

MBGR PROTOCOL OF OROFACIAL MYOFUNCTIONAL EVALUATION WITH SCORES

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ABSTRACT

The MBGR Protocol with scores was first published in 2009. This protocol was widely administered by speech-language pathologists experienced in orofacial myology in different states from Brazil for four months. From the comments and suggestions of these professionals, the protocol was reviewed and modified. A consistent visual training materials program was prepared, and speech-language pathologists, experienced in orofacial myology from different states of Brazil, Venezuela, Peru, and Colombia were trained with the provided materials. These speech-language pathologists administered the protocol for two years. From the data collected by the speech-language pathologists, modifications were made, and a final version was designed. This final version was administered for two-months by the same speech-language pathologists from Brazil, Venezuela, Peru, and Colombia in order to re-test the final version of MBGR protocol. The aim of this study was to demonstrate the efficiency and effectiveness of the protocol to assess orofacial myofunctional alterations. The final version of the MBGR protocol with scores has proven to be efficient and effective in the identification of individuals experiencing orofacial myofunctional disorders.

KEYWORDS: Protocol, validity, validation study, test reproducibility, orofacial myology

INTRODUCTION

Protocols are important in the providing parameters for assessment, especially in a specialty area such as orofacial myology (OM). In Brazil, until the 1980s, there was an absence of structured protocols for the identification of orofacial myofunctional disorders (OMD). Since the 1980s short protocols to assess the OM alterations were designed by different speech-language pathologists (Marchesan, 1997; Marchesan, 2003a; Marchesan, 2003b; Marchesan, 2005a; Marchesan, 2005b; Marchesan 2005c; Cattoni, 2006; Paskay, 2006; Felicio, Ferreira, 2008; Rodrigues, Monção, Moreira, 2008; Cattoni, Fernandes, 2009; Tessitore, Paschoal, Pfeilsticker 2009; Whitaker, Trindade, Genaro, 2009).

During 2007 and 2008, four speech-language pathologists, experienced in OM, decided that it was important to design a structured protocol. From the protocols in existence at that time, a new model protocol was designed and published (Genaro, Berretin-Felix, Redher, Marchesan, 2009).

From the administration of the original 2009 protocol, modifications were made, and a final version was designed. This version consisted of two parts: history and clinical examination. The history section focuses on collecting information about: general health problems; breathing; sleep; previous treatments; feeding; chewing; swallowing; oral and postural habits; communication; education; speech; hearing; and voice. The clinical examination section is composed of eight parts and focuses on assessing: body posture; the face, mandibular and occlusion measurements; extra-oral and intra-oral examinations; mobility of lips, tongue, velum and jaw; pain; tone of lips, mentum, tongue and cheeks; orofacial functions including breathing, chewing, swallowing, speech, and voice.

A scoring system was developed for the results obtained from administering the protocol. Because of the different characteristics of each item assessed, the scores range, from the maximum score considered as being reflective of the most

deficient results and 0 score considered the best or normal performance. At the end of the MBGR protocol, a summary with scores of all items assessed is provided. Photos and video recording are the types of documentation suggested. This is primarily to compare the first evaluation to the re-evaluations.

The aim of this article is to demonstrate the efficiency and effectiveness of the protocol in identifying orofacial myofunctional alterations.

METHODS

The protocol published in 2009 was widely administered by speech-language pathologists experienced in orofacial myology in different states from Brazil for four months. Following the directions of the authors of the protocol, the speech-language pathologists administering the protocol also photographed and recorded the patients during evaluation. The data was collected and the considerations of the speech-language pathologists were sent to the authors, who analyzed all the cases, including the photographs and recordings. From the comments and suggestions of these professionals, the protocol was reviewed and modified.

Understanding the importance of administering the reviewed protocol, the authors searched for speech-language pathologists from Brazil, as well as Latin America, to test the new version of MBGR protocol. A consistent visual training materials package was prepared, and speech-language pathologists experienced in orofacial myology from different states of Brazil, Venezuela, Peru, and Colombia were trained in the use of the materials, and administered the protocol during the following two years.

From the information collected by the speech-language pathologists, modifications were made, and a final version was designed. This final version was administered for two-months by the same speech-language pathologists from Brazil, Venezuela, Peru, and Colombia who administered the previous version in order to re-test the final version of MBGR protocol.

RESULTS

The final version of MBGR protocol is presented in Appendix A. In an attempt to provide examples of some of the items included in the MBGR protocol, Appendix B provides photographic samples of some of the items included on the MBGR to help the new clinician understand the characteristics important to conducting the clinical assessment.

DISCUSSION

The new protocol permits the identification of individuals experiencing orofacial myofunctional disorders, and also presents information on categories of problems. Insight into the potential causes of an orofacial myofunctional disorder, and potential future difficulties that the individual may experience, is also possible for the properly trained evaluator. When a specific protocol is administered by trained individuals, a systematic and homogeneous analysis of the collected information is possible which may justify the knowledge and beliefs currently held about orofacial myofunctional disorders.

As Hogikyan & Sethuraman (1999) and Gasparini & Behlau (2009) indicate in their studies on voice, subjective judgements may be accurate or inaccurate. Informational data from a specific country on the disease incidence, etiology, prognosis, the most frequent symptoms, for example, can only be obtained from the use of a standard protocol.

When protocols are administered during all the treatment phases including evaluation before and after treatment, the comparison of data reveals whether the therapeutic techniques are effective or not. If professionals from different places administer the same protocol, they can compare data from different patients concerning diagnosis and treatment, and potentially identify specific treatment procedures for the various types of orofacial myofunctional disorders, which could then be provided in an efficient and effective manner.

CONCLUSIONS

The MBGR is a two-part protocol composed of history and clinical examination with scores, which allows the speech-language pathologist to assess, diagnose and establish prognostic information for orofacial myofunctional disorders. In order to be confident in the data collected, it is important to use a protocol

which has been developed and reviewed by knowledgeable specialists. The authors feel that this final version of the MBGR protocol is an instrument that will not only help in the identification of individuals with orofacial myofunctional disorders, but also permit individuals interested in conducting future research a protocol which will allow the accurate collection of data.

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APPENDIX A

MBGR PROTOCOL HISTORY <i>Marchesan IQ, Berretin-Felix G, Genaro KF, Rehder MI</i>

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

Student: <input type="checkbox"/> yes <input type="checkbox"/> no	Grade: _____
Working: <input type="checkbox"/> yes <input type="checkbox"/> no	Profession: _____
Worked before <input type="checkbox"/> no	<input type="checkbox"/> yes Professional Area: _____
Practicing sports: <input type="checkbox"/> no	<input type="checkbox"/> yes What: _____

Address: _____		
City: _____	State: _____	ZIP: _____
Phone: Home: (____) _____	Office: (____) _____	Cell: (____) _____
e-mail: _____		
Father's name: _____		Mother's name: _____
Siblings: <input type="checkbox"/> no <input type="checkbox"/> yes How many: _____		

Who referred patient for evaluation (<i>Name, specialist, phone</i>): _____

Main complaint:

Other complaints affecting: (0) no (1) sometimes (2) yes

() lips	() tongue	() sucking	() chewing	() deglutition
() breathing	() speech	() tongue frenulum	() voice	() hearing
() learning	() facial aesthetic	() posture	() occlusion	() headache
() TMJ clicking	() TMJ pain	() neck pain	() shoulder pain	() other
() mandible range of motion	() mouth opening difficulty			

Family history

<input type="checkbox"/> no <input type="checkbox"/> yes	What kind: _____
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Intercurrences

During pregnancy: <input type="checkbox"/> no <input type="checkbox"/> yes	What kind: _____
At birth: <input type="checkbox"/> no <input type="checkbox"/> yes	What kind: _____

Motor development

Sitting:	<input type="checkbox"/> adequate	<input type="checkbox"/> altered	When: _____
Walking:	<input type="checkbox"/> adequate	<input type="checkbox"/> altered	When: _____

Motor difficulties: (0) no (1) sometimes (2) yes

<input type="checkbox"/> running	<input type="checkbox"/> dressing	<input type="checkbox"/> tying shoes	<input type="checkbox"/> buttoning	<input type="checkbox"/> riding a bike	<input type="checkbox"/> Other: _____
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Health problems

	What	Treatment	Medication
Neurological:	<input type="checkbox"/> no <input type="checkbox"/> yes _____	_____	_____
Orthopedic:	<input type="checkbox"/> no <input type="checkbox"/> yes _____	_____	_____
Metabolic:	<input type="checkbox"/> no <input type="checkbox"/> yes _____	_____	_____
Digestive:	<input type="checkbox"/> no <input type="checkbox"/> yes _____	_____	_____
Hormonal:	<input type="checkbox"/> no <input type="checkbox"/> yes _____	_____	_____

Other problems: _____

Breathing problems

	Annual frequency	Treatment	Medication
Frequent colds*:	<input type="checkbox"/> no <input type="checkbox"/> yes		
Throat problems:	<input type="checkbox"/> no <input type="checkbox"/> yes		
Tonsils:	<input type="checkbox"/> no <input type="checkbox"/> yes		
Halitosis:	<input type="checkbox"/> no <input type="checkbox"/> yes		
Asthma:	<input type="checkbox"/> no <input type="checkbox"/> yes		
Bronchitis:	<input type="checkbox"/> no <input type="checkbox"/> yes		
Pneumonia:	<input type="checkbox"/> no <input type="checkbox"/> yes		
Rhinitis:	<input type="checkbox"/> no <input type="checkbox"/> yes		
Sinusitis:	<input type="checkbox"/> no <input type="checkbox"/> yes		
Nasal obstruction:	<input type="checkbox"/> no <input type="checkbox"/> yes		
Nasal itching:	<input type="checkbox"/> no <input type="checkbox"/> yes		
Runny nose:	<input type="checkbox"/> no <input type="checkbox"/> yes		
Sneezing in a row:	<input type="checkbox"/> no <input type="checkbox"/> yes		

* Frequent colds: children up to 5 years old - over 12colds a year; between 6 and 12 years old – over 6 colds a year

Other problems: _____

Sleep

Restless sleep:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Snoring:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Drooling:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Apnea:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Water intake at night:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Sleeping with mouth open:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Waking up with a dry mouth:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Pain in the face when wake up:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Posture:	<input type="checkbox"/> side	<input type="checkbox"/> back	<input type="checkbox"/> stomach
Hand resting on the face:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes [] R [] L	<input type="checkbox"/> yes [] R [] L

Other problems: _____

Treatments

				reason	Professional
SLPs:	<input type="checkbox"/> no	<input type="checkbox"/> done	<input type="checkbox"/> current		
Physician:	<input type="checkbox"/> no	<input type="checkbox"/> done	<input type="checkbox"/> current		
Psychological :	<input type="checkbox"/> no	<input type="checkbox"/> done	<input type="checkbox"/> current		
Physiotherapy:	<input type="checkbox"/> no	<input type="checkbox"/> done	<input type="checkbox"/> current		
Dental:	<input type="checkbox"/> no	<input type="checkbox"/> done	<input type="checkbox"/> current		
Procedure:	<input type="checkbox"/> exodontia	<input type="checkbox"/> prosthesis	<input type="checkbox"/> implant	<input type="checkbox"/> fixed device	<input type="checkbox"/> removable device
Surgery:	<input type="checkbox"/> no	<input type="checkbox"/> yes. What? _____			When: _____

Other problems: _____

Feeding

Breastfeeding:	<input type="checkbox"/> yes. Until: _____	<input type="checkbox"/> no
Bottle:	<input type="checkbox"/> yes. Until: _____	<input type="checkbox"/> no

Feeding – difficulty

Glass:	<input type="checkbox"/> no	<input type="checkbox"/> yes (describe): _____
Flavors:	<input type="checkbox"/> no	<input type="checkbox"/> yes (describe): _____
Consistencies:	<input type="checkbox"/> no	<input type="checkbox"/> yes (describe): _____

Current feeding

What			
Fruits:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Greens:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Vegetables:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Cereals (rice, oat, wheat):	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Grains (beans, lentils, peas):	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Meat:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Milk and dairy products:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Sugar:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes

Diet predominantly

<input type="checkbox"/> liquid	<input type="checkbox"/> pasty	<input type="checkbox"/> solid
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Activities during meals

Eating only:	<input type="checkbox"/> at the table	<input type="checkbox"/> on the couch	<input type="checkbox"/> on the floor	<input type="checkbox"/> in bed
Reading:	<input type="checkbox"/> at the table	<input type="checkbox"/> on the couch	<input type="checkbox"/> on the floor	<input type="checkbox"/> in bed
Watching TV:	<input type="checkbox"/> at the table	<input type="checkbox"/> on the couch	<input type="checkbox"/> on the floor	<input type="checkbox"/> in bed
Doing homework:	<input type="checkbox"/> at the table	<input type="checkbox"/> on the couch	<input type="checkbox"/> on the floor	<input type="checkbox"/> in bed
Using computer:	<input type="checkbox"/> at the table	<input type="checkbox"/> on the couch	<input type="checkbox"/> on the floor	<input type="checkbox"/> in bed

Chewing

Side:	<input type="checkbox"/> bilateral	<input type="checkbox"/> unilateral: [] R [] L
Lips:	<input type="checkbox"/> closed	<input type="checkbox"/> half-open <input type="checkbox"/> open
Noise:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes <input type="checkbox"/> yes
Drinking during meals:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes: [] always [] help to form a bolus <input type="checkbox"/> yes: [] always [] help to form a bolus
Pain or discomfort:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes: [] R [] L <input type="checkbox"/> yes: [] R [] L
TMJ noise:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes: [] R [] L <input type="checkbox"/> yes: [] R [] L
Chewing difficulties:	<input type="checkbox"/> no	<input type="checkbox"/> yes What: _____
Food escape:	<input type="checkbox"/> no	<input type="checkbox"/> yes

Other problems: _____

Chewing

<input type="checkbox"/> adequate	<input type="checkbox"/> short time	<input type="checkbox"/> long time
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Chewing speed

	similar	faster	slower
Comparing to the family:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comparing to friends:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Chewing capacity (how the patient sees his/her chewing)

<input type="checkbox"/> excellent	<input type="checkbox"/> good	<input type="checkbox"/> regular	<input type="checkbox"/> bad	<input type="checkbox"/> very bad
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Swallowing

Difficulties:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes: _____
Noise:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes: _____
Choking:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes: _____
Odynophagia:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes: _____
Nasal reflux:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes: _____
Anterior escape:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes: _____
Hawking:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes: () during () after _____
Cough:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes: () during () after _____
Residue after swallowing:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes: _____

Other problems: _____

Oral habits

Pacifier:	<input type="checkbox"/> no	<input type="checkbox"/> yes	Until: _____ [] regular [] orthodontic
Thumb sucking:	<input type="checkbox"/> no	<input type="checkbox"/> yes	Until: _____
Tongue sucking:	<input type="checkbox"/> no	<input type="checkbox"/> yes	Until: _____
Lip liking:	<input type="checkbox"/> no	<input type="checkbox"/> yes	When: _____
Cigarette:	<input type="checkbox"/> no	<input type="checkbox"/> yes	How many a day: _____
Pipe:	<input type="checkbox"/> no	<input type="checkbox"/> yes	[] right [] left
Bruxism:	<input type="checkbox"/> no	<input type="checkbox"/> yes	[] day [] night
Grinding:	<input type="checkbox"/> no	<input type="checkbox"/> yes	When: _____
Nail biting:	<input type="checkbox"/> no	<input type="checkbox"/> yes	When: _____
Cheek biting:	<input type="checkbox"/> no	<input type="checkbox"/> yes	When: _____
Other biting habits: <input type="checkbox"/> no <input type="checkbox"/> yes What: _____ When: _____			

Other: _____

Posture habits

Lower lip sucking:	<input type="checkbox"/> no	<input type="checkbox"/> yes
Mandible protruding:	<input type="checkbox"/> no	<input type="checkbox"/> yes
Hand resting on chin:	<input type="checkbox"/> no	<input type="checkbox"/> yes: [] R [] L
Head resting on hand:	<input type="checkbox"/> no	<input type="checkbox"/> yes: [] R [] L
Excessive computer use:	<input type="checkbox"/> no	<input type="checkbox"/> yes: posture: _____
Excessive phone use:	<input type="checkbox"/> no	<input type="checkbox"/> yes: posture: _____

Other: _____

Communication

Express well:	<input type="checkbox"/> yes	<input type="checkbox"/> no
Lack of babbling:	<input type="checkbox"/> no	<input type="checkbox"/> yes
Late-talking:	<input type="checkbox"/> no	<input type="checkbox"/> yes
Late sentence structuring:	<input type="checkbox"/> no	<input type="checkbox"/> yes
Understanding difficulty:	<input type="checkbox"/> no	<input type="checkbox"/> yes

Other problems: _____

Speech

Omission:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Substitution:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Difficult to understand:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Difficult to understand on the phone:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Excessive saliva:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Restrict mandible movements:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Tongue protrusion:	<input type="checkbox"/> no	<input type="checkbox"/> yes: [] anterior [] lateral	What phones: _____

Other problems: _____

Hearing

Hearing loss:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes: [] R [] L	<input type="checkbox"/> yes: [] R [] L
Otitis:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes: [] R [] L	<input type="checkbox"/> yes: [] R [] L
Buzzing:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes: [] R [] L	<input type="checkbox"/> yes: [] R [] L
Otalgia:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes: [] R [] L	<input type="checkbox"/> yes: [] R [] L
Dizziness /Vertigo:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Previous audiological assessment:	<input type="checkbox"/> no	<input type="checkbox"/> yes. When: _____	

Other problems: _____

Voice

Hoarseness:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Weakness:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Hypernasality:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Hyponasality:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Aphonia:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Screaming:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Pain:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Throat burning:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes

Other problems: _____

Education

Learning difficulties:	<input type="checkbox"/> no	<input type="checkbox"/> yes	What: _____
Lack of concentration:	<input type="checkbox"/> no	<input type="checkbox"/> sometimes	<input type="checkbox"/> yes
Memory difficulties:	<input type="checkbox"/> no	<input type="checkbox"/> yes	
Fail:	<input type="checkbox"/> no	<input type="checkbox"/> yes	How many times: _____
Relationship difficulties:	<input type="checkbox"/> no	<input type="checkbox"/> yes	
Handedness:	<input type="checkbox"/> right-handed <input type="checkbox"/> left-handed <input type="checkbox"/> both hands		

Other problems:

SLPs responsible: _____

Id number: _____

APPENDIX A (Continued)

MBGR PROTOCOL Orofacial Myofunctional Clinical Examination Marchesan IQ, Berretin Felix G., Genaro KF, Rehder, MI
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Name: _____

Examination date: ____ / ____ / ____ Age: ____ years and ____ months Date of birth: ____ / ____ / ____

1. BODY POSTURE *Observe the patient standing barefoot***Head** [*flexion and extension = yes*] [*rotation = no*] [*inclination = maybe*]

Frontal:	<input type="checkbox"/> normal	<input type="checkbox"/> R rotation	<input type="checkbox"/> L rotation	<input type="checkbox"/> R inclination	<input type="checkbox"/> L inclination
Lateral:	<input type="checkbox"/> normal	<input type="checkbox"/> anterior	<input type="checkbox"/> flexion	<input type="checkbox"/> extension	

Shoulders

Frontal:	<input type="checkbox"/> normal	<input type="checkbox"/> high R	<input type="checkbox"/> high L
Lateral:	<input type="checkbox"/> normal	<input type="checkbox"/> anterior rotation	

Comments: _____

2. FACE, MANDIBULAR MOVEMENT AND OCCLUSION MEASUREMENTS**Face** (*keep lips closed, take measurements with a caliper rule for three times and calculate average measurements*)

	1st measure (mm)	2nd measure (mm)	3rd measure (mm)	Average (mm)
midface (<i>glabella to subnasal</i>)				
lower face (<i>subnasal to gnathion</i>)				
face height - H (<i>from glabella to gnathion</i>)				
face width - W (<i>prominence of zygomatic arches - this measure will be more accurate with the "spreading caliper" or with the caliper rule adapted with a extension of 10cm</i>)				
right outer eye corner to the right lip corner				
left outer eye corner to the left lip corner				
upper lip (<i>from subnasal point to the lowest point of upper lip</i>)				
lower lip (<i>from the upper point of lower lip to gnathion</i>)				

Comments: _____

Mandibular movements and Occlusion (use copy-pencil and caliper rule. Take measurements for three times and calculate average measurements)

	1st measure (mm)	2nd measure (mm)	3rd measure (mm)	Average (mm)
right mandible laterality (mark the dental midline of the superior arch on the inferior arch, move the jaw to the right and measure the distance between the mark and the superior midline)				
left mandible laterality (mark the dental midline of the superior arch on the inferior arch, move the jaw to the left and measure the distance between the mark and the superior midline)				
overbite (with teeth fully occluded, mark on the vestibular surface of the lower incisors the edge of the upper incisors. Measure the distance of that mark to the edge of the lower incisors. When there is open bite the result between the edges of upper and lower incisors will be negative)				
overjet (measure the distance between the surfaces of the upper and lower incisors in the horizontal plane)				
maximum active interincisal distance – MAID (from the central or lateral upper incisor to the central or lateral lower incisor with maximum open mouth)				
mouth opening (maximum active interincisal distance + overbite)				
MAID with the tip of the tongue touching the incisive papilla (MAIDTP)				
Calculate: $\frac{MAIDTP}{MAID} \times 100$				

3. EXTRAORAL EXAMINATION [] Sum scores from face, lips and masseter (best result = 0 and worst result = 28)

Face [] Sum scores from frontal and lateral norm (best result = 0 / and worst result = 15)
Observe the patient standing barefoot

Frontal Norm (numerical facial analysis) [] Sum scores (best result = 0 / worst result = 3)

Facial type			
Compare height (H) with width (W):	(0) medium (H similar to W)	(1) long (H > W)	(1) short (W > H)
Facial proportions			
Compare middle third with lower third:	(0) similar	(1) larger lower third	(1) smaller lower third
Compare the distance between R outer eye corners to R lip corner and L outer eye corners to L lip corner:	(0) similar	(1) asymmetrical	

Frontal Norm (perceptual facial analysis) [] Sum scores (best result = 0 / worst result = 10)

	Symmetric	Asymmetrical	Description
Infraorbital plane	(0)	(1)	
Zygomatic region	(0)	(1)	
Nasal alar	(0)	(1)	
Cheeks	(0)	(1)	
Nasolabial folds	(0)	(1)	
Upper lip	(0)	(1)	
Lip corners	(0)	(1)	
Lower lip	(0)	(1)	
Mentum	(0)	(1)	
Mandible	(0)	(1)	

Lateral Norm (perceptual facial analysis) [] Sum scores (best result = 0 / worst result = 2)

Facial Pattern:	(0) Pattern I (<i>straight</i>)	(1) Pattern II (<i>convex</i>)	(1) Pattern III (<i>concave</i>)
Nasolabial angle:	(0) around 90° - 110	(1) acute (<90°)	(1) obtuse (>110°)
Comments: _____			

Lips [] Sum scores (best result = 0 / worst result = 11)

Habitual posture:	(0) closed (2) half-open	(1) closed with tension (2) closed with teeth contact	(2) sometimes open, sometimes closed (3) open
Form - Upper - Lower	(0) normal (<i>1st cupid's bow</i>) (0) normal	(1) gull wing (<i>1st and 2nd cupid's bow</i>) (1) discrete eversion	(2) stressed eversion
Upper length:	(0) covers 2/3 of incisors (0) normal	(1) covers more than 2/3 (1) with saliva	(1) covers less than 2/3 (1) dry (2) injured
<i>External mucosa:</i>			

Comments: _____

Masseter [] (Best result = 0 / worst result = 2) *Evaluate through observation and touch:*

Rest	(0) relaxed	(1) contraction (teeth pressure)
Recruitment in isometric contraction:	(0) simultaneous	(1) R side first (1) L side first

Comments: _____

4. INTRAORAL EXAMINATION [] Sum scores from lips, tongue, cheeks, palate, tonsils, teeth and occlusion (Best result = 0 / worst result = 58)

Lips [] Sum scores (best result = 0 / worst result = 5)

Internal mucosa:	(0) normal	(1) with teeth marks	(2) injured
Superior frenulum:	Attachment on alveolar ridge:	(0) adequate	(1) low
	Thickness:	(0) adequate	(1) altered (<i>describe</i>): _____

Comments: _____

Tongue [] Sum scores (best result = 0 / worst result = 17)

Habitual posture:	<input type="checkbox"/> not visible	(1) on mouth floor	(1) low tip and high back	(1) protrudes between the teeth:
Symmetry:	(0) yes	(1) no (<i>describe</i>):		
Width:	(0) adequate	(1) reduced	(2) increased	
High:	(0) adequate	(1) increased		
Mucosa:	(0) adequate	(1) geographic	(1) fissured	(2) injured (<i>place</i>):-
	(1) with teeth marks (<i>place</i>):		(1) with braces marks (<i>place</i>):	
Frenulum:	Extension: (0) adequate	(1) long	(1) short	
	Tongue fixation: (0) in the middle	(1) between the middle and the apex	(2) at the apex	
	Fixation on the floor of the mouth:	(0) between the sublingual caruncles	(1) on alveolar crest	
	Other characteristics:	(0) none	(1) posterior	(1) thick (1) fibrotic

Comments: _____

Cheeks [] Sum scores (best result = 0 / worst result = 8)

Mucosa: (0) normal	(1) R dental marks/braces (1) L dental marks/braces	(1) R alba (white) line (1) L alba (white) line	(2) R injured (2) L injured
---------------------------	--	--	--------------------------------

Comments: _____

Palate [] Sum scores (best result = 0 / worst result = 8)

Hard:	Depth: (0) adequate	(1) reduced (shallow)	(2) increased (deep)
	Width: (0) adequate	(1) increased (wide)	(2) reduced (narrow)
Velum:	Symmetry: (0) present	(1) absent	
	Extension: (0) adequate	(1) long	(2) short
Uvula:	(0) adequate (1) altered (<i>describe</i>): _____		

Comments: _____

Tonsils [] Sum scores (best result = 0 / worst result = 4)

Presence:	<input type="checkbox"/> present	<input type="checkbox"/> removed	<input type="checkbox"/> not visible
Size:	(0) adequate	(1) R hypertrophy	(1) L hypertrophy
Color:	(0) adequate	(1) R hyperemia	(1) L hyperemia

Comments: _____

Mallampati Test (Samssoon e Young 1987)

Classification:	() Class I (<i>full visibility of tonsils, uvula and soft palate</i>)	() Class II (<i>visibility of hard and soft palate upper portion of tonsils and uvula</i>)
	() Class III (<i>soft and hard palate and base of the uvula are visible</i>)	() Class IV (<i>only hard palate visible</i>)

Teeth [] Sum scores (best result = 0 / worst result = 5)

Dentition:	<input type="checkbox"/> deciduous	<input type="checkbox"/> mixed	<input type="checkbox"/> permanent
Number of teeth:	R upper ____	L upper ____	R lower ____ L lower ____
Missing teeth:	(0) absent	(1) present (<i>missing elements</i>): _____	
Oral health:	Teeth: (0) good	(1) regular	(2) bad
	Gum: (0) good	(1) regular	(2) bad
Dental prosthesis:	<input type="checkbox"/> no	<input type="checkbox"/> removable	<input type="checkbox"/> fixed <input type="checkbox"/> partial denture <input type="checkbox"/> denture

Comments: _____

Occlusion [] Sum scores (best result = 0 / worst result = 11)

Midline:	(0) adequate	(1) deviated to R	(1) deviated to L		
Angle's classification:	R side	(0) Class I	(1) Class II 1 st div.	(1) Class II 2nd div.	(1) Class III
	L side	(0) Class I	(1) Class II 1 st div.	(1) Class II 2nd div.	(1) Class III
Disocclusion Guide:	(0) present	(1) absent R	(1) absent L		
Horizontal relationship:	(0) adequate (Overjet between 1 and 3mm)	(1) bite on top (Overjet = 0mm)	(1) excessive overjet (Overjet >3mm)	(1) anterior crossbite (Overjet <0mm)	
Vertical relationship:	(0) adequate (overbite between 1 e 3mm)	(1) overbite >3mm		(1) posterior R open bite	
	(1) bite on top = (overbite=0mm)	(1) anterior open bite ((overbite<0mm)		(1) posterior L open bite	
Transversal relationship:	(0) adequate	(1) posterior R crossbite	(1) posterior L crossbite		
Use of appliance:	<input type="checkbox"/> no	<input type="checkbox"/> removable	<input type="checkbox"/> braces		

Comments: _____

5. MOBILITY [] Sum scores from lips, tongue, velum and jaw (best result = 0 / worst result = 65)

Lips [] Sum scores (best result = 0 / worst result = 24) *Perform with occlusion of the teeth

	Adequate	Mild alteration	Severe alteration	Does not perform
Protrude closed *	(0)	(1)	(2)	(3)
Retract closed *	(0)	(1)	(2)	(3)
Protrude open *	(0)	(1)	(2)	(3)
Retract open *	(0)	(1)	(2)	(3)
Protrude closed to the R*	(0)	(1)	(2)	(3)
Protrude closed to the L*	(0)	(1)	(2)	(3)
Pop protracted	(0)	(1)	(2)	(3)
Pop retracted	(0)	(1)	(2)	(3)

Comments: _____

Tongue [] Sum scores (best result = 0 / worst result = 24)

	Adequate	Mild alteration	Severe alteration	Does not perform
Protrude and retract	(0)	(1)	(2)	(3)
Touch R/L commissures and upper/lower lips sequentially	(0)	(1)	(2)	(3)
Touch incisive papilla	(0)	(1)	(2)	(3)
Touch R cheek	(0)	(1)	(2)	(3)
Touch L cheek	(0)	(1)	(2)	(3)
Click tip	(0)	(1)	(2)	(3)
Suck tongue on palate	(0)	(1)	(2)	(3)
Vibrate	(0)	(1)	(2)	(3)

Comments: _____

Velum [] Sum scores (best result = 0 / worst result = 4)

	Adequate	Reduced movement	Absent movement
Say "a" repeatedly	(0) R (0) L	(1) R (1) L	(2) R (2) L

Comments: _____

Mandible [] Sum scores (best result = 0 / worst result = 13)

	Adequate	Reduced	Increased	Does not perform	With deviation		With noise	With pain
Mouth opening	(0)	(1)	(1)	(2)	(1) R	(1) L	(1)	(1)
<i>Expected scores: child = 35 to 50mm / adult = 40 to 55mm</i>								
Mouth closure	(0)	-	-	-	(1) R	(1) L	(1)	(1)
R Laterality	(0)	(1)	(1)	(2)	-	-	(1)	(1)
L Laterality	(0)	(1)	(1)	(2)	-	-	(1)	(1)
<i>Expected scores: child = 6 a 10mm / adult = 8 a 12mm</i>								

Comments: _____

6. PAIN WITH PALPATION [] Sum scores (best result = 0 / worst result = 10)

	Absent		Present	
Anterior temporal	(0) R	(0) L	(1) R	(1) L
Superficial masseter	(0) R	(0) L	(1) R	(1) L
Trapezius	(0) R	(0) L	(1) R	(1) L
Sternocleidomastoid	(0) R	(0) L	(1) R	(1) L
TMJ	(0) R	(0) L	(1) R	(1) L

Comments: _____

7. TONE [] Sum scores (best result = 0 / worst result = 6) *Observe and touch to evaluate:*

	Normal	Reduced	Increased
Upper lip	(0)	(1)	(1)
Lower lip	(0)	(1)	(1)
Mentum	(0)	(1)	(1)
Tongue	(0)	(1)	(1)
Right cheek	(0)	(1)	(1)
Left cheek	(0)	(1)	(1)

Comments: _____

8. OROFACIAL FUNCTIONS [] Sum scores from breathing, chewing, swallowing and speech
(best result = 0 / worst result = 98)

Breathing [] Sum scores (best result = 0 / worst result = 5)

When altered, the origin is [] functional [] structural [] other

Type: (0) medium-lower	(1) medium-high	(1) other (<i>describe</i>): _____
Mode: (0) nasal	(1) oronasal	(2) oral
Possibility of breathing to the nose: (0) 2 minutes or more (1) between 1 and 2 minutes (2) less than 1 minute		

Comments: _____

Nasal flux <i>(use mirror)</i>	Before blowing:	() similar between nostrils	() mildly asymmetric	() severely asymmetric
	After blowing in order to clean:	() similar between nostrils	() mildly asymmetric	() severely asymmetric

Comments: _____

:

Chewing [] Sum scores (best result = 0 / worst result = 10)

When altered, the origin is [] functional [] structural [] TMD [] other

Habitual chewing (always use the same food)

Incision:	(0) anterior	(1) lateral	(1) other
Trituration/Pulverization:	(0) posterior teeth (0) efficient	(1) anterior teeth (1) inefficient	(1) with help of tongue
Number of cycles: (use video)	right: 1 st portion: _____ left: 1 st portion: _____ right/left: 1 st portion: _____ total: 1 st portion: _____	2 nd portion: _____ 2 nd portion: _____ 2 nd portion: _____ 2 nd portion: _____	3 rd portion: _____ 3 rd portion: _____ 3 rd portion: _____ 3 rd portion: _____
Chewing pattern:	(0) bilateral alternate (0) unilateral preferential: _____	(1) bilateral simultaneous (2) chronic unilateral: _____	
Lip closure:	(0) systematic	(1) unsystematic	(2) absent
Speed:	(0) adequate	(1) increased	(1) reduced
Noisy chewing:	(0) no	(1) yes	
Unexpected muscle contractions:	(0) absent	(1) present (describe): _____	
Duration of chewing (use portions of standard size and the same food)			
1 st portion: _____ seconds	2 nd portion: _____ seconds	3 rd portion: _____ seconds	Average: _____ seconds

Comments: _____

Ask the patient:

Preferred side of chewing:	<input type="checkbox"/> right and left	<input type="checkbox"/> right	<input type="checkbox"/> left	<input type="checkbox"/> does not know
Pain when chewing:	<input type="checkbox"/> no	<input type="checkbox"/> right	<input type="checkbox"/> left	
TMJ noise:	<input type="checkbox"/> no	<input type="checkbox"/> right	<input type="checkbox"/> left	

Comments: _____

Swallowing [] Sum scores (best result = 0 / worst result = 39)

When altered, the origin is [] functional [] structural [] other _____

Habitual swallowing (solid) [] Sum scores (best result = 0 / worst result = 15)

Lip posture:	(0) closed	(1) partially closed	(1) inferior lip touching upper teeth	(2) open
Tongue posture:	<input type="checkbox"/> not seen	(0) behind teeth	(1) against teeth	(2) interdental
Food escapes:	(0) no	(1) partial	(2) yes	
Orbicular contraction:	(0) adequate	(1) mild	(2) severe	
Mentum contraction:	(0) absent	(1) mild	(2) severe	
Head movement:	(0) absent	(1) present		
Noise:	(0) absent	(1) present		
Coordination:	(0) adequate	(1) chokes	(1) coughs	
Residue after swallowing:	(0) absent	(1) present		

Comments: _____

Habitual deglutition (liquid - water) [] Sum scores (best result = 0 / worst result = 11)

Tongue posture: <input type="checkbox"/> not seen	(0) behind teeth	(1) against teeth	(2) interdental
Liquid containment: (0) adequate	(1) inadequate		
Liquid volume: (0) satisfactory	(1) increased	(1) reduced	
Mentum contraction: (0) absent	(1) mild	(2) severe	
Head movement: (0) absent	(1) present		
Noise: (0) absent	(1) present		
Rhythm: (0) sequential	(1) sip by sip		
Coordination: (0) adequate	(1) chokes	(1) coughs	

Comments: _____

Directed deglutition (liquid - water) [] Sum scores (best result = 0 / worst result = 13)

Put water in the mouth and swallow only upon request of the evaluator

Lip posture: (0) closed	(1) partially closed	(1) lower lip touching upper teeth	(2) open
Tongue posture: (0) behind teeth	(1) against teeth	(2) interdental	
Liquid containment: (0) adequate	(1) partial	(1) inadequate	
Orbicular contraction: (0) adequate	(1) mild	(2) severe	
Mentum contraction: (0) absent	(1) mild	(2) severe	
Head movement: (0) absent	(1) present		
Noise: (0) absent	(1) present		
Coordination: (0) adequate	(1) chokes	(1) coughs	

Comments: _____

Ask the patient

Swallowing difficulty: <input type="checkbox"/> no	<input type="checkbox"/> yes (describe) _____		
Tongue position: <input type="checkbox"/> behind upper teeth	<input type="checkbox"/> behind lower teeth	<input type="checkbox"/> interdental	<input type="checkbox"/> patient does not know

Comments: _____

Speech [] Sum scores from the five tests (best result = 0 / worst result = 44)

When altered, the origin is [] phonetic [] phonetic/phonological [] phonological _____
In case of phonetic origin, this is: [] functional [] structural [] TMD [] neuromuscular [] other _____

Spontaneous speech [] Sum scores (best result = 0 / worst result = 6)

Ask the following questions: "tell me your name and age"

"tell me what you do (study, work)"

"tell me about a trip you enjoyed"

Omission: (0) absent	(1) unsystematic	(2) systematic	Phone(s): _____
Substitution: (0) absent	(1) unsystematic	(2) systematic	Phone(s): _____
Distortion: (0) absent	(1) unsystematic	(2) systematic	Phone(s): _____

Automatic speech [] Sum scores (best result = 0 / worst result = 6)

Count from 1 to 20; weekdays and months of the year

Omission: (0) absent	(1) unsystematic	(2) systematic	Phone(s): _____
Substitution: (0) absent	(1) unsystematic	(2) systematic	Phone(s): _____
Distortion: (0) absent	(1) unsystematic	(2) systematic	Phone(s): _____

Picture naming [] Sum scores (best result = 0 / worst result = 6)

Use the pictures from the board

Omission: (0) absent	(1) unsystematic	(2) systematic	Phone(s): _____
Substitution: (0) absent	(1) unsystematic	(2) systematic	Phone(s): _____
Distortion: (0) absent	(1) unsystematic	(2) systematic	Phone(s): _____

In case of distortion, that is related to the following tongue aspects:

- [] anterior interdental [] lateral interdental [] absence or reduce vibration of tip [] multiple vibration of tip
[] elevation of dorsum [] lowering of dorsum [] other: _____

Motor coordination of speech [] Sum scores (best result = 0 / worst result = 8)

Request fast and repeated emission of syllables and trisyllabic sequence for 10 seconds each.

Speed			Rhythm		
Adequate		Inadequate	Adequate		Inadequate
[pa]	(0)	(1)	(0)	(1)	
[ta]	(0)	(1)	(0)	(1)	
[ka]	(0)	(1)	(0)	(1)	
[pataka]	(0)	(1)	(0)	(1)	

Comments:

General aspects [] Sum scores (best result = 0 / worst result = 18)

Saliva: (0) patient swallows	(1) accumulates in the R/L commissures (2) splashes	(1) accumulates in the lower lip (3) slobbers
Mouth opening: (0) normal	(1) reduced	(1) increased
Tongue position: (0) adequate	(1) on the floor	(2) anterior (2) posterior (2) low tip and high sides
Lip movement: (0) adequate	(1) reduced	(1) exaggerated
Mandible movement: (0) adequate trajectory	(1) right deviation	(1) left deviation (1) anterior
Resonance: (0) oronasal balance	(1) reduced use of nose	(1) excessive use of nose (1) laryngopharyngeal
Articulatory precision: (0) adequate	(1) unsystematic imprecision	(2) systematic imprecision
Speed: (0) normal	(1) increased	(1) reduced
Coordination between breathing and speech:	(0) adequate	(1) altered

In case of imprecision, it is related to:

☐ tone ☐ oronasal breathing ☐ malocclusion ☐ use of dental prosthesis ☐ speech rate
☐ hearing ☐ use of medication ☐ amount of saliva ☐ reduced mouth opening
☐ neurological disorder ☐ muscle fatigue ☐ anxiety/depression ☐ other: _____

Comments:

Therapeutic test (*syllable repetition*) Request syllables repetition that contain the phone with alteration, using the vowel “e”.

This test is used to observe if when the pattern is provided, the production of the altered phone is modified

Tested phone	Production does not change	Production improves	Production becomes adequate

Comments:

Voice Request sustained emission of vowel “a”

Pitch: () adequate	() low	() high
Loudness: () adequate	() loud	() soft
Voice quality: () adequate	() disordered	

DOCUMENTATION

Suggested Photos

Body		
- front:	() Yes	() No
- right side:	() Yes	() No
Face		
- front: - rest:	() Yes	() No
- smile:	() Yes	() No
- right side:	() Yes	() No
Lower Third		
- front:	() Yes	() No
- right side:	() Yes	() No
Oral Cavity		
- superior arch:	() Yes	() No
- inferior arch:	() Yes	() No
Occlusion:		
- anterior:	() Yes	() No
- right side:	() Yes	() No
- left side:	() Yes	() No
Tongue:		
	() Yes	() No
Lingual frenulum (with open mouth, elevating apex without touching any place):		
	() Yes	() No

Others: _____

Suggested Video

Mobility:	Chewing:	Swallowing:	Speech:
() Yes () No	() Yes () No	() Yes () No	() Yes () No

Summary of the Orofacial Myofunctional Examination – MBGR
Marchesan IQ, Berretin Felix G., Genaro KF, Rehder, MI

Name: _____ number: _____ Examination date: ____ / ____ / ____

Initial Examination Scores	Re-evaluations (____ / ____ / ____) (____ / ____ / ____)	
[] EXTRAORAL EXAMINATION (best result = 0 / worst = 28)	[]	[]
[] Face (best result = 0 / worst = 15)	[]	[]
[] Lips (best result = 0 / worst = 11)	[]	[]
[] Masseter (best result = 0 / worst = 2)	[]	[]
[] INTRAORAL EXAMINATION (best result = 0 / worst = 58)	[]	[]
[] Lips (best result = 0 / worst = 5)	[]	[]
[] Tongue (best result = 0 / worst = 17)	[]	[]
[] Cheeks (best result = 0 / worst = 8)	[]	[]
[] Palate (best result = 0 / worst = 8)	[]	[]
[] Tonsils (best result = 0 / worst = 4)	[]	[]
[] Teeth (best result = 0 / worst = 5)	[]	[]
[] Occlusion (best result = 0 / worst = 11)	[]	[]
[] MOBILITY (best result = 0 / worst = 65)	[]	[]
[] Lips (best result = 0 / worst = 24)	[]	[]
[] Tongue (best result = 0 / worst = 24)	[]	[]
[] Soft palate (best result = 0 / worst = 4)	[]	[]
[] Mandible (best result = 0 / worst = 13)	[]	[]
[] PAIN WITH PALPATION (best result = 0 / worst = 10)	[]	[]
[] TONE (best result = 0 / worst = 6)	[]	[]
[] Lips (upper + lower) (best result = 0 / worst = 2)	[]	[]
[] Mentum (best result = 0 / worst = 1)	[]	[]
[] Tongue (best result = 0 / worst = 1)	[]	[]
[] Cheeks (R+L) (best result = 0 / worst = 2)	[]	[]
[] OROFACIAL FUNCTIONS (best result = 0 / worst = 98)	[]	[]
[] Breathing (best result = 0 / worst = 5)	[]	[]
[] Chewing (best result = 0 / worst = 10)	[]	[]
[] Swallowing (best result = 0 / worst = 39)	[]	[]
[] Speech (best result = 0 / worst = 44)	[]	[]

Data from other health professionals:

Requested examinations:

Other alterations:

Possible Diagnosis:

Prognosis:

Therapy plan:

Referrals to other professionals: _____

Counseling:

Responsible speech language-pathologist: _____

Professional's registration number: _____

APPENDIX B :
MBGR: WITH PHOTO EXAMPLES
Orofacial Myofunctional Examination - MBGR
 Marchesan IQ, Berretin-Felix G, Genaro KF, Rehder MI

Name: _____

Examination date: ____ / ____ / ____ Age: ____ years and ____ months Date of birth: ____ / ____ / ____

1. BODY POSTURE *Observe the patient standing barefoot*

Head [flexion and extension = yes] [rotation = no] [inclination = maybe]

Frontal:	<input type="checkbox"/> normal	<input type="checkbox"/> R rotation	<input type="checkbox"/> L rotation	<input type="checkbox"/> R inclination	<input type="checkbox"/> L inclination
Lateral:	<input type="checkbox"/> normal	<input type="checkbox"/> anterior	<input type="checkbox"/> flexion	<input type="checkbox"/> extension	



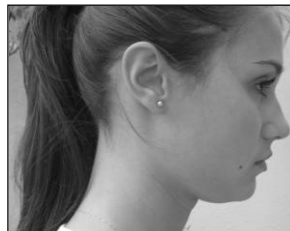
Rotation R. and L. (no)



Inclination R. and L. (maybe)



Anterior



Flexion

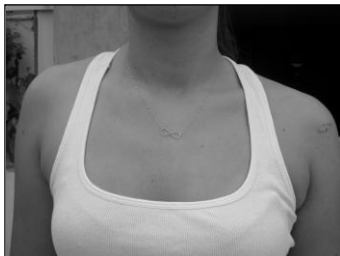


Extension

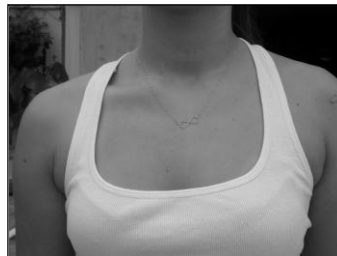
Shoulders

Frontal:	<input type="checkbox"/> normal	<input type="checkbox"/> high R	<input type="checkbox"/> high L
Lateral:	<input type="checkbox"/> normal	<input type="checkbox"/> anterior rotation	

Comments:



High R



High L

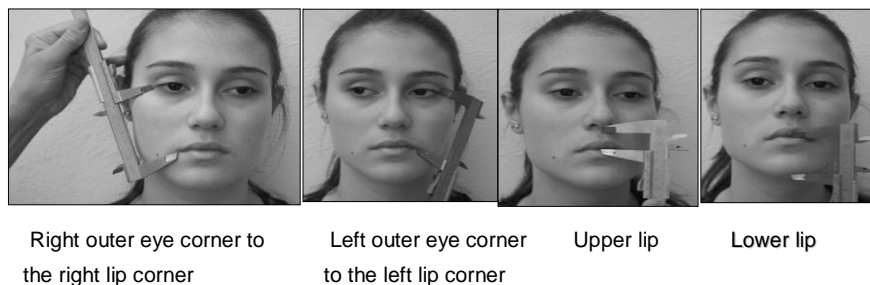
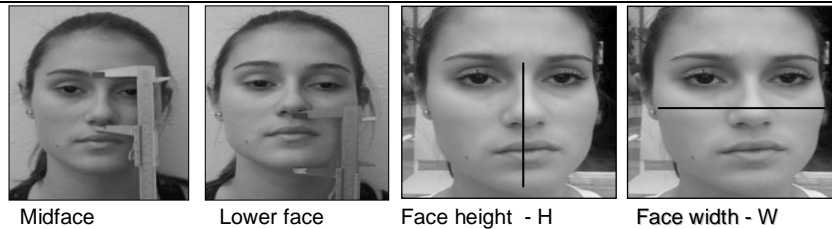
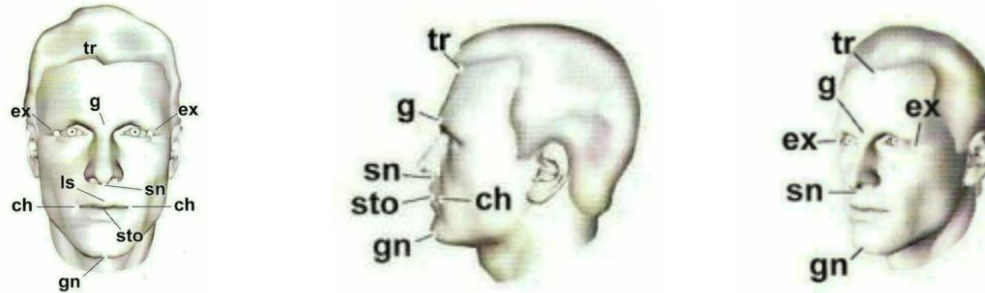


Anterior rotation

2. FACE, MANDIBULAR MOVEMENT AND OCCLUSION MEASUREMENTS

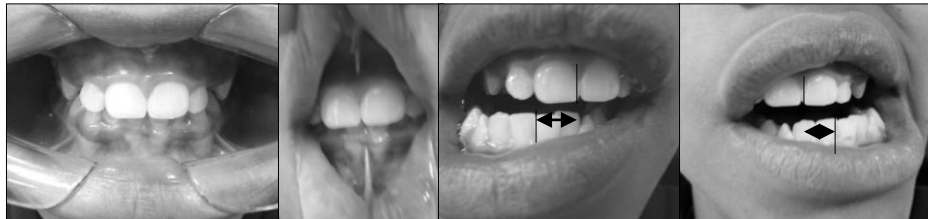
Face (keep lips closed, take measurements with a caliper rule for three times and calculate average measurements)

	1st measure (mm)	2nd measure (mm)	3rd measure (mm)	Average (mm)
midface (glabella to subnasal)				
lower face (subnasal to gnathion)				
face height - H (from glabella to gnathion)				
face width - W (prominence of zygomatic arches - this measure will be more accurate with the "spreading caliper" or with the caliper rule adapted with a extension of 10cm)				
right outer eye corner to the right lip corner				
left outer eye corner to the left lip corner				
upper lip (from subnasal point to the lowest point of upper lip)				
lower lip (from the upper point of lower lip to gnathion)				



Mandibular movements and Occlusion (use copy-pencil and caliper rule. Take measurements for three times and calculate average measurements)

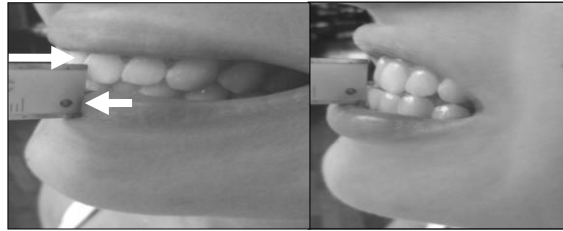
	1st measure (mm)	2nd measure (mm)	3rd measure (mm)	Average (mm)
right mandible laterality (mark the dental midline of the superior arch on the inferior arch, move the jaw to the right and measure the distance between the mark and the superior midline)				
left mandible laterality (mark the dental midline of the superior arch on the inferior arch, move the jaw to the left and measure the distance between the mark and the superior midline)				
overbite (with teeth fully occluded, mark on the vestibular surface of the lower incisors the edge of the upper incisors. Measure the distance of that mark to the edge of the lower incisors. When there is open bite the result between the edges of upper and lower incisors will be negative)				
overjet (measure the distance between the surfaces of the upper and lower incisors in the horizontal plane)				
maximum active interincisal distance – MAID (from the central or lateral upper incisive to the central or lateral lower incisive with maximum open mouth)				
mouth opening (maximum active interincisal distance + overbite)				
MAID with the tip of the tongue touching the incisive papilla (MAIDTP)				
Calculate: $\frac{MAIDTP}{MAID} \times 100$				



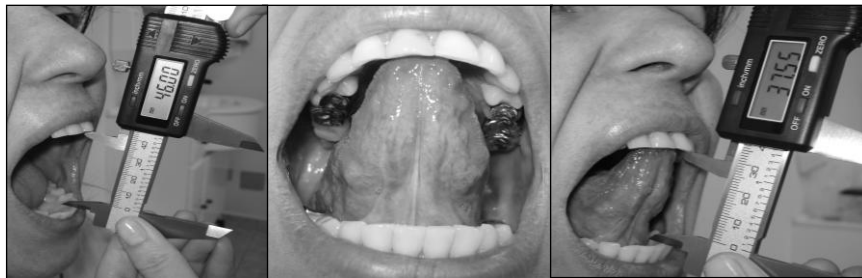
Right and left mandible laterality



Overbite



Overjet



Maximum active interincisal distance – MAID
MAID with the tip of the tongue touching the incisive papilla (MAIDTP)

3. EXTRAORAL EXAMINATION [] Sum scores from face, lips and masseter (best result = 0 / worst result = 28)

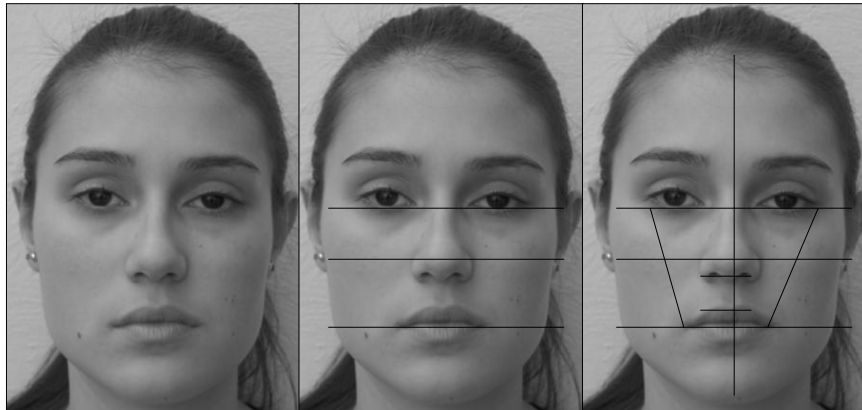
Face [] Sum scores from frontal and lateral norm (best result = 0 / worst result = 15)
Observe the patient standing barefoot

Frontal Norm (numerical facial analysis) [] Sum scores (best result = 0 / worst result = 3)

Facial type Compare height (H) with width (W):	(0) medium (H similar to W)	(1) long (H > W)	(1) short (W > H)
Facial proportions Compare middle third with lower third:	(0) similar	(1) larger lower third	(1) smaller lower third
Compare the distance between R outer eye corners to R lip corner and L outer eye corners to L lip corner:	(0) similar	(1) asymmetrical	

Frontal Norm (perceptual facial analysis) [] Sum scores (best result = 0 / worst result = 10)

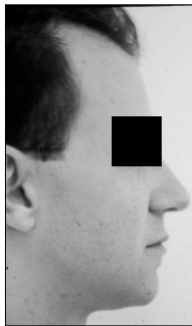
	Symmetric	Asymmetrical	Description
Infraorbital plane	(0)	(1)	
Zygomatic region	(0)	(1)	
Nasal alar	(0)	(1)	
Cheeks	(0)	(1)	
Nasolabial folds	(0)	(1)	
Upper lip	(0)	(1)	
Lip corners	(0)	(1)	
Lower lip	(0)	(1)	
Mentum	(0)	(1)	
Mandible (body and ramus)	(0)	(1)	



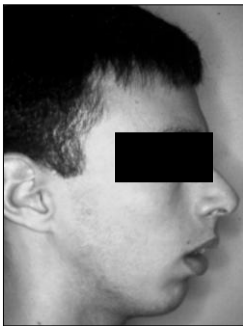
Lateral Norm (perceptual facial analysis) [] Sum scores (best result = 0 / worst result = 2)

Facial Pattern:	(0) Pattern I (<i>straight</i>)	(1) Pattern II (<i>convex</i>)	(1) Pattern III (<i>concave</i>)
Nasolabial angle:	(0) around 90° - 110	(1) acute (<90°)	(1) obtuse (>110°)

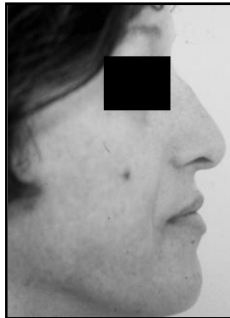
Comments:



Pattern I

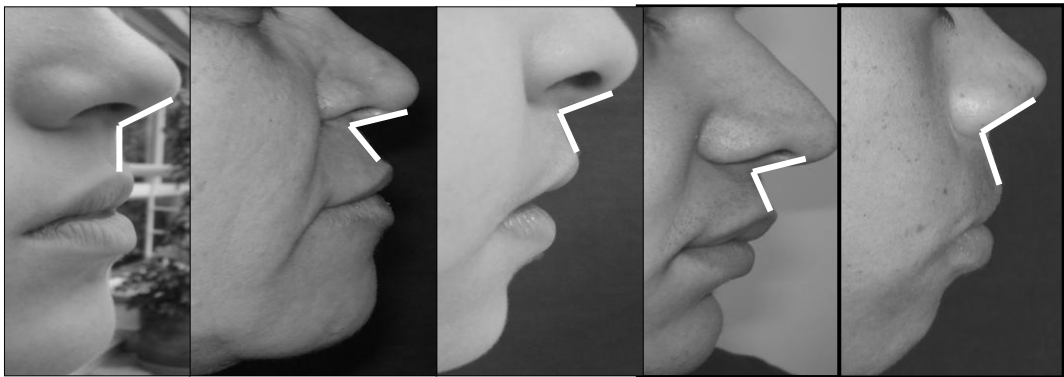


Pattern II



Pattern III

Nasolabial angle

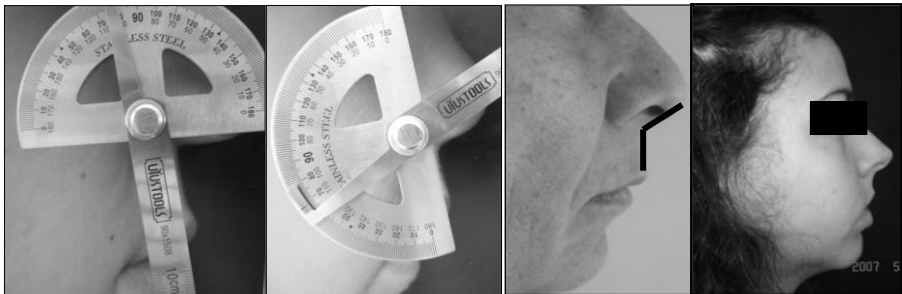


Obtuse (>110°)

Acute (<90°)

Around (90° - 110°)

Obtuse (>110°)



Obtuse (>110°)

Lips [] Sum scores (best result = 0 / worst results = 11)

Habitual posture:	(0) closed (2) half-open	(1) closed with tension (2) closed with teeth contact	(2) sometimes open, sometimes closed (3) open
Form - Upper - Lower	(0) normal (1st cupid's bow) (0) normal	(1) gull wing (1st and 2nd cupid's bow) (1) mild eversion	(2) severe eversion
Upper length:	(0) covers 2/3 of incisors (0) normal	(1) covers more than 2/3 (1) with saliva	(1) covers less than 2/3 (1) dry (2) injured
External mucosa:			

Comments:



Masseter [] (Best result = 0 / worst = 2) Evaluate through observation and palpation:

Rest	(0) relaxed	(1) contraction (clenching teeth)
Recruitment in isometric contraction:	(0) simultaneous	(1) R side first (1) L side first

Comments:



4. INTRAORAL EXAMINATION [] Sum scores from lips, tongue, cheeks, palate, tonsils, teeth and occlusion
(Best result = 0 / worst result = 58)

Lips [] Sum scores (best result = 0 / worst result = 5)

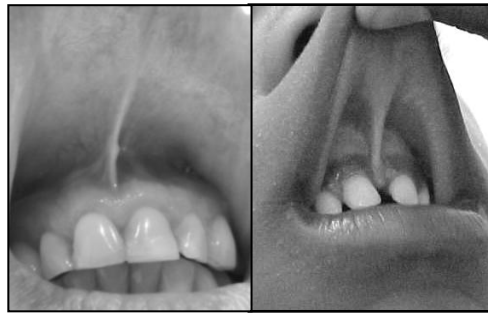
Internal mucosa:	(0) normal	(1) with teeth marks	(2) injured
Superior frenulum:	Attachment on alveolar ridge:	(0) adequate	(1) low
	Thickness:	(0) adequate	(1) altered (describe): _____

Comments:



Lips - Internal mucosa

Superior frenulum



Adequate

Low

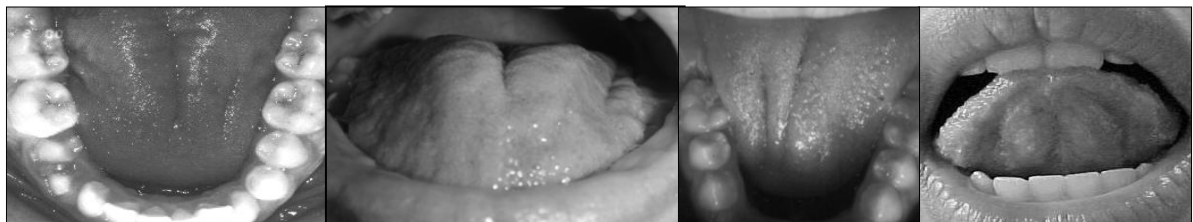
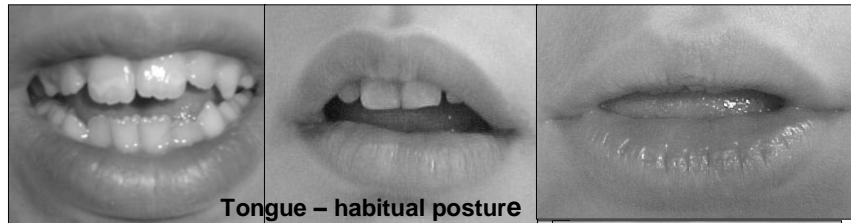


Thickness: altered

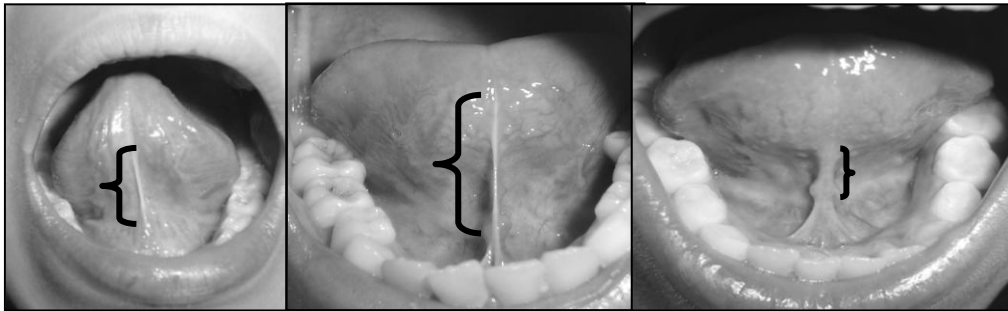
Tongue [] Sum scores (best result = 0 / worst result = 17)

Habitual posture:	<input type="checkbox"/> not visible	(1) on mouth floor	(1) low tip and high back	(1) protrudes between the teeth:
Symmetry:	(0) yes	(1) no (<i>describe</i>):		
Width:	(0) adequate	(1) reduced	(2) increased	
High:	(0) adequate	(1) increased		
Mucosa:	(0) adequate	(1) geographic	(1) fissured	(2) injured (<i>place</i>):
	(1) with teeth marks (<i>place</i>):	(1) with braces marks (<i>place</i>):		
Extension: (0) adequate (1) long (1) short				
Tongue fixation: (0) in the middle (1) between the middle and the apex (2) at the apex				
Frenulum:	Fixation on the floor of the mouth:		(0) between the sublingual caruncles	(1) on alveolar crest
	Other characteristics		(0) none	(1) posterior (1) thick (1) fibrotic

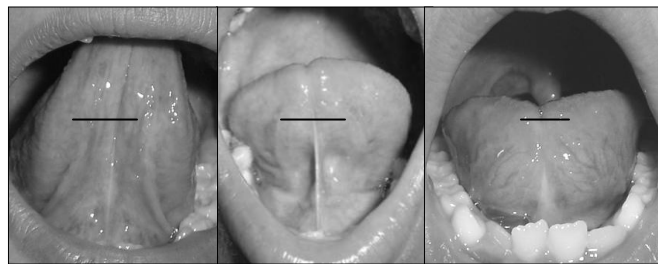
Comments:



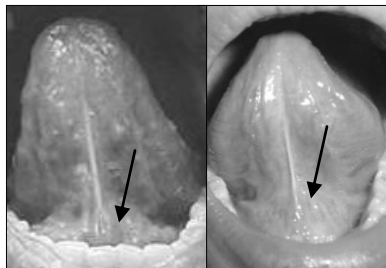
Lingual Frenulum



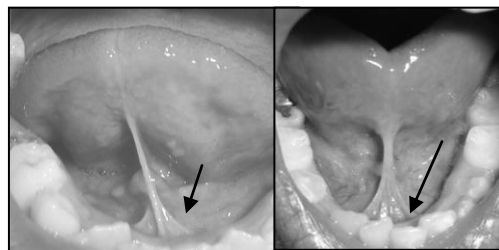
Extension



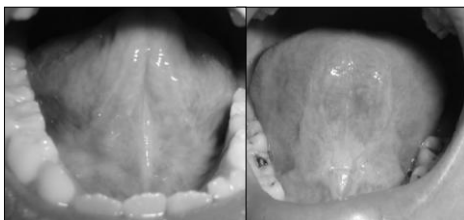
Tongue Fixation



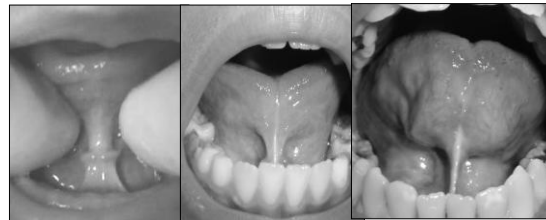
Between sublingual caruncles



On alveolar crest



Posterior



Thick

Fibrotic



The real ankyloglossia

Cheeks [] Sum scores (best result = 0 / worst result = 8)

Mucosa: (0) normal	(1) R dental/braces marks (1) L dental/braces marks	(1) R alba (white) line (1) L alba (white) line	(2) R injured (2) L injured
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Comments:

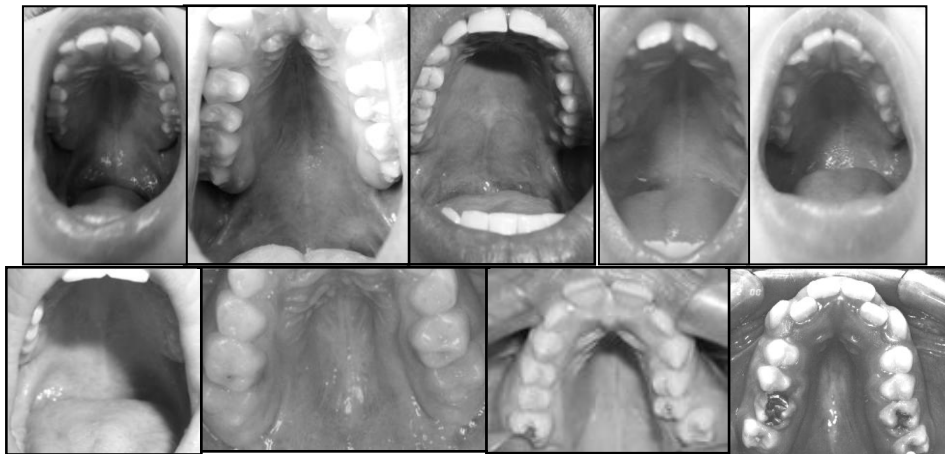


Palate [] Sum scores (best result = 0 / worst result = 8)

Hard:	Depth: (0) adequate	(1) reduced (shallow)	(2) increased (deep)
	Width: (0) adequate	(1) increased (wide)	(2) reduced (narrow)
Velum:	Symmetry: (0) present	(1) absent	
	Extension: (0) adequate	(1) long	(2) short
Uvula:	(0) adequate	(1) altered (<i>describe</i>): _____	

Comments:

Palate Hard: examples



Velum and uvula: examples



Tonsils [] Sum scores (best result = 0 / worst result = 4)

Presence:	<input type="checkbox"/> present	<input type="checkbox"/> removed	<input type="checkbox"/> not visible
Size:	(0) adequate	(1) R hypertrophy	(1) L hypertrophy
Color:	(0) adequate	(1) R hyperemia	(1) L hyperemia

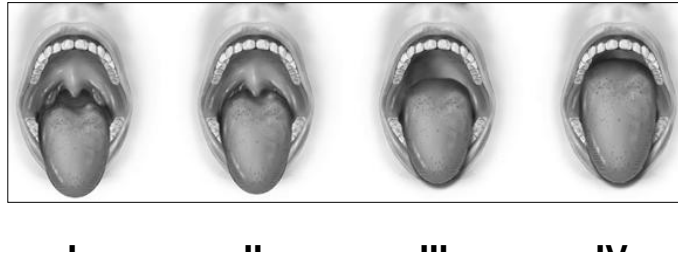
Comments:

Tonsils: examples



Mallampati Test (Samsone e Young 1987)

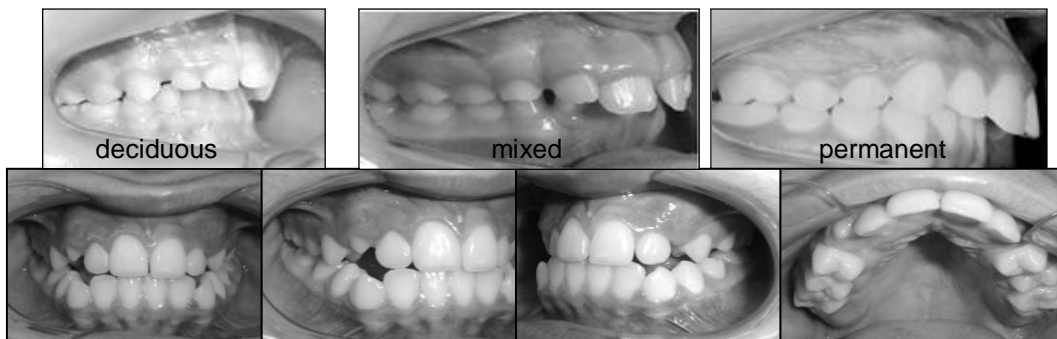
Classification:	() Class I (full visibility of tonsils, uvula and soft palate)	() Class II (visibility of hard and soft palate upper portion of tonsils and uvula)
	() Class III (soft and hard palate and base of the uvula are visible)	() Class IV (only hard palate visible)



Teeth [] Sum scores (best result = 0 / worst result = 5)

Dentition:	<input type="checkbox"/> deciduous	<input type="checkbox"/> mixed	<input type="checkbox"/> permanent
Number of teeth:	R upper ____	L upper ____	R lower ____ L lower ____
Missing teeth:	(0) absent (1) present (missing elements): _____		
Oral health:	Teeth: (0) good (1) regular (2) bad	Gum: (0) good (1) regular (2) bad	
Dental prosthesis:	<input type="checkbox"/> no	<input type="checkbox"/> removable	<input type="checkbox"/> fixed <input type="checkbox"/> partial denture <input type="checkbox"/> denture

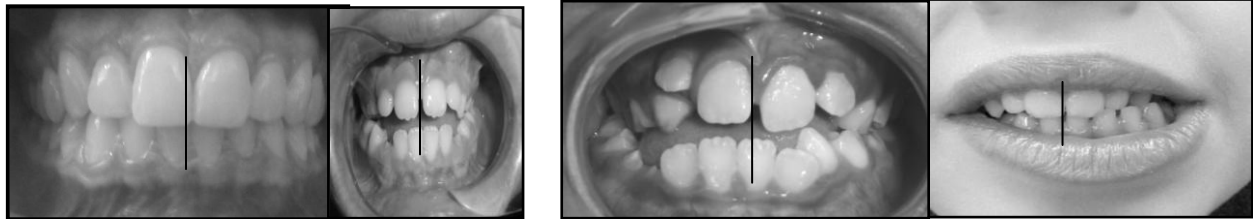
Comments:



Occlusion [] Sum scores (best result = 0 / worst result = 11)

Midline:	(0) adequate	(1) deviated to R	(1) deviated to L		
Angle's classification:	R side	(0) Class I	(1) Class II 1 st div.	(1) Class II 2 nd div.	(1) Class III
	L side	(0) Class I	(1) Class II 1 st div.	(1) Class II 2 nd div.	(1) Class III
Disocclusion Guide:	(0) present	(1) absent R	(1) absent L		
Horizontal relationship:	(0) adequate (Overjet between 1 and 3mm)	(1) bite on top (Overjet = 0mm)	(1) excessive overjet (overjet >3mm)	(1) anterior crossbite (Overjet <0mm)	
Vertical relationship:	(0) adequate (overbite between 1 - 3mm)	(1) overbite (>3mm)	(1) anterior open bite ((overbite<0mm)	(1) posterior R open bite	(1) posterior L open bite
Transversal relationship:	(0) adequate	(1) posterior R crossbite	(1) posterior L crossbite		
Use of appliance:	<input type="checkbox"/> no	<input type="checkbox"/> removable	<input type="checkbox"/> braces		

Comments:



Midline: adequate

deviated to R

deviated to L



I

II

III

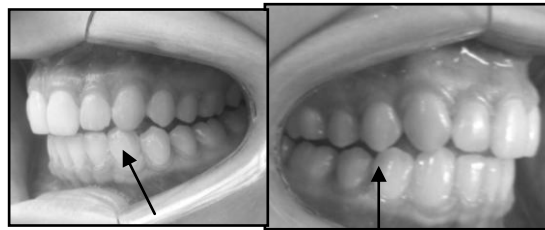


Class II 1st div

Class II 2nd div.

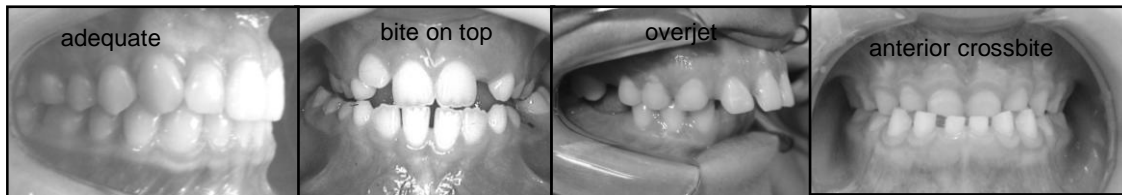
Angle's Classification

Disocclusion Guide



Present in left canine

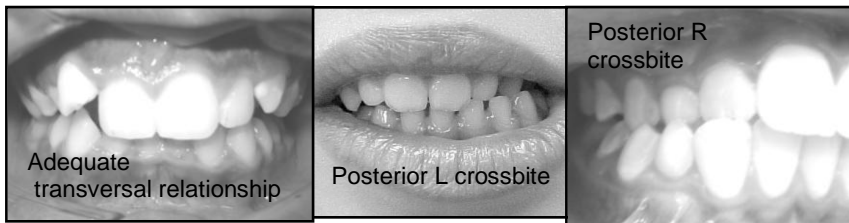
Absent - right



Horizontal relationship



Vertical relationship



Use of appliance



5. MOBILITY [] Sum scores from lips, tongue, velum and jaw (best result = 0 / worst result = 65)

Lips [] Sum scores (best result = 0 / worst result = 24) **Perform with occlusion of the teeth*

	Adequate	Mild Alteration	Severe Alteration	Does not perform
Protrude closed *	(0)	(1)	(2)	(3)
Retract closed *	(0)	(1)	(2)	(3)
Protrude open *	(0)	(1)	(2)	(3)
Retract open *	(0)	(1)	(2)	(3)
Protrude closed to the R*	(0)	(1)	(2)	(3)
Protrude closed to the L*	(0)	(1)	(2)	(3)
Pop protracted	(0)	(1)	(2)	(3)
Pop retracted	(0)	(1)	(2)	(3)

Comments:



Tongue [] Sum scores (best result = 0 / worst result = 24)

	Adequate	Mild Alteration	Severe Alteration	Does not perform
Protrude and retract	(0)	(1)	(2)	(3)
Touch R/L commissures and upper/lower lips sequentially	(0)	(1)	(2)	(3)
Touch incisive papilla	(0)	(1)	(2)	(3)
Touch R cheek	(0)	(1)	(2)	(3)
Touch L cheek	(0)	(1)	(2)	(3)
Click tip	(0)	(1)	(2)	(3)
Suck tongue on palate	(0)	(1)	(2)	(3)
Vibrate	(0)	(1)	(2)	(3)

Comments:



Velum [] Sum scores (best result = 0 / worst result = 4)

Say "a" repeatedly	Adequate		Reduced movement		Absent movement	
	(0) R	(0) L	(1) R	(1) L	(2) R	(2) L

Comments:

Mandible [] Sum scores (best result = 0 / worst result = 13)

	Adequate	Reduced	Increased	Does not perform	With deviation		With noise	With pain
Mouth opening	(0)	(1)	(1)	(2)	(1) R	(1) L	(1)	(1)
<i>Expected scores: child = 35 to 50mm and adult = 40 to 55mm</i>								
Mouth closure	(0)	-	-	-	(1) R	(1) L	(1)	(1)
R Laterality	(0)	(1)	(1)	(2)	-		(1)	(1)
L Laterality	(0)	(1)	(1)	(2)	-		(1)	(1)
<i>Expected scores: child = 6 a 10mm and adult = 8 a 12mm</i>								

Comments:



6. PAIN WITH PALPATION [] Sum scores (best result = 0 / worst result = 10)

	Absent		Present	
Anterior temporal	(0) R	(0) L	(1) R	(1) L
Superficial masseter	(0) R	(0) L	(1) R	(1) L
Trapezius	(0) R	(0) L	(1) R	(1) L
Sternocleidomastoid	(0) R	(0) L	(1) R	(1) L
TMJ	(0) R	(0) L	(1) R	(1) L

Comments:



Anterior temporal



Superficial masseter



Trapezius

Sternocleidomastoid

7. TONE [] Sum scores (best result = 0 / worst result = 6) *Observe and touch to evaluate:*

	Normal	Reduced	Increased
Upper lip	(0)	(1)	(1)
Lower lip	(0)	(1)	(1)
Mentum	(0)	(1)	(1)
Tongue	(0)	(1)	(1)
Right cheek	(0)	(1)	(1)
Left cheek	(0)	(1)	(1)

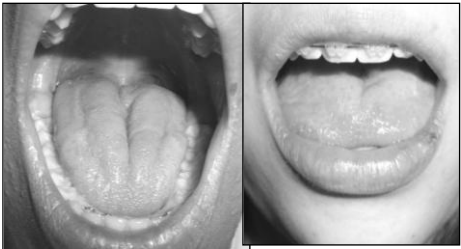
Comments:



Upper and lower lip



Mentum



Tongue



Cheek

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