. Nutritive sucking (when breastfeeding starts, observe infant sucking during 5 minutes)

#### 2.1. Suction Rhythm (observe groups of suction and pauses)

- several suctions in a row followed by short pauses (0)
- a few suctions followed by long pauses (1)

#### 2.2. Coordination among suction/ swallowing/ breathing

- adequate (0) (balance between feeding and suction-swallowing-breathing without stress )
- inadequate (1) (cough, choking, dyspnea)

#### 2.3. Nipple chewing

- no (0)
- yes (2)

#### 2.4. Clicking during sucking

- no (0)
- non-systematic (1)
- frequent (2)

Orofacial function evaluation scores: Best result = 0

Worst result = 7

**HISTORY + CLINICAL EXAMINATION TOTAL SCORES: BEST RESULT=0 WORST RESULT= 27**

**WHEN THE SUM OF HISTORY AND CLINICAL EXAMINATION IS EQUAL OR MORE THAN 9,  
LINGUAL FRENULUM MAY BE CONSIDERED ALTERED.**