


Michelle Ferreira Guimarães<sup>1,2,3</sup> 

Márcio José da Silva Moreira<sup>1,2,4</sup> 

Leonardo Lopes<sup>1,5</sup> 

Felipe Moreti<sup>1,6,7</sup> 

## Letter to Brazilian Association of Mouth and Throat Cancer

### *Carta à Associação de Câncer de Boca e Garganta (ACBG) Brasil*

As requested by the Brazilian Association of Mouth and Throat Cancer (ACBG) in March 2018 for the suggested technical adequacy of the text presented to CONITEC/Ministry of Health for the purpose of incorporating electronic larynx in the Single Health System (SUS) Table and update of the value of reimbursement of the tracheoesophageal prosthesis and exchange and supply of adhesives and filters for total laryngectomized rehabilitation, we would like to share with all the scientific and clinical society of speech-language therapy our positioning as administrators of the Voice Department and Phonology Committee of the Brazilian Society of Speech-Language Pathology and Audiology (SBFa) (2017-2019 administration).

Total laryngectomy (total removal of the larynx) implies loss of physiological voice and definitive tracheostomy (opening of an artificial orifice in the trachea below the laryngeal region) for the maintenance of respiration. This surgery, besides bringing the impact of definitive tracheostoma, brings changes mainly in phonation and respiration. Conversely, considering the physiological changes, social and professional activities may also be impaired. The sum of functional, aesthetic and psychosocial factors arising from surgery may affect the patient and his / her family emotionally, with implications for quality of life<sup>(1)</sup>.

It is recommended that all patients undergoing total laryngectomy should have a preoperative speech-language evaluation and post-operative speech-language pathology follow-up. It is the professional speech-language pathologists who play a crucial role in voice rehabilitation. While directing patients to learn about possible communication rehabilitation techniques, they should define, together with the patient and physician, the most effective method of alaryngeal communication for the individual in assistance. In patients submitted to total laryngectomy, it is possible to rehabilitate oral communication through three methods: esophageal voice, electronic larynx and tracheoesophageal phonatory prosthesis. It is noteworthy that there is no worldwide consensus based on evidence on which rehabilitation method is best for restoring oral communication. Therefore, it is often

#### Correspondence address:

Michelle Ferreira Guimarães  
Colegiado do Curso de Fonoaudiologia,  
Universidade Federal do Espírito Santo  
– UFES  
Av. Marechal Campos, 1468, Prédio  
Básico II, Maruípe, Vitória (ES),  
Brasil, CEP: 29040-090.  
E-mail: guima.michelle@gmail.com

Received: August 31, 2018

Accepted: October 23, 2018

Letter writing by coordinators and deputy-coordinators of the Fononcolgia Committee and Voice Department of the Brazilian Speech Language Pathology Society (management 2017-2019) in reply to the request made by the Brazilian Mouth and Throat Cancer Association – ACBG - São Paulo (SP), Brasil.

<sup>1</sup> Departamento de Voz, Sociedade Brasileira de Fonoaudiologia – SBFa - São Paulo (SP), Brasil.

<sup>2</sup> Comitê de Fononcolgia, Departamento de Voz, Sociedade Brasileira de Fonoaudiologia – SBFa - São Paulo (SP), Brasil.

<sup>3</sup> Universidade Federal do Espírito Santo – UFES - Vitória (ES), Brasil.

<sup>4</sup> Universidade Federal Fluminense – UFF - Nova Friburgo (RJ), Brasil.

<sup>5</sup> Universidade Federal da Paraíba – UFPB - João Pessoa (PB), Brasil.

<sup>6</sup> Faculdade de Medicina do ABC – FMABC - Santo André (SP), Brasil.

<sup>7</sup> Complexo Hospitalar Municipal de São Bernardo do Campo – CHMSBC - São Bernardo do Campo (SP), Brasil.

**Financial support:** nothing to declare.

**Conflict of interests:** nothing to declare.



This is an Open Access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

assumed that for total laryngectomized patients, a better voice quality is associated with an improved quality of life through the new communicative method<sup>(2)</sup>.

Another important point is that in any of the methods of rehabilitating oral communication, there is the possibility or not of the patient succeeding. This variation occurs because the adaptation to the rehabilitation method depends on the characteristics of the disease progression, the complexity of the surgical and complementary treatments (radiotherapy and / or chemotherapy) that cause cicatricial sequelae of the affected tissues and reduce the general vascular cardiorespiratory activity of the patient; age, comprehension of the method, manual and visual ability to perform the method, acceptance of the vocal quality resulting from the method and access to the professional speech-language pathologist specialized in this type of rehabilitation.

With respect to the possibilities of alaryngeal communication of the throat, the esophageal voice is characterized by the momentary introduction of air into the esophagus, expulsion and vibration of the pharyngoesophageal segment for the production of voice, which requires training guided by specialized speech-language pathologists. Although the esophageal voice is more physiological, patients have difficulty performing it, and for this and other reasons, success in their acquisition is described as low in the literature. For example, in Brazil, the experience of the Speech-Language and Hearing Rehabilitation Sector for Head and Neck Cancer Patients at the *Hospital Central da Irmandade da Santa Casa de Misericórdia de São Paulo* (HC-ISCMSp) is 31%<sup>(3)</sup>. The electronic larynx is a simple and external device that can be coupled to the neck or cheek, without the need for surgery or relevant contraindications as well as the esophageal voice, allowing faster oral communication learning, with the patient always accompanied by a speech-language pathologist. Because it is an electrical device, the patient already has the possibility of acquiring communication in the first rehabilitation session, and in the following, speech tends to become more intelligible and fluent through communication training. In contrast, the voice produced tends to be more robotic, a factor that has diminished with technological advances and new electronic laryngeal options in the market. The third method of oral communication is the use of the tracheoesophageal phonatory prosthesis, a unidirectional silicone valve which allows the passage of pulmonary air into the esophagus for voice production without food passing into the respiratory tract. As with the electronic larynx, the vocal rehabilitation process using the tracheoesophageal phonatory prosthesis is considered fast when compared to esophageal voice. The success rates described in the literature are high, reaching 92%. It is worth mentioning that since 2007, the SUS Table includes the tracheoesophageal phonatory prosthesis in the list of materials (SIASUS070209004-2 “vocal prosthesis for total laryngectomy with loose adapters”); however, the value of R\$ 372.00 is incompatible with prosthetic devices for sale in Brazil.

The total laryngectomy will live with the tracheostomy permanently, so pulmonary care is also a concern for this group of patients. Therefore, the use of disposable filters and adhesives allows pulmonary protection, avoiding risk of infections and more serious complications that may represent an increase in hospitalization costs and / or the need for more expensive and complex procedures.

A total laryngectomy causes very large anatomical, functional and emotional sequelae in patients. From the moment that, due to our academic training and clinical practice in the area, we can return oral communication of the patient, improving their self-esteem and quality of life, we should not measure efforts so that we always have the best techniques, materials and products that are intended to this end.

## REFERENCES

1. van Sluis KE, van der Molen L, van Son RJJH, Hilgers FJM, Bhairosing PA, van den Brekel MWM. Objective and subjective voice outcomes after total laryngectomy: a systematic review. *Eur Arch Otorhinolaryngol*. 2018;275(1):11-26. <http://dx.doi.org/10.1007/s00405-017-4790-6>. PMID:29086803.
2. Farrand P, Endacott R. Speech determines quality of life following total laryngectomy: the emperors new voice? In: Preedy VR, Watson RR, editors. *Handbook of disease burdens and quality of life measures*. New York: Springer; 2010. p. 1989-2001. [https://doi.org/10.1007/978-0-387-78665-0\\_117](https://doi.org/10.1007/978-0-387-78665-0_117).
3. Menezes MB, Fouquet ML, Katayama ET, Villareal FO, Suehara AB, Bertelli AAT, et al. Uso da toxina botulínica em pacientes laringectomizados totais para controle do espasmo do segmento faringo-esofágico e aquisição de voz esofágica. *Rev Bras Cir Cabeça Pescoço*. 2012;41(1):27-32.

## Author contributions

MFG, MJS, LL and FM idealized the need for this letter to the editor, drafted the manuscript and revised the final version.