

**VEPAP**

# Importância do papel do Terapeuta da Fala nas Alterações da Respiração e do Sono

## "Se respiras bem, dormirás bem"

Profa Dra Camila de Castro Corrêa

**MO** DIA MUNDIAL DA MOTRICIDADE OROFACIAL

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**VEPAP**


## Camila de Castro Corrêa

- Foi docente UNIPLAN e da Universidade de Brasília (2019-2023).
- Docente das pós-graduações da Faculdade CEAFI, USP e Alcance em Disfagia, Motricidade Orofacial e Linguagem.
- Especialização em Voz.
- Título de especialista em MO, Disfagia e Linguagem pelo CFFa.
- Certificada em Sono pela Associação Brasileira do Sono
- Pós-Doutora e doutora em Bases Gerais da Cirurgia - UNESP.
- Doutorado sanduiche pela Sapienza Università di Roma.
- Fonoaudióloga e Mestre pela FOB-USP
- Membro de Grupos de Pesquisas em seis universidades
- Membro da SBFa e da ABRAMO (integrante do Conselho Fiscal).

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## Fonoaudiologia no Brasil

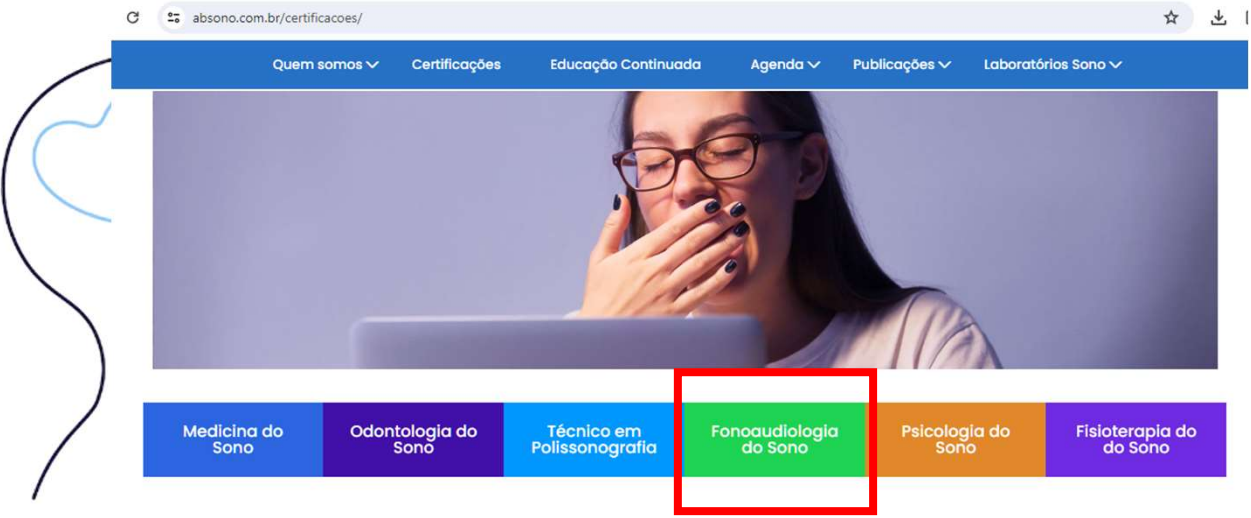


Audiologia	Linguagem	Motricidade Orofacial	Saúde Coletiva
Voz	Disfagia	Fluência	Fonoaudiologia Educacional
Gerontologia	Fonoaudiologia Neurofuncional	Fonoaudiologia do Trabalho	Neuropsicologia
Perícia Fonoaudiológica	Fonoaudiologia Hospitalar	Otoneurologia	

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## Fonoaudiologia do sono



absono.com.br/certificacoes/

Quem somos ▾ Certificações Educação Continuada Agenda ▾ Publicações ▾ Laboratórios Sono ▾

Medicina do Sono Odontologia do Sono Técnico em Polissonografia **Fonoaudiologia do Sono** Psicologia do Sono Fisioterapia do Sono

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## Irene Queiroz Marchesan



- MARCHESAN, I. Q.; MITRI, G. . Interrelação entre a Ortodontia e a Fonoaudiologia- Experiência Clínica. Distúrbios da Comunicação, São Paulo, v. 2, n.1e 2, p. 75-79, 1987.
- MARCHESAN, I. Q.. Relato de experiência de trabalho terapêutico feito com pacientes portadores de deglutição atípica. Distúrbios da Comunicação, v. 1, p. 16-21, 1987.
- MARCHESAN, I. Q.; KRAKAUER, L . The importance of respiratory activity in miofunctional therapy. The International Journal of Orofacial Myology, v. 22, p. 23-27, 1996.

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## Respiração Nasal



- Amamentação natural
- Crescimento craniofacial
- **Prevenção RO e AOS**

Guilleminault, 2019  
Menezes et al., 2007

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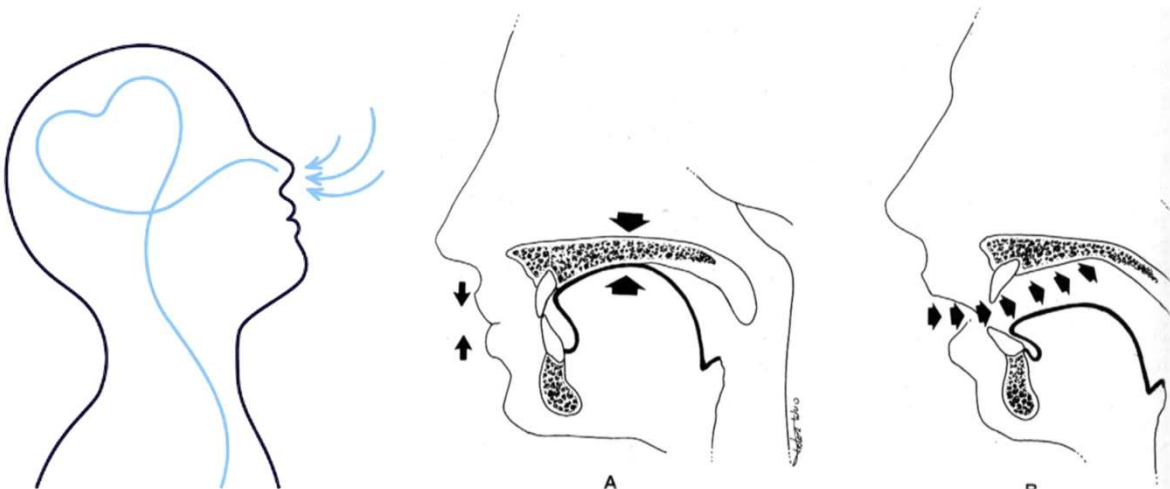
## Respiração Nasal



Postura habitual  
Mandíbula  
Lábios  
Língua  
Coluna cervical x diafragma

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## Respiração oral X nasal



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## Respiração oral



Cansaço  
frequente

Sonolência  
diurna X atenção  
/ concentração

Ronco

Baixo apetite

Enurese noturna

Prejuízos no  
rendimento  
escolar

Otite média

Dificuldade para  
se alimentar

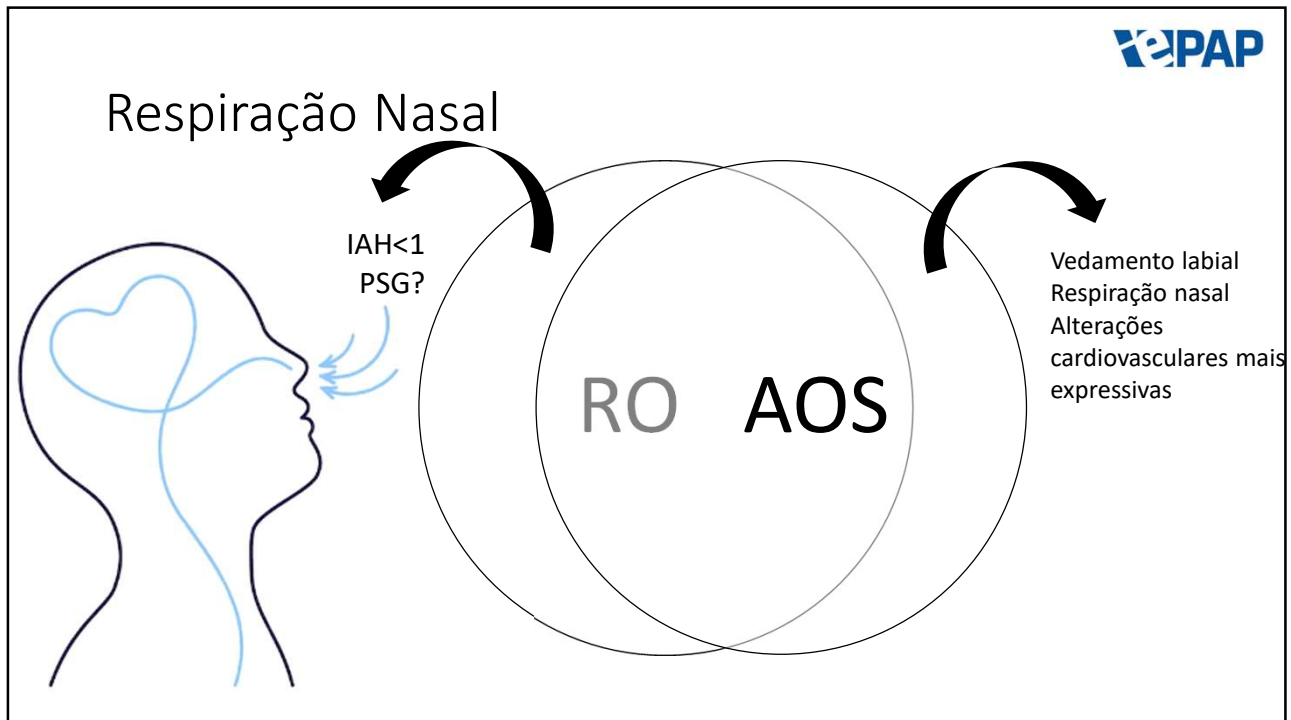
9

## Respiração Nasal

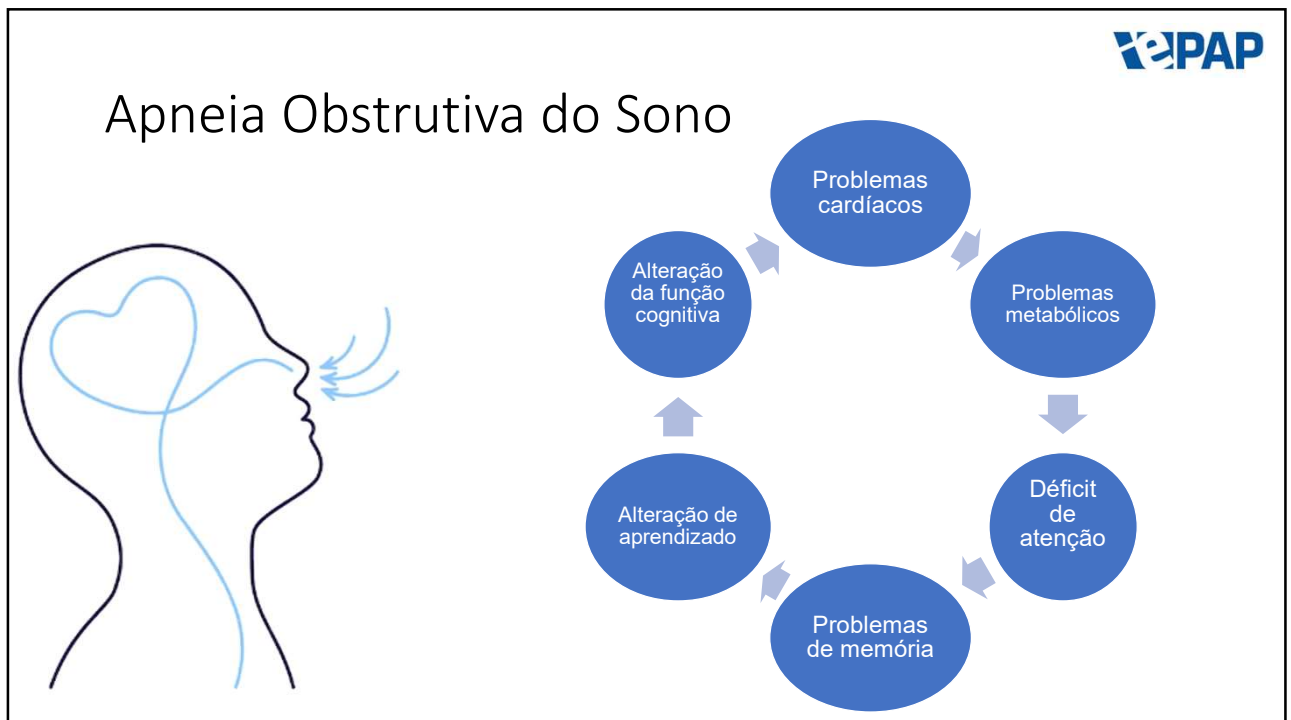


- Tratamento fonoaudiológico
- Alteração da tonicidade e mobilidade dos músculos orofaciais
- Alteração das funções orofaciais

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## Prevalência



- RO - 3,4% e 56,8%

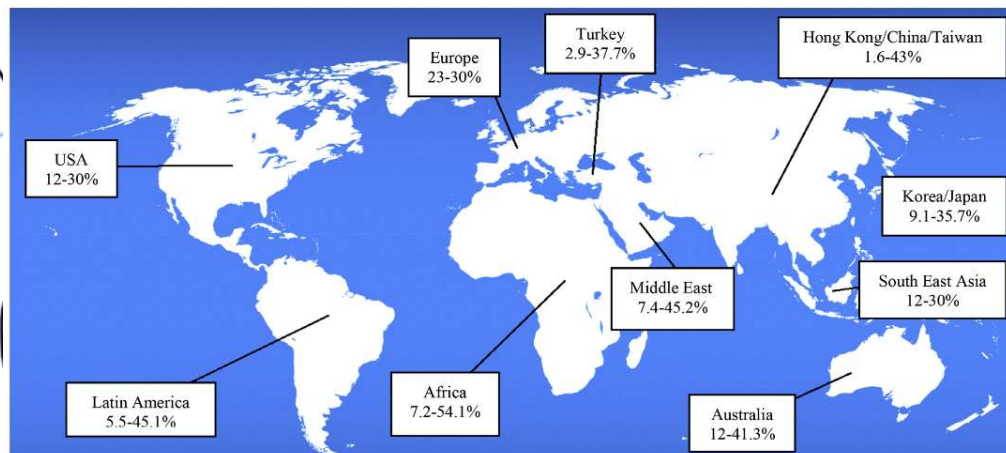
- Ronco 1.2%–5.7%

- AOS 3%–26%

- 69% to 76% Down

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## Alterações respiratórias na infância



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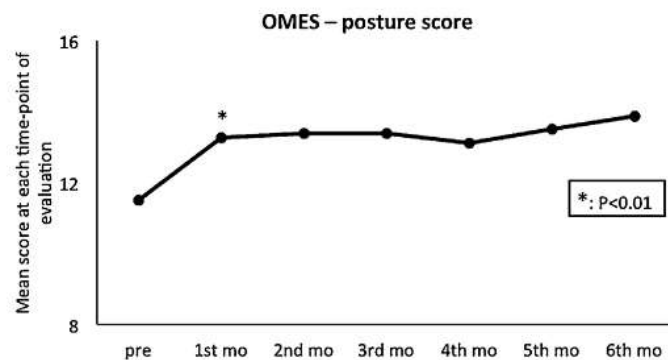
## Alterações respiratórias na infância



- Rinite alérgica – 81%
- Hiperplasia de adenoide e amígdalas - 79%
- Desvio do septo nasal – 12%

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## Pós A+A sem fonoterapia



**Fig. 2.** Evolution in mean values of posture OMES scores before and up to six months after adenotonsillectomy. Comparison between times through paired Student's *t* test.

Bueno et al., 2015

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# Pós A+A sem fonoterapia

ORIGINAL ARTICLE WILEY

## Swallowing patterns after adenotonsillectomy in children

Anete Antunes de Oliveira Branco | Camila de Castro Corrêa | Daniela de Souza Neves | Tais Huehara | Silke Anna Theresa Weber

Ophthalmology, Otorhinolarynx Head and Neck Surgery Dept Botucatu Medical School University São Paulo, UNESP, Botucatu, SP, Brazil

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Published in final edited form as: *N Engl J Med*. 2013 June 20; 368(25): 2366–2376. doi:10.1056/NEJMoa1215881.

**A Randomized Trial of Adenotonsillectomy for Childhood Sleep Apnea**

Carole L. Marcus, M.B., B.Ch., René H. Moore, Ph.D., Carol L. Rosen, M.D., Bruno Giordani, Ph.D., Susan L. Garetz, M.D., H. Gerry Taylor, Ph.D., Ron B. Mitchell, M.D., Raouf Amin, M.D., Elliot S. Katz, M.D., Raanan Arens, M.D., Shalini Paruthi, M.D., Hiren Muzumdar, M.D., David Gozal, M.D., Nima Hattar, Thomas D. D. Jones, Warren D. D. Jones, Susan S. Ellenberg, Ph.D., Karen Snyder, M.S., Dwight Jones, M.D., John S. Ellenberg, Ph.D.

**Abstract**

**BACKGROUND**—Adenotonsillectomy (AT) is a common procedure for children with obstructive sleep apnea syndrome, yet behavior, quality of life, a hypothesized that, in child oxymoglobin desaturations supportive care, would re-

**METHODS**—We random apnea syndrome to early a cognitive, behavioral, and

**RESULTS**—The average function score on the DeS<sub>10</sub> (mean [±SD] improvement, 7.1±13.9 in the early-adenotonsillectomy group and 5.1±13.4 in the watchful-waiting group; P = 0.16). In contrast, there were significantly greater improvements in behavior, quality of life, and polysomnographic findings and significantly greater reduction in symptoms in the early-adenotonsillectomy group than in the watchful-waiting group. Normalization of polysomnographic findings was observed in a larger proportion of children in the early-adenotonsillectomy group than in the watchful-waiting group (79% vs. 46%).

**Inclusion Criteria**

1. Ages 5.0 to 9.99 years at time of screening.
2. Diagnosed with obstructive sleep apnea defined as:
  - OAI ≥ 1 or AHI ≥ 2, confirmed on nocturnal, laboratory-based PSG and
  - Parental report of habitual snoring (on average occurring > 3 nights per week).
3. Tonsillar hypertrophy ≥ 1 based on a standardized scale of 0-4
4. Deemed to be a surgical candidate for AT by otolaryngologist (ENT) evaluation.


Behavior	3 - Adequate	2 - Moderate alteration	1 - Severe alteration
Lips behavior	18	26	42
Tongue behavior	23	12	50
Other behavior	18	12	58
Efficiency of swallowing	22	50	15

Marcus et al., 2013; Branco et al., 2019


# Questionário Índice de Identificação dos Sinais e Sintomas da Respiração Oral

	SIM	NÃO
<b>Campo 1 - Informações do modo respiratório</b>		
Respira pela boca		
Respira pela boca durante o dia		
Respira pela boca durante a noite		
Resfriados frequentes		
As pessoas percebem que você respira boca		
Sono Agitado		
Ronca		
Baba		
Acorda de boca seca		
Tem sensação de garganta seca durante o sono		
Dificuldade para sentir gosto		
Dificuldade para sentir cheiro		
Tem dificuldade para mastigar		

Melo et al., 2016




## Questionário Índice de Identificação dos Sinais e Sintomas da Respiração Oral




Campo 2 - Sinais e sintomas relacionados ao modo respiratório		
Tem olheiras		
Tem alteração de postura corporal (cabeça <u>anteriorizada</u> , cabeça inclinada para D, cabeça inclinada para E, rotação de ombros <u>anteriorizada</u> )		
Fica de lábios entreabertos		
Fica de boca aberta		
Face longa		
Asa do nariz (Simétrica/assimétrica)		
Bochechas (Simétrica/assimétrica)		
Protrusão da arcada superior		
Comissura labial (Simétrica/assimétrica)		
Lábio superior encurtado		
Lábio inferior evertido		
Lábios ressecados		
Língua esbranquiçada		
Sonolência durante todo o dia		
Fadiga ao efetuar atividades físicas ou esporte		
Desempenho escolar adequado		
Dificuldade de manter a atenção		
Cansaço ao falar		
Redução do apetite		

Melo et al., 2016

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## Questionário Índice de Identificação dos Sinais e Sintomas da Respiração Oral




- Campo 1 - 13 questões
- Campo 2 - 19 questões

- INTERPRETAÇÃO:
- de 51% a 60% - modo respiratório misto
- de 61% a 70% - respiração oral leve
- de 80% a 90% - respiração oral moderada
- acima de 90% - respiração oral severa

Melo et al., 2016

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Gravidade das alterações miofuncionais orofaciais



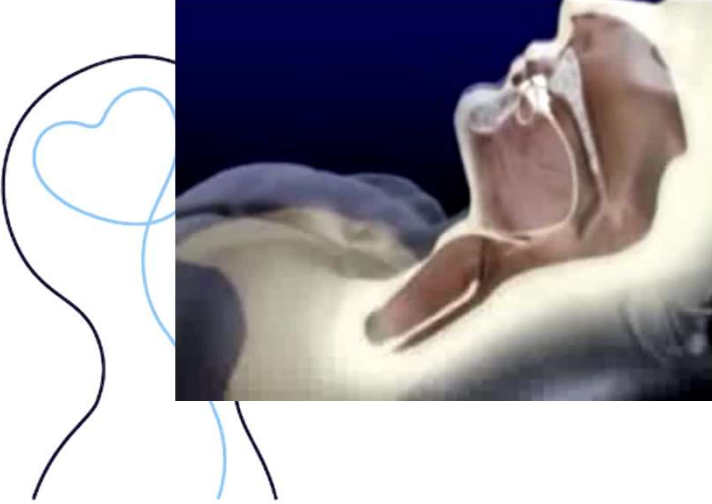
oral = oronasal

AOS ≠ RP

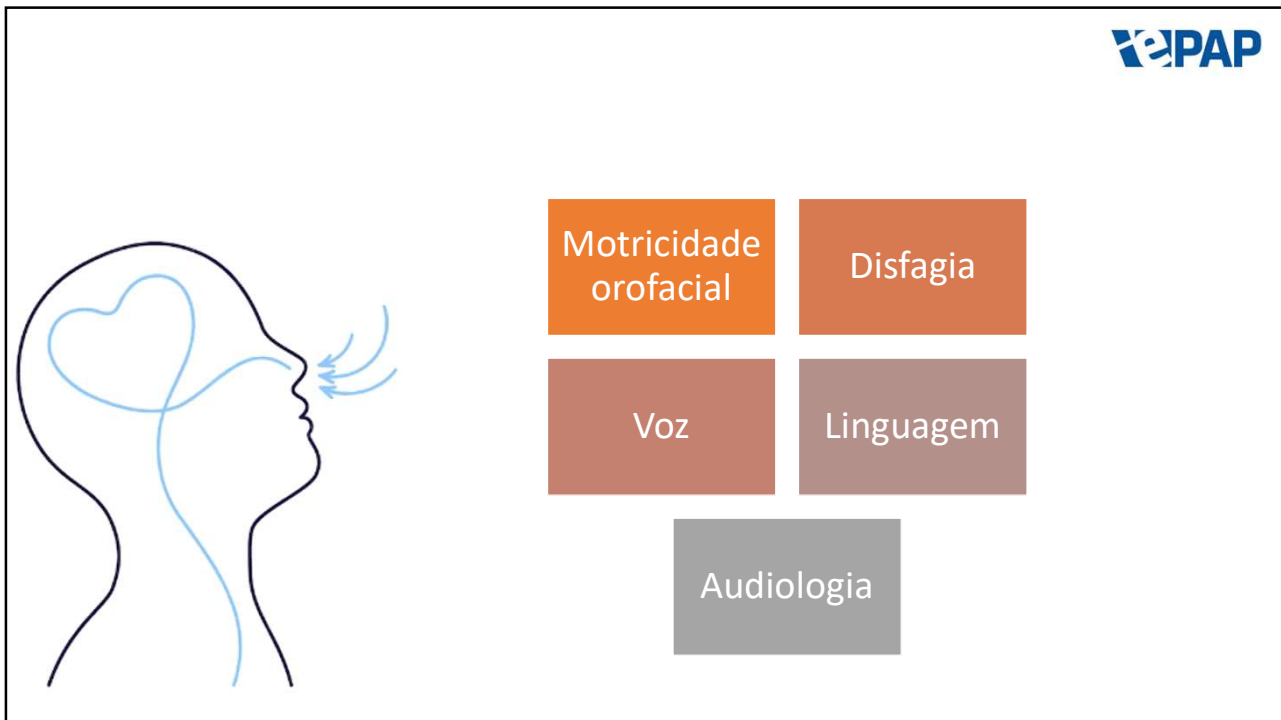
Mattos, 2018  
Felício et al., 2016

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Apneia obstrutiva do sono



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**VEPAP**

[Res Dev Disabil. 2022 Sep;128:104300. doi: 10.1016/j.ridd.2022.104300. Epub 2022 Jul 8.](#)

### Oral language skills in Brazilian children with obstructive sleep apnea

Camila de Castro Corrêa <sup>1</sup>, Luciana Paula Maximino <sup>2</sup>, Dagma Venturini Marques Abramides <sup>3</sup>, Silke Anna Theresa Weber <sup>4</sup>

Affiliations [+ expand](#)

PMID: 35810542 DOI: [10.1016/j.ridd.2022.104300](#)


#### Abstract

**Background:** Obstructive sleep apnea (OSA) is associated with a negative impact on neurocognitive development in children. Receptive/expressive oral language is a complex process, with limited investigations on the repercussion of OSA. This study aimed to analyze receptive and expressive oral language skills in children with obstructive sleep apnea (OSA).

**Methodology:** This study included 52 children (27 females, 51.92 %) with a mean age of  $7 \pm 2$  years (age range of 4-11 years), which underwent type 3 polysomnography (PSG). The participants were

**Conclusion:** Obstructive sleep apnea (OSA) had a negative impact on oral language skills, including the syntax and pragmatics subsystems.

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Journal of Communication Disorders 82 (2019) 105935

Contents lists available at ScienceDirect

Journal of Communication Disorders

journal homepage: [www.elsevier.com/locate/jcomdis](http://www.elsevier.com/locate/jcomdis)

Sleep problems in children who stutter: Evidence from population data

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ARTICLE INFO

Keywords:  
 Childhood stuttering  
 Neurodevelopmental disorders  
 Sleep


ABSTRACT

Purpose Previous research has identified seizures, intellectual disability, learning disability, pervasive developmental disorder, and attention deficit hyperactivity disorder as coexisting disabilities frequently seen in children who stutter (CWS). The observation that those conditions are affected by sleep has incited the present study, which aimed to explore if sleep problems are also more frequent in CWS.

Method Data was obtained from the 2012 National Health Interview Survey. Children included in the analysis were those whose caregivers answered definitively whether or not the

Crianças que gaguejam apresentaram maior probabilidade de apresentar insônia

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> Int Arch Otorhinolaryngol. 2023 Mar 22;27(2):e197-e202. doi: 10.1055/s-0041-1735455.  
 eCollection 2023 Apr.

Effect of Tinnitus on Sleep Quality and Insomnia


Katherine Eloise Bornancin Gallo<sup>1</sup>, Camila de Castro Corrêa<sup>2</sup>,  
 Claudia Giglio de Oliveira Gonçalves<sup>3</sup>, Jordana Batista Correia Baran<sup>3</sup>, Jair Mendes Marques<sup>3</sup>,  
 Bianca Simone Zeigelboim<sup>3</sup>, Maria Renata José<sup>3</sup>

Affiliations + expand  
 PMID: 37125358 PMCID: PMC10147471 DOI: 10.1055/s-0041-1735455  
[Free PMC article](#)

Abstract

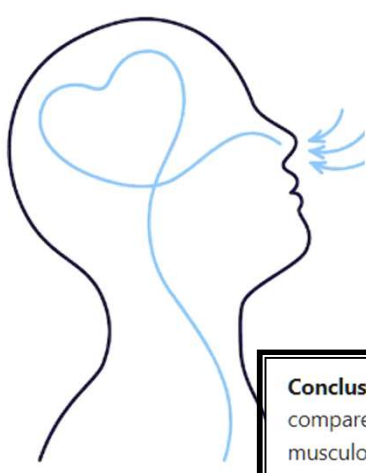
**Introduction** Tinnitus is a conscious perception of a sound resulting from abnormal activity within the nervous system. A relevant percentage of tinnitus patients report symptoms severe enough to significantly affect quality of life, including sleep disorders. **Objective** To analyze the sleep quality, insomnia, daytime sleepiness, and risk of obstructive sleep apnea (OSA) in participants with tinnitus.

sleepiness (72.2%). **Conclusion** Subjects with tinnitus complaint self-rated their sleep quality as poor. Moreover, the higher the reported tinnitus handicap, the greater the symptoms of insomnia. There was no influence of tinnitus in relation to daytime sleepiness and no relationship between the severity of tinnitus and the risk of OSA.



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**EPAP**

> *Logoped Phoniatr Vocol.* 2022 Jul;47(2):109-116. doi: 10.1080/14015439.2021.1879253.  
Epub 2021 Mar 4.

### Self-perception of insomnia, sleep quality, and musculoskeletal pain in dysphonic women: preliminary study

Lorena Falbot <sup>1</sup>, Camila de Castro Corrêa <sup>2</sup>, Ana Paula Dassie-Leite <sup>1</sup>, Kelly Cristina Alves Silverio <sup>3</sup>, Larissa Thaís Donalsonso Siqueira <sup>1</sup>

Affiliations + expand  
PMID: 33661062 DOI: 10.1080/14015439.2021.1879253

**Abstract**

**Objective:** To evaluate the association between musculoskeletal pain, insomnia indices, and sleep quality with voice functioning among women.

**Conclusions:** Dysphonic women have a higher frequency of pain in the head and neck regions when compared to vocally healthy women. There is a difference between sleep quality, insomnia, and musculoskeletal pain, regardless of the presence of vocal and laryngeal alterations.

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**EPAP**

> *Codas.* 2023 Dec 22;36(1):e20220187. doi: 10.1590/2317-1782/20232022187pt. eCollection 2023.

### Sleep habits and orofacial myofunctional self-assessment of children at risk for sleep breathing disorders

[Article in Portuguese, English]  
Melissa Picinato-Pirola <sup>1</sup>, Amanda Lima E Lira <sup>1</sup>, Giovanna Régis Viana <sup>1</sup>, Thaynara Lemos Batista Santos <sup>1</sup>, Camila de Castro Corrêa <sup>2</sup>

Affiliations + expand  
PMID: 38126423 PMID: PMC10750857 DOI: 10.1590/2317-1782/20232022187pt  
[Free PMC article](#)

**Abstract** in English, Portuguese, Portuguese

**Purpose:** To identify orofacial myofunctional complaints and sleep-disordered breathing and correlate them with sleep habits in childhood.

**Conclusion:** There was a correlation between the risk of sleep-disordered breathing in children with complaints of orofacial myofunctional disorders and poor sleep quality/habits.

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Review > Braz J Otorhinolaryngol. 2022 Nov-Dec;88 Suppl 1(Suppl 1):S156-S162.  
doi: 10.1016/j.bjorl.2021.09.008. Epub 2021 Nov 5.

## Is ankyloglossia associated with obstructive sleep apnea?

Marieli Timpani Bussi <sup>1</sup>, Camila de Castro Corrêa <sup>2</sup>, Arthur Justi Cassetari <sup>3</sup>,  
Lorena Torres Giacomini <sup>3</sup>, Ana Célia Faria <sup>3</sup>, Ana Paula Sereni Manfredi Moreira <sup>3</sup>,  
Itamá Magalhães <sup>3</sup>, Mila Oliveira da Cunha <sup>3</sup>, Silke Anna Theresa Weber <sup>4</sup>, Edilson Zancanella <sup>3</sup>,  
Almiro José Machado Júnior <sup>3</sup>

Affiliations + expand

PMID: 34895868 PMCID: PMC9734261 DOI: 10.1016/j.bjorl.2021.09.008

[Free PMC article](#)

### Abstract

**Objectives:** To investigate the evidence on the association between ankyloglossia and obstructive sleep apnea.

**Methods:** An integrative literature review was carried out in the databases. Observational and interventional studies that assessed the lingual frenulum in children with sleep-disordered breathing



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> Pediatr Investig. 2019 Sep 26;3(3):153-158. doi: 10.1002/ped4.12142. eCollection 2019 Sep.

## Swallowing patterns after adenotonsillectomy in children

Anete Antunes de Oliveira Branco <sup>1</sup>, Camila de Castro Corrêa <sup>1</sup>, Daniela de Souza Neves <sup>1</sup>,  
Tais Huehara <sup>1</sup>, Silke Anna Theresa Weber <sup>1</sup>

Affiliations + expand

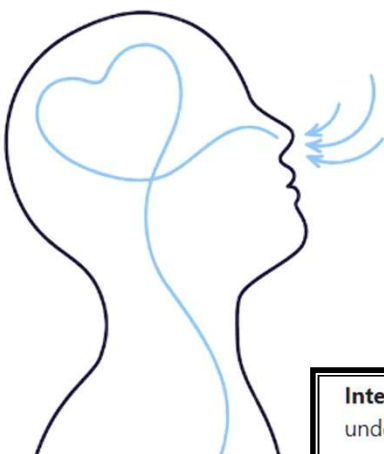
PMID: 32851310 PMCID: PMC7331379 DOI: 10.1002/ped4.12142

[Free PMC article](#)

### Abstract


**Importance:** Hypertrophy of the pharyngeal and palatine tonsils can interfere with breathing, physical and cognitive development, and quality of life, including sleep quality. There are important relationships between the muscles of the airways, the anatomy, and the pattern of breathing and swallowing.

**Interpretation:** Alterations in the dynamics of swallowing are common in children who have undergone surgery of the tonsils, even at late follow-up.



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Clinical Trial > Int J Pediatr Otorhinolaryngol. 2020 Oct;137:110240.  
doi: 10.1016/j.ijporl.2020.110240. Epub 2020 Jul 12.

## The short evaluation of orofacial myofunctional protocol (ShOM) and the sleep clinical record in pediatric obstructive sleep apnea

Camila de Castro Corrêa <sup>1</sup>, Silke Anna Theresa Weber <sup>2</sup>, Melania Evangelisti <sup>3</sup>, Maria Pia Villa <sup>4</sup>

Affiliations + expand  
PMID: 32896353 DOI: 10.1016/j.ijporl.2020.110240



### Abstract

**Introduction:** Multiple anatomic and functional risk factors contribute to Obstructive Sleep Apnea (OSA) in children, most of the screening tools only evaluate clinical symptoms. The aim was to describe the evaluation of the short orofacial myofunctional protocol (ShOM) in OSA children, and to analyze if the inclusion of orofacial myofunctional aspects would influence the screening.

**Conclusions:** The myofunctional evaluation contributed to the screening of OSA in children, while alterations of the tongue (resting and deglutition position) were observed in children with the highest AHI percentile. The combination of SCR and ShOM improved the sensitivity and specificity for the identification of pediatric OSA when compared to SCR alone.

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> Sleep Sci. 2021 Jan-Mar;14(4):370-374. doi: 10.5935/1984-0063.20200094.

## Unsupervised type III polygraphy in children undergoing adenotonsillectomy: a technical and economic report

Iury Lima Veloso <sup>1</sup>, Camila de Castro Corrêa <sup>2</sup>, José Vicente Tagliarini <sup>1</sup>, Silke Anna Theresa Weber <sup>1</sup>

Affiliations + expand  
PMID: 35087635 PMCID: PMC8776267 DOI: 10.5935/1984-0063.20200094

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### Abstract

**Objective:** To evaluate the economic and technical viability of the sleep study (type III) in children with adenotonsillar hypertrophy.

**Methods:** 141 children were submitted to sleep study (type III), aged between three and six years old, with symptoms of OSA. The frequency of failed examinations and a comparison of cost analysis of complete polysomnography were described.



> Braz J Otorhinolaryngol. 2024 Jan-Feb;90(1):101338.  
doi: 10.1016/j.bjorl.2023.101338. Epub 2023 Oct 12.

## Accessibility to manage the obstructive sleep apnea within the Brazilian Unified Health System

Douglas Inomata Cardoso da Silva <sup>1</sup>, Camila de Castro Corrêa <sup>2</sup>, Jefferson Luis de Barros <sup>1</sup>, Antonio Carlos Maranhão <sup>1</sup>, Silke Anna Theresa Weber <sup>3</sup>

Affiliations + expand  
PMID: 37865034 PMCID: PMC10594551 DOI: 10.1016/j.bjorl.2023.101338

[Free PMC article](#)

### Abstract

**Objective:** To measure the average time for the diagnosis and for the therapeutic prescription of Continuous Positive Airway Pressure (CPAP) at a hospital in Botucatu Medical School - State University of São Paulo, UNESP.

**Method:** A retrospective observational study was carried out by collecting data from the electronic medical records of patients over 18-years of age, who had a diagnostic polysomnography testing scheduled between January and December 2017.

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> Sleep Med X. 2019 Aug 8;1:100008. doi: 10.1016/j.sleepx.2019.100008. eCollection 2019 Dec.

## Sleep Clinical Record application in Brazilian children and its comparison with Italian children

Camila de Castro Corrêa <sup>1</sup>, Silke Anna Theresa Weber <sup>1</sup>, Melania Evangelisti <sup>2</sup>, Maria Pia Villa <sup>2</sup>

Affiliations [+ expand](#)

PMID: 33870167 PMID: PMC8041129 DOI: 10.1016/j.sleepx.2019.100008

[Free PMC article](#)

### Abstract

**Objective:** To apply the Sleep Clinical Record (SCR) to a sample of Brazilian children with sleep complaints, to compare the results with Italian children, and to identify variables that influence phenotype.

**Methods:** Brazilian and Italian children, 4-11 years of age and matched for age, gender, obesity, and apnea-hypopnea index and who presented with complaints related to sleep, were selected. The instrument used was the SCR, and the procedure used was full-night cardiorespiratory monitoring.

**Results:** The sample consisted of 51 Brazilian children and 102 Italian children. Brazilian children presented with oral breathing (55%), tonsillar hypertrophy (69%), Friedman palate position (88%)



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Sono  
X  
Motricidade Orofacial?



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Cite this article as: BMJ, doi:10.1136/bmj.38705.470590.55 (published 23 December 2005)

## Research



### Didgeridoo playing as alternative treatment for obstructive sleep apnoea syndrome: randomised controlled trial

Milo A Puhan, Alex Suarez, Christian Lo Cascio, Alfred Zahn, Markus Heitz, Otto Braendli

#### Abstract

**Objective** To assess the effects of didgeridoo playing on daytime sleepiness and other outcomes related to sleep by reducing collapsibility of the upper airways in patients with moderate obstructive sleep apnoea syndrome and snoring.

**Design** Randomised controlled trial.

**Setting** Private practice of a didgeridoo instructor and a single centre for sleep medicine.

**Participants** 25 patients aged >18 years with an apnoea-hypopnoea index between 15 and 30 and who

moderately affected patients (apnoea-hypopnoea index 15-30) who complain about snoring and daytime sleepiness, however, continuous positive airway pressure therapy may not be suitable and other effective interventions are needed.<sup>1,6,7</sup>

AS, a didgeridoo instructor, reported that he and some of his students experienced reduced daytime sleepiness and snoring after practising with this instrument for several months. In one person, the apnoea-hypopnoea index decreased from 17 to 2. This might be due to training of the muscles of the upper airways, which control airway dilation and wall stiffening.<sup>8,9,10</sup> We

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DOI: 10.1136/bmj.38705.470590.55

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- Área do Conhecimento
- Data de Defesa
- Imprenta
- Orientador
- Banca examinadora
- Título em português
- Palavras-chave em português

### Effects of Oropharyngeal Exercises on Patients with Moderate Obstructive Sleep Apnea Syndrome

Kátia C. Guimarães<sup>1</sup>, Luciano F. Drager<sup>1</sup>, Pedro R. Gentil<sup>1</sup>, Bianca F. Marcondes<sup>1</sup>, and Geraldo Lorenzi-Filho<sup>1</sup>

<sup>1</sup>Sleep Laboratory, Pulmonary Division, Heart Institute (InCor), University of São Paulo Medical School, São Paulo, Brazil

**Rationale:** Upper airway muscle function plays a major role in maintenance of the upper airway patency and contributes to the genesis of obstructive sleep apnea syndrome (OSAS). Preliminary results suggested that oropharyngeal exercises derived from speech therapy may be an effective treatment option for patients with moderate OSAS.

**Objectives:** To determine the impact of oropharyngeal exercises in patients with moderate OSAS.

**Methods:** Thirty-one patients with moderate OSAS were randomized to 3 months of daily (~30 min) sham therapy (n = 15, control) or a set of oropharyngeal exercises (n = 16), consisting of exercises involving the tongue, soft palate, and lateral pharyngeal wall.

**Measurements and Main Results:** Anthropometric measurements, snoring frequency (range 0-4), intensity (1-3), Epworth daytime sleepiness (0-24) and Pittsburgh sleep quality (0-21) questionnaires, and full polysomnography were performed at baseline and at study conclusion.

Body mass index and abdominal circumference of the entire group were 30.3 ± 3.4 kg/m<sup>2</sup> and 101.4 ± 9.0 cm, respectively, and did not change significantly over the study period. No significant change occurred in the control group in all variables. In contrast, patients randomized to oropharyngeal exercises had a significant decrease (P < 0.05) in neck circumference (29.6 ± 3.6 vs. 28.5 ± 4.0 cm), snoring frequency (4 [1-4] vs. 3 [1.5-3.5]), snoring intensity (3 [3-4] vs. 1 [1-2]), daytime sleepiness (14 ± 5 vs. 8 ± 6), sleep quality score (10.2 ± 3.7 vs. 6.9 ± 2.5), and OSAS severity (apnoea-hypopnoea index: 22.4 ± 4.8 vs. 13.7 ± 8.5 events/h).

#### AT A GLANCE COMMENTARY

##### Scientific Knowledge on the Subject

Continuous positive airway pressure is the treatment of choice for obstructive sleep apnea syndrome (OSAS) but is not suitable for a large proportion of patients. Alternative treatments for OSAS have shown variable results.

##### What This Study Adds to the Field

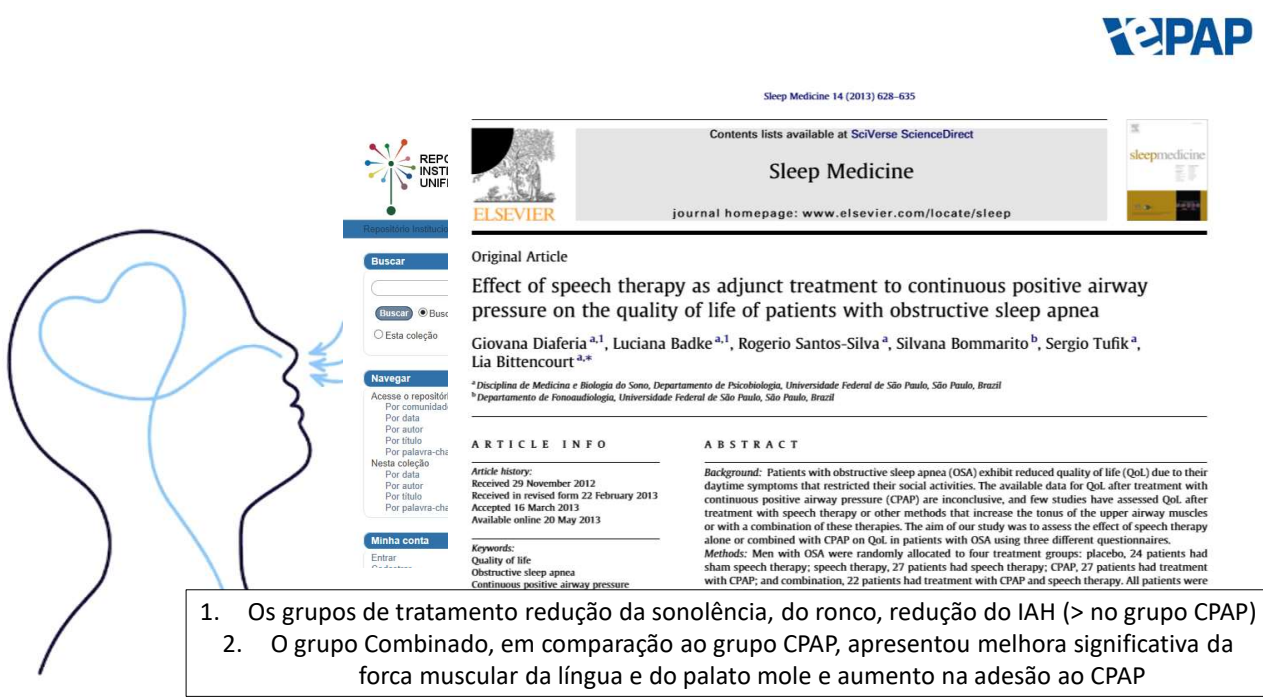
This randomized controlled trial showed that oropharyngeal exercises developed for the treatment of OSAS significantly reduced OSAS severity and symptoms. This novel modality of OSAS treatment represents a promising approach for moderate OSAS.

for patients with severe OSAS, in whom the apnoea-hypopnoea index (AHI) is greater than 30 events/hour. However, for moderately affected patients (AHI between 15 and 29.9 events/h), CPAP therapy may not be suitable for a significant proportion of patients. Alternative treatments for moderate OSAS include mandibular advancement, weight loss, and surgery. These treat-



em pacientes com AOS moderada. Três meses de treinamento de exercícios reduziram significativamente a gravidade da AOS com redução do IAH em 37%. A

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RECAP

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Original Article

Effect of speech therapy as adjunct treatment to continuous positive airway pressure on the quality of life of patients with obstructive sleep apnea

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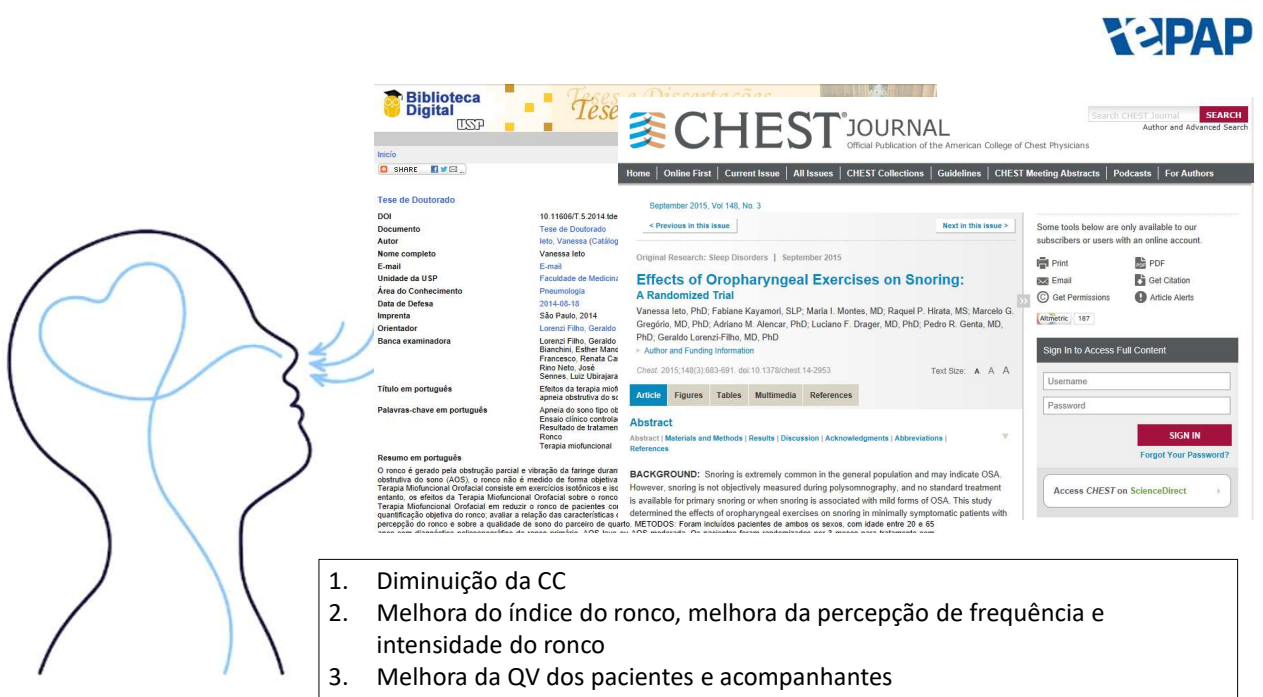
ABSTRACT

**Background:** Patients with obstructive sleep apnea (OSA) exhibit reduced quality of life (QoL) due to their daytime symptoms that restricted their social activities. The available data for QoL after treatment with continuous positive airway pressure (CPAP) are inconclusive, and few studies have assessed QoL after treatment with speech therapy or other methods that increase the tonus of the upper airway muscles or with a combination of these therapies. The aim of our study was to assess the effect of speech therapy alone or combined with CPAP on QoL in patients with OSA using three different questionnaires.

**Methods:** Men with OSA were randomly allocated to four treatment groups: placebo, 24 patients had sham speech therapy; speech therapy, 27 patients had speech therapy; CPAP, 27 patients had treatment with CPAP; and combination, 22 patients had treatment with CPAP and speech therapy. All patients were

1. Os grupos de tratamento redução da sonolência, do ronco, redução do IAH (> no grupo CPAP)
2. O grupo Combinado, em comparação ao grupo CPAP, apresentou melhora significativa da força muscular da língua e do palato mole e aumento na adesão ao CPAP

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Effects of Oropharyngeal Exercises on Snoring: A Randomized Trial

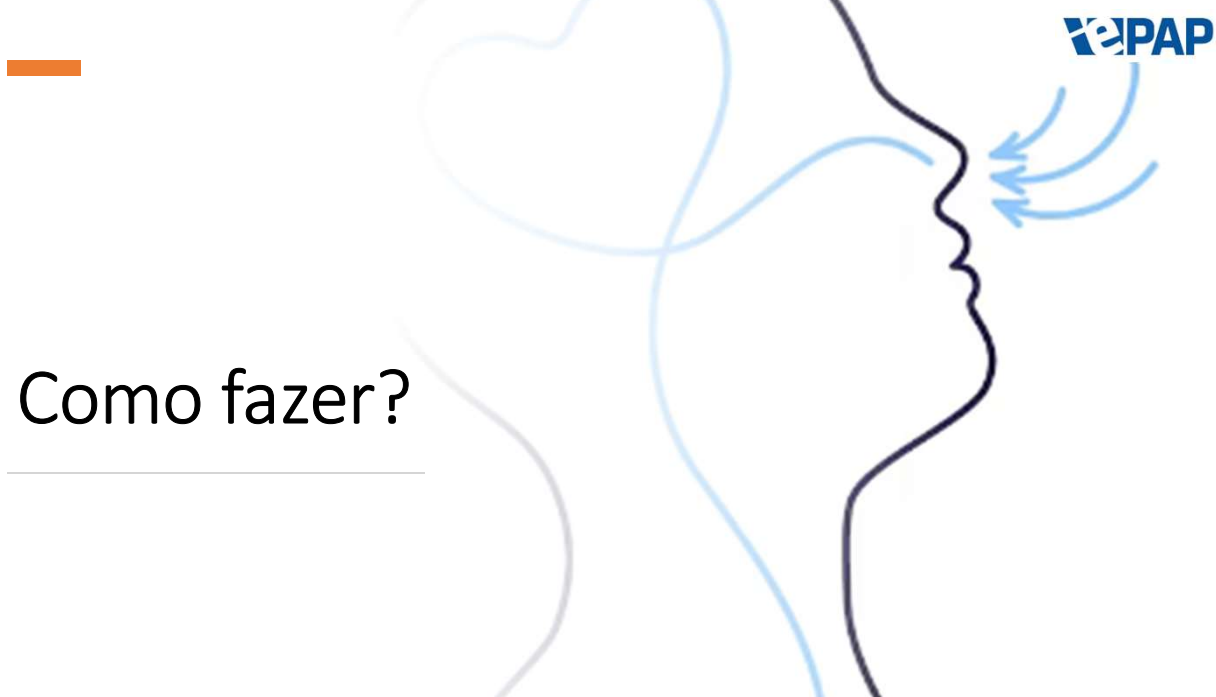
Vanessa Ieto, PhD, Fabiane Kayamori, SLP, Maria I. Montes, MD, Raquel P. Hirata, MS, Marcelo G. Gregório, MD, PhD, Adriano M. Alencar, PhD, Luciano F. Drager, MD, PhD, Pedro R. Genta, MD, PhD, Geraldo Lorenzi-Filho, MD, PhD

Abstract

**BACKGROUND:** Snoring is extremely common in the general population and may indicate OSA. However, snoring is not objectively measured during polysomnography, and no standard treatment is available for primary snoring or when snoring is associated with mild forms of OSA. This study determined the effects of oropharyngeal exercises on snoring in minimally symptomatic patients with perception of the ronco e sobre a qualidade de sono do quarto. **MÉTODOS:** Foram incluídos pacientes de ambos os sexos, com idade entre 20 e 65


1. Diminuição da CC
2. Melhora do índice do ronco, melhora da percepção de frequência e intensidade do ronco
3. Melhora da QV dos pacientes e acompanhantes

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**Como fazer?**

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**Sono X MO**

**EXAME MIOFUNCIONAL OROFACIAL – MBGR**  
Adaptado para AOS e Ronco (IETO, 2015)

Nome: \_\_\_\_\_ Data: \_\_\_\_\_  
 Peso: \_\_\_\_\_ Altura: \_\_\_\_\_ CC: \_\_\_\_\_ CA: \_\_\_\_\_

1. MEDIDAS DA FACE, MOVIMENTO MANDIBULAR E OCLUSÃO

	Medida (mm)
Terço superior	
Terço médio	
Largura da face	
Lábio Superior	
Lábio Inferior	
Sobremordida (TV)	
Sobresaliência (TH)	
DIMA	
DIMALP	

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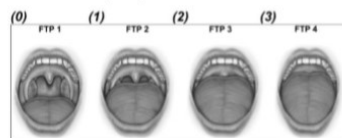


## Sono X MO



Língua [ ]
Sulco longitudinal: (0) adequado (1) profundo
Posição habitual: (0) acoplada (1) no assoalho (1) interdental
Simetria: (0) sim (1) não
Largura: (0) adequada (1) aumentada
Altura: (0) adequada (1) aumentada (1) muito aumentada
Tremor: (0) adequada (1) aumentada (1) muito aumentada
Mucosa: (0) normal (1) geográfica (1) fissurada (1) marcada por dentes (1) marcada por aparelho (1) ferida
Frênulo: Extensão: (0) normal (1) curto
Fixação: (0) parte média (1) anterior à parte média (2) no ápice

Friedman tongue position:



Tonsilas palatinas:



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## Sono X MO



Véu palatino e úvula [ ]	Adequada	Pequena alteração	Grande alteração	Ausente
Falar [a] repetidamente: (0)	(0)	(1)	(2)	(3)
Falar [a] contínuo: (0)	(0)	(1)	(2)	(3)
Bocejo: (0)	(0)	(1)	(2)	(3)
Movimento espontâneo elevação: (0)	(0)	(1)	(2)	(3)
Movimento espontâneo sustentação: (0)	(0)	(1)	(2)	(3)

Mandíbula [ ]

	Adequada	Reduzida	Aumentada	Não Realiza	Desvio
Abertura: (0)	(0)	(1) <40mm	(1) >55mm	(2)	(1) D (1) E
Fechamento: (0)	(0)	(1) <6mm	(1) >12mm	(2)	(1) D (1) E
Lateralidade à D: (0)	(0)	(1) <6mm	(1) >12mm	(2)	
Lateralidade à E: (0)	(0)	(1) <6mm	(1) >12mm	(2)	
Dor: (0) não	(0) não	(1) sim			

5. DOR À PALPAÇÃO [ ]

	Ausente		Presente	
Temporal anterior: (0) D (0) E	(0) D	(0) E	(1) D	(1) E
Masseter superficial: (0) D (0) E	(0) D	(0) E	(1) D	(1) E
Trapézio: (0) D (0) E	(0) D	(0) E	(1) D	(1) E
Esternocleidomastóideo: (0) D (0) E	(0) D	(0) E	(1) D	(1) E
ATM: (0) D (0) E	(0) D	(0) E	(1) D	(1) E

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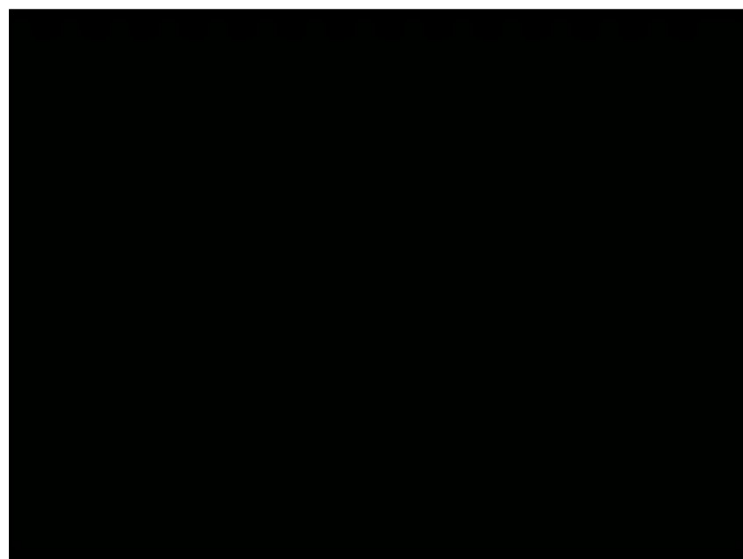
## Exercícios orofaríngeos



- Existe uma ordem de exigência muscular
- Constante mudança, ajuste de carga
- Tratamento personalizado
- Precisam ser realizados em conjunto com a adequação das funções orofaciais
- Atenção ao *follow up*

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## Sono X MO



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## Efetividade do tratamento



- Elegibilidade:
  - Gravidade
  - IMC
  - Perfil de motivação
- Acompanhamento do pós alta
- Comorbidades
  - Alterações vasculares

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## Alta circunstancial (alta definitiva / temporária / desligamento)



*excesso de faltas (24,4%)*

*falta de compromisso (17,9%)*

*espera por intervenção ortodôntica/otorrinolaringológica (17,9%)*

*dificuldades financeiras (9,7%)*

Marques et al., 2010

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