

THE ARTIFICIAL LARYNX



**Association
québécoise
des
laryngectomisés**

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What is an artificial larynx?

An artificial larynx – it is also called electrolarynx – is a device that generates the sound needed to produce a substitute voice which is used by the person's mouth to form the words and, hence, to produce speech.

Types of artificial larynx

There exists on the market a variety of artificial larynx that are offered in many countries. However, they may be presented in two different types:

Type 1 or Mouth-type:

This type of artificial larynx introduces sound directly into the mouth through a tube that looks like a straw. There are two ways to do so: first with an artificial larynx that is dedicated to Mouth-type, like the COOPER-RAND (largely used in Quebec but stopped being produced) or, second, with a Type-2, or Neck-Type device, that is transformed into a Mouth-Type by adding an adapter with an oral connector. Here are examples:



Type 1 Dedicated Mouth-type, examples of adaptors and oral connectors to convert a *Type 2* Neck-type into a *Type 1* Mouth-type, and a *Type 2* with oral connector



Type 2 or Neck-type:

This type of artificial larynx supplies sound to the throat and mouth by applying its vibrating part to the wall of the neck. There are many models on the market, not all of them available in Canada. Here are some examples used in Quebec but changes can occur as new ones become available or authorized by Health Canada:



Different Neck-type models

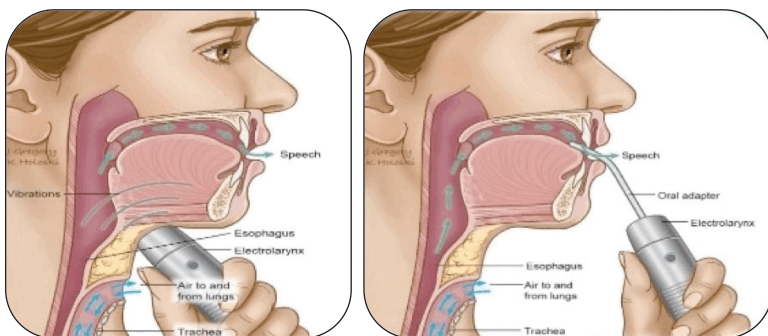
Both types of artificial larynxes, Type 1 and Type 2, are batteries-powered devices, some rechargeable, some not, some by USB. They come with different control buttons for pitch, volume, etc.



How it works

An artificial larynx produces a vibration that is used as the sound source for the substitute voice. This sound source is transmitted by the oral tube or via the placement in the neck and is then articulated by the tongue, the lips, and other parts of the mouth to create words.

All users of an artificial larynx do not necessarily obtain identical results. Everyone has his own type of speech, his own way of articulating words. The differences can also be caused by the surgery itself, by the way the tissues heal, the presence or absence of dental prostheses or other problems that could affect the speech mechanism.



However, the quality of the results obtained by the user of an artificial larynx depends on:

- 1- a GOOD INTRODUCTION to the device;
- 2- an adequate TRAINING;
- 3- an APPLIED PRACTICE of a proper technique.



For whom is an artificial larynx?

When the use of an artificial larynx is useful?

Many laryngectomees who have used or are permanently using an artificial larynx have shared their vision of the use of such a device with their fellow laryngectomees, especially during the Association Coffee-meetings. Here are some of the situations where they found the artificial larynx useful to them:

- 1- a few days after their operation and during the healing process;
- 2- during radiotherapy;
- 3- when other means of communication, esophageal and tracheo-esophageal voice, are not yet mastered or represent too big a challenge;
- 4- when living far from major centres and one must rely on a means that can be used in all circumstances;
- 5- in case of emergency or when stress and intense emotions interfere with the other means of communication;
- 6- when noisy environment requires a certain volume of speech that other modes of communication cannot support;
- 7- and, of course, the laryngectomee personal choice of an artificial larynx, for whatever reason.



What are the positive and negative sides of using an artificial larynx?

On the plus side:

- 1- the learning process is quite short, and it can be used shortly after surgery;
- 2- the devices are reliable and require little maintenance;
- 3- it is faster than writing.

On the negative side:

- 1- keeps a hand busy when talking;
- 2- the device is visible, so less discreet;
- 3- to avoid device failure, one must not forget recharging the device or having spare batteries;
- 4- of course, "I don't like the sound", the most frequent complaint. The metallic sound of an artificial larynx does not have the quality sound of vocal cords. It does not claim to compare: everyone agrees. It only aims at offering the laryngectomee more autonomy, a way of communicating with others and keeping the pace of conversation.



Using the device: what to pay attention to?

Laryngectomees shared their experience with their first encounter with the device. These are the main thing they said they needed to pay attention to:

With type 1 – Mouth type, either dedicated device or with oral adaptor:

- 1- place the tube far enough into the mouth to allow good resonance and capture all sounds without interfering with pronunciation;
- 2- take care not to block the opening of the tube with abundant saliva or with the tongue or cheek.

With type 2 – Neck-type

- 1- find the right spot in the neck to place the head of the device and stick to it every time;
- 2- place the head of the device in full contact with the neck to avoid a disturbing “buzz” noise.

With type 1 or 2

- 1- press the button in synchronisation with the articulation of the words and stop when no longer articulating word or during a pause;
- 2- speak in a fluent manner, varying the rhythm as you did before, releasing the button regularly to facilitate the listener’s task;
- 3- articulate sounds well, without exaggerating, and do not speak too quickly;
- 4- watch not to expel air from the lungs noisily;
- 5- use the device with either hands so to be able to write or carry out different activities with the dominant hand while conversing.



Using the phone: some tips

Many laryngectomees tell us that speaking on the phone is their greatest fear and many avoid doing so. But there are others who first experienced the phone with their loved ones and thus adjusted certain elements to help the interlocutor understand:



- 1- when speaking on the phone, think of reducing the volume of your electrolarynx and avoid placing the telephone too close to your mouth;
- 2- do not forget to emphasize your articulation, since the person you are speaking to can not read your lips to understand the words or syllables he or she does not grasp;
- 3- if you get the impression that your answer or message was not understood by the person you are talking to, simply repeat it or rephrase your message;
- 4- for all kind of reasons some people may have trouble understanding you: the phone line is bad, the person you are talking to is anxious, surprised, or has a hearing problem. Make sure that the volume, the position of the device, your pronunciation and the coordination between speech and the button control are optimal.



The speech pathologist is the person to guide you in the process of acquiring a proficient speech with an artificial larynx

The speech pathologist is the right person to guide you in the choice of a mean of communication, either esophageal speech, tracheo-esophageal speech or with an artificial larynx.

When, together with the laryngectomee, the use of an artificial larynx seems to be the best choice for the moment, the speech pathologist will lead the patient to make the best choice and use it optimally:



- 1- choose the right type of artificial larynx for the individual need and life situation
- 2- make the necessary adjustment on the device before using
- 3- initiate the person to the right placement and coordination with articulation
- 4- give advice how to practice and use the device optimally



**Message from a laryngectomee...
...user of an artificial larynx...
....to laryngectomees**

“Believe me, every step you will take with this is well worth it and make your life so much easier and a lot easier living. You just gonna really be able to express yourself so much better.

MAKE YOUR VOICE COUNT!”

Tony Talmich, an artificial larynx user
YouTube



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