

LINGUAL FRENULUM PROTOCOL
(Marchesan, 2014)
HISTORY

Name: _____ **Gender:** F () M ()
Examination date: __/__/__ **Age:** ___ years and ___ months **Birth:** __/__/__
Responsible: _____ **Relative:** _____

Studying: yes no **Grade:** _____
Working: yes no **Profession:** _____
Worked before no yes **Professional Area:** _____
Practicing sports: no yes **Type:** _____

Address: _____
City _____ **State:** _____ **ZIP:** _____
Phone: Home: (____) _____ **Office:** (____) _____ **Cell:** (____) _____
e-mail: _____
Father's name: _____ **Mother's name:** _____
Siblings:
 no yes **How many:** _____

Who referred patient for evaluation (Name, specialist, phone): _____
Why? _____

Main complaint: _____

Other complaints affecting:

(N) no (S) sometimes (Y) yes

<input type="checkbox"/> lips	<input type="checkbox"/> tongue	<input type="checkbox"/> sucking	<input type="checkbox"/> chewing	<input type="checkbox"/> deglutition
<input type="checkbox"/> breathing	<input type="checkbox"/> speech	<input type="checkbox"/> lingual frenulum	<input type="checkbox"/> voice	<input type="checkbox"/> hearing
<input type="checkbox"/> learning	<input type="checkbox"/> facial aesthetic	<input type="checkbox"/> posture	<input type="checkbox"/> occlusion	<input type="checkbox"/> headache
<input type="checkbox"/> TMJ clicking	<input type="checkbox"/> TMJ pain	<input type="checkbox"/> neck pain	<input type="checkbox"/> shoulders pain	
<input type="checkbox"/> mouth opening difficulty	<input type="checkbox"/> mandible range of motion			<input type="checkbox"/> Other

Family history – any other relative has frenulum alteration

no yes **Who?** _____ **Surgery was necessary:** yes no

Health problems

no yes **What kind:** _____

Breathing problems

no yes **What kind:** _____

Suckling

Breast-feeding: <input type="checkbox"/> yes Age: _____ <input type="checkbox"/> no	The baby had difficult suckling? <input type="checkbox"/> no <input type="checkbox"/> yes
Bottle: <input type="checkbox"/> yes Age: _____ <input type="checkbox"/> no	What difficulty: _____

Feeding – chewing difficulties

no yes **What:** _____

Feeding – deglutition difficulties

no yes **What:** _____

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CLINICAL EXAMINATION

Name: _____	Gender: F () M ()
Examination date: __/__/__ Age: __ years and __ months	Birth: __/__/__
Responsible: _____	Relative: _____

I – GENERAL TESTS

Measurements using a caliper. Larger or equal 50,1% (0) – Less or equal 50% (1) FINAL RESULT =

Take measurements from superior right or left incise to the inferior right or left incise. Consider the same tooth for all the measurements.	Value in millimeters
A. Open mouth wide	
B. Open mouth wide with the tongue tip touching the incise papilla	
Difference between the two measurements, in percentage	%



A



B

Alterations during tongue elevation (best result = 0 e worst result = 3) FINAL RESULT =

Open mouth wide; raise the tongue without touching the palate	NO	YES
A. Tip of the tongue's shape: oblong or square	(0)	(1)
B. Tip of the tongue- V-shape	(0)	(2)
C. Tip of the tongue's shape: like a heart	(0)	(3)

If the tongue is heart-shaped, consider this aspect only.



A



B



C

Frenulum fixation (best result = 0 e worst result = 4) Final result =

Mouth floor:	
A. Visible only from the sublingual caruncles	(0)
B. Visible from inferior alveolar crest	(1)



A



B



B

Sublingual:	
A. In the middle of the tongue	(0)
B. Down the middle of the tongue	(1)
C. Between the middle and the apex of the tongue	(2)
D. At the apex	(3)



A



B



C



D

General tests evaluation total score: best result = 0 and worst result = 8

When the score of the general tests evaluation is equal or greater than 3, the frenulum may be considered altered.

Patient - general tests evaluation total score =

II – FUNCTIONAL TESTS

Tongue mobility (best result = 0 e worst result = 10). Final result =

	Successful	Partially successful
Sucking against the palate	(0)	(1)
Apex vibration	(0)	(2)
Protruding	(0)	(2)
Touch the upper lip with the apex	(0)	(2)
Touch right/left commissura labiorum	(0)	(3)

The following aspects must be observed in subjects with lingual frenulum alteration:

- Great variation of tongue mobility mainly because of the place of attachment of the lingual frenulum
- Concerning sucking against the palate: lower pressure; more pressure in one of the sides or no sucking
- Concerning apex vibration: does not maintain vibration; cannot vibrate
- Concerning tongue protrusion: tip of the tongue bends downward; tongue tends to deviate to one side; possible depression in the anterior third of the tongue
- Concerning touching the upper lip with the apex: mouth opening may be reduced; upper lip tends to go down
- Concerning lateralization: asymmetry between the sides may be observed; the tip of the tongue bends downward

Observation: tongue movements in young children may not be well developed.

Examples of common movement alterations in subjects with lingual frenulum alterations

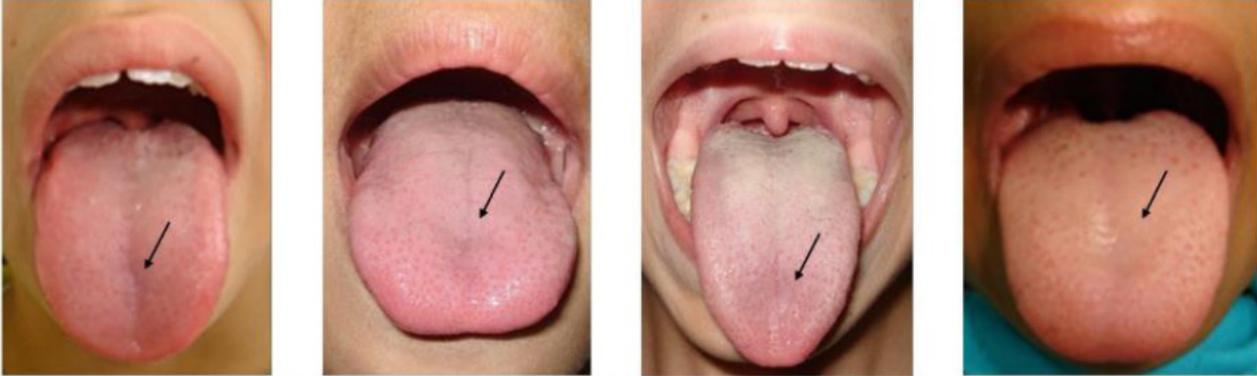
Tongue protrusion: tip of the tongue bends downward



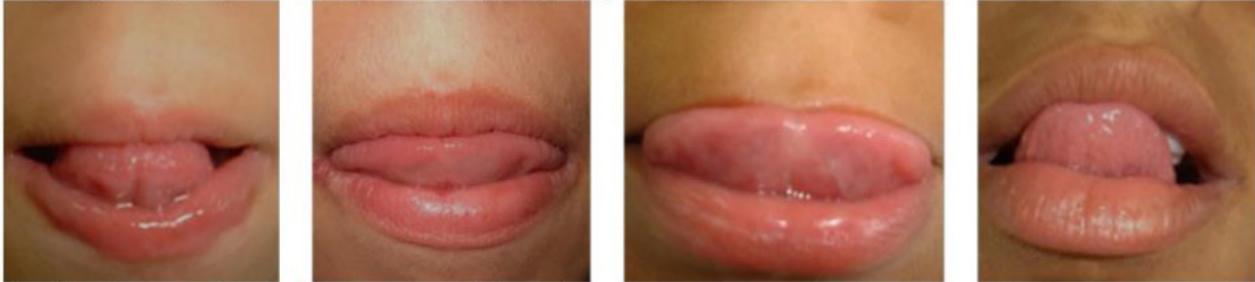
Tongue protrusion: tongue tends to deviate to one side



Tongue protrusion: possible depression in the anterior third of the tongue



Touching the upper lip with the apex: mouth opening may be reduced



Touching the upper lip with the apex: upper lip tends to go down



Lateralization: asymmetry between the sides may be observed



Lateralization: the tip of the tongue bends downward



Tongue position during rest (best result = 1 e worst result = 4). Final result =

Not visible: assessment is not possible	
A. Between the teeth/lateral	(1)
B. On the floor of the mouth	(3)



A



A



B

Speech (best result = 0 e worst result =12) Final result =

Test A – Informal speech

e.g.: What is your name? How old are you? Do you study/work? Tell me about your school/work. Tell me about something interesting.

Test B – Automatic speech

Ask to count from 1 to 20. Ask to say the days of the week. Ask to say the months of the year.

Test C – Naming

Ask to name the pictures from the picture table

Speech tests	Omission/ Substitution		Distortion	
	No	Yes	No	Yes
A	(0)	(1)	(0)	(3)
B	(0)	(1)	(0)	(3)
C	(0)	(1)	(0)	(3)

Check for which sound there is omission or substitution or distortion

p	b	t	d	k	g	m							
n	η	f	v	s	z	x							
j	l	λ	r	rr	{S}	{R}							
pr	br	tr	dr	cr	gr	fr	vr	pl	bl	cl	gl	fl	vl

If the alteration occurs in only one or two tests, identify in which test there was alteration

Other aspects to be observed during speech (best result = 0 e worst result =15) Final result =

Mouth opening:	(0) adequate	(1) open wide	(2) reduced
Tongue position:	(0) adequate	(1) protruded	(2) low tip and high lateral (3) on the floor
Lips during speech:	(1) Inadequate movement of upper lip	(1) Inadequate movement of lower lip	
Mandible movements:	(0) no alteration	(1) forth displacement	(2) right/left displacement
Speed:	(0) adequate	(1) reduced	(2) increased
Speech precision:	(0) adequate	(2) altered	
Voice:	(0) no alteration	(1) altered	

Functional evaluation total score: best result = 0 and worst result = 41

When the score of the functional evaluation is equal or greater than 20, the frenulum can be considered altered.

Patient – functional tests total score =

Documentation:

Photography and video of tongue mobility and speech evaluation

Final Considerations

I – Photos and Videos

Photos of open mouth, tongue movements, and floor of the mouth are suggested
Videos of tongue mobility and speech are suggested

a) Oral cavity: open mouth wide



b) Lingual frenulum: open mouth wide and elevate the tongue without touching any area



c) Tongue protrusion: open mouth and protrude the tongue



d) Upper lip movement: open mouth and elevate the tongue to touch the upper lip with the apex



e) Lateralization: open mouth and touch right commissura labiorum



f) Lateralization: open mouth and touch left commissura labiorum



g) Alveolar crest: open mouth wide and elevate the tongue



II – Lingual Frenulum Surgery

The lingual frenulum protocol consists of general and functional tests.
Independently of the scores of the general tests, surgery is indicated when the oral functions are altered.

LINGUAL FRENULUM PROTOCOL

Picture Table for the speech evaluation

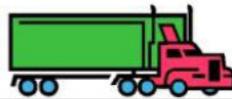




Table with the words for speech evaluation

Picture	Patient production	Picture	Patient production
Clock		Cockroach	
Pencil		Strawberry	
Cat		Giraffe	
Dice		Door	
Bird		Rabbit	
Sofa		Lion	
Scissors		Plate	
House		Train	
Bike		Dragon	
Star		Letter	
Truck		License plate	
Eye		Arrow	
Key		Blouse	
Airplane		Flute	
Butterfly		Radio	
Dog		Car	
Phone		Zebra	
Flower		Blue wing	
Gift		Umbrella	
Alligator		Fish	
Hammer		Horse	
Cross		Ladybug	
Grass		Chicken	
Owl		Crown	
Athlete		Globe	