# Appendix 1

## LINGUAL FRENULUM PROTOCOL WITH SCORES FOR INFANTS

Martinelli et al, 2012

<table>
<thead>
<tr>
<th>HISTORY</th>
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</table>
| Name: ___________________________ Birth: ___/___/______  
| Examination date: ___/___/______ Gender: M ( ) F ( )  
| Mother's name: ___________________________  
| Father's name: ___________________________  
| Address: _________________________________________________________  
| City __________________ State __________________ ZIP: ______________  
| Phone home: ( ) ____________ office: ( ) ____________ cell: ( ) ____________  
| email: ___________________________  

**Family history** (any lingual frenulum alteration)

( ) no (0) ( ) yes (1)  
Who: _______________ What: ___________________________  

**Other health problems:**

( ) no ( ) yes  
What: _______________________________________________________  

<table>
<thead>
<tr>
<th>Breastfeeding:</th>
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</thead>
<tbody>
<tr>
<td>- time between feedings: ( ) 3hours (0) ( ) 2hours (0) ( ) 1hour or less (2)</td>
</tr>
<tr>
<td>- fatigue during feeding? ( ) no (0) ( ) yes (1)</td>
</tr>
<tr>
<td>- sucks a little and sleeps? ( ) no (0) ( ) yes (1)</td>
</tr>
<tr>
<td>- slips off nipple? ( ) no (0) ( ) yes (1)</td>
</tr>
<tr>
<td>- chews nipple? ( ) no (0) ( ) yes (2)</td>
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</tbody>
</table>

**HISTORY SCORES:** Best result = 0  
Worst result = 8
PART I – ANATOMO-FUNCTIONAL EVALUATION

<p>| | | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1. Lip posture at rest</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( ) closed (0)</td>
<td>( ) half-open (1)</td>
<td>( ) open (1)</td>
</tr>
<tr>
<td>2. Tongue posture during crying</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( ) midline (0)</td>
<td>( ) elevated (0)</td>
<td>( ) down (2)</td>
</tr>
<tr>
<td>3. Tongue shape during crying</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( ) round or square (0)</td>
<td>( ) V-shaped (2)</td>
<td>( ) heart-shaped (3)</td>
</tr>
</tbody>
</table>
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.