### Appendix 1

**LINGUAL FRENULUM PROTOCOL WITH SCORES FOR INFANTS**

Martinelli et al, 2012

<table>
<thead>
<tr>
<th>HISTORY</th>
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<tr>
<td>Name: ____________________________  Birth: <em><strong>/</strong></em>/______</td>
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<tr>
<td>Examination date: <em><strong>/</strong></em>/______  Gender: M ( )  F ( )</td>
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<tr>
<td>Mother’s name: ____________________________</td>
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<tr>
<td>Father’s name: ____________________________</td>
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<tr>
<td>Address: ____________________________  ____________________________</td>
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<tr>
<td>City ____________________________  State ____________________________  ZIP: ____________________________</td>
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<tr>
<td>Phone home: ( )  office: ( )  cell: ( )</td>
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<td>email: ____________________________</td>
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**Family history (any lingual frenulum alteration)**

( ) no (0)  ( ) yes (1)  Who: ____________________________  What: ____________________________

**Other health problems:**

( ) no ( ) yes  What: ____________________________

**Breastfeeding:**

- time between feedings: ( ) 3 hours (0)  ( ) 2 hours (0)  ( ) 1 hour 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
### 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

**HYSTORY + 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.