



REHABILITATION AFTER LARYNGECTOMY

The rehabilitation of laryngectomised patients is very complex and includes several subtopics.

The first steps as part of rehabilitation are already taken in the acute clinic. The main aim here is to prepare the person concerned for an independent life in their own home.

Further rehabilitation, such as follow-up treatment, can then be applied for after the stay in hospital. As a rule, the pension insurance provider pays for the costs incurred. The objectives of the rehabilitation

measure are to treat the impairments that have arisen due to the illness as well as possible and, in the best case, how to overcome them. In the case of patients who have undergone laryngeal surgery, voice rehabilitation is of great importance. In some cases, the desired objective is also to regain the ability to work and to find one's way back into a working life.

The individual rehabilitation objectives are firmly intertwined and cannot be separated from each other. The individual subtopics are explained in more detail in the following.

VOICE REHABILITATION

After removal of the larynx, the affected person is initially without a voice, as the vocal cords were also removed with the larynx.

The aim of voice rehabilitation is to find a replacement voice which is suitable for the person concerned. The ability to communicate is one of our basic needs. Regaining this ability and thus participation in everyday social life is therefore a central objective of rehabilitation. There are

different ways to create a voice, but none of them can perfectly reproduce one's own previous voice. For this reason, it is important to consciously deal with the changed voice sound within the context of voice rehabilitation as well as the fact that part of one's personality has also changed with it.

There are four common, well-established options for vocal rehabilitation.

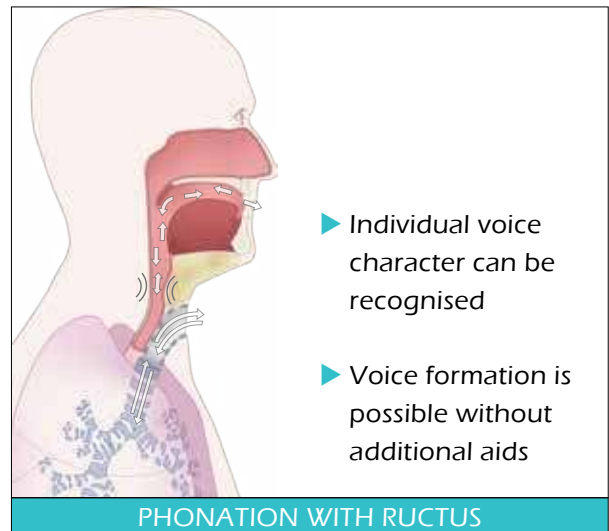
PSEUDO WHISPERING

Pseudo whispering is not only a form of vocal rehabilitation, but also simultaneously provides the basis for learning two other vocal options (ructus voice or speaking with the electronic speech aid). In this process, the patient uses the air that is present in the oral cavity and over-articulates it through the mouth movements.

Voiced vowels (e.g. a, e, i, o, u) are read from the lips. Consonants that produce a rubbing or explosive sound can be understood and heard very well through pseudo whispering (e.g. k, t, p, sh, s). Pseudo whispering can be learned quite quickly and is a very useful form of communication shortly after surgery.

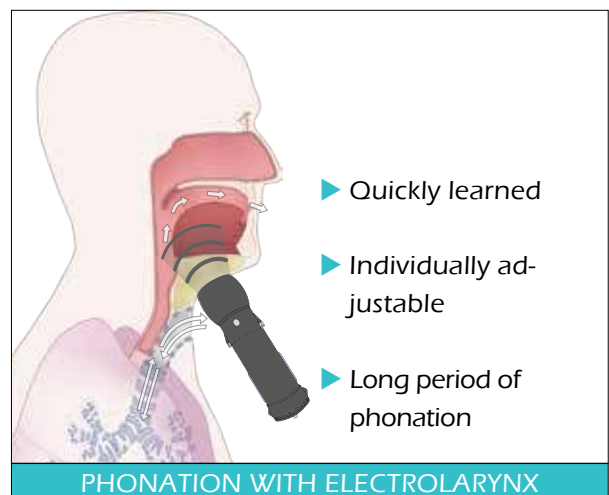
PHONATION RUCTUS VOICE

In the ructus voice (oesophageal substitute voice), the air in the mouth is inhaled or pressed into the upper part of the oesophagus. This air remains there for a short period and is then transported back out of the oesophagus into the mouth in a controlled manner. This causes folds of mucous membrane at the upper edge of the oesophagus to vibrate. This vibration creates a sound, which can then be articulated through movement of the mouth. The advantages of the ructus voice are that one has both hands free when speaking and does not need any additional aids. Regular speech therapy is highly recommended to learn this substitute voice.



SPEAKING WITH AN ELECTRONIC SPEECH AID

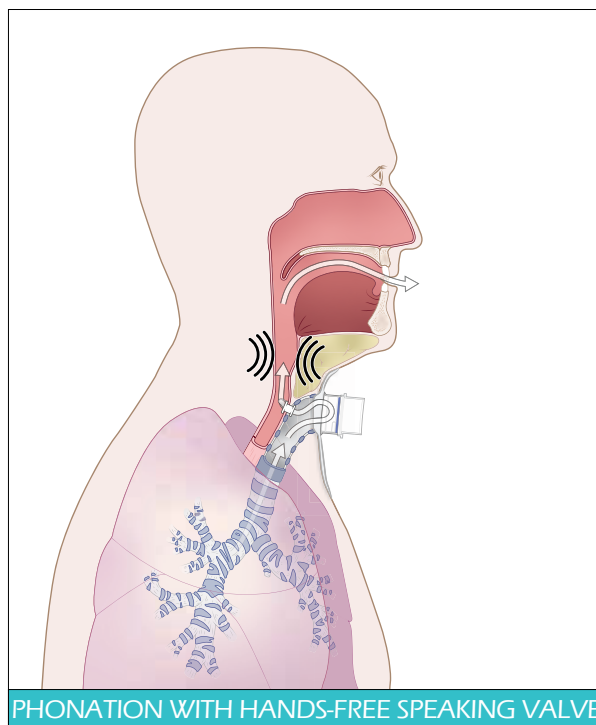
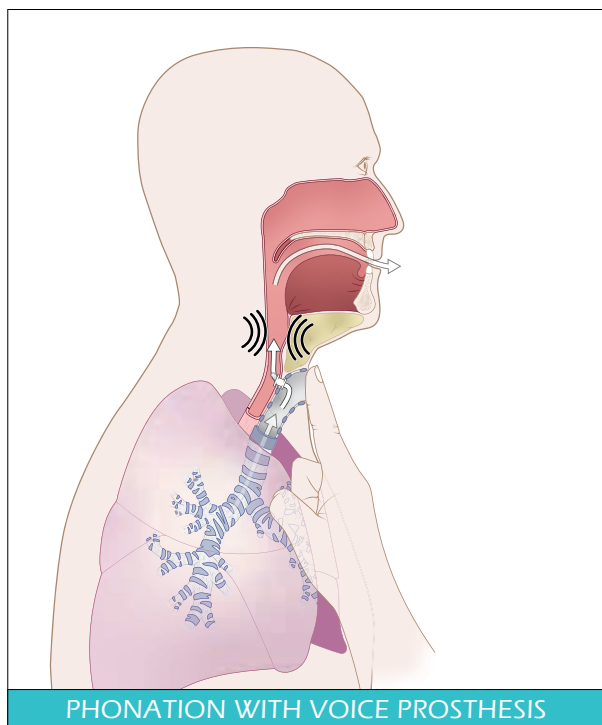
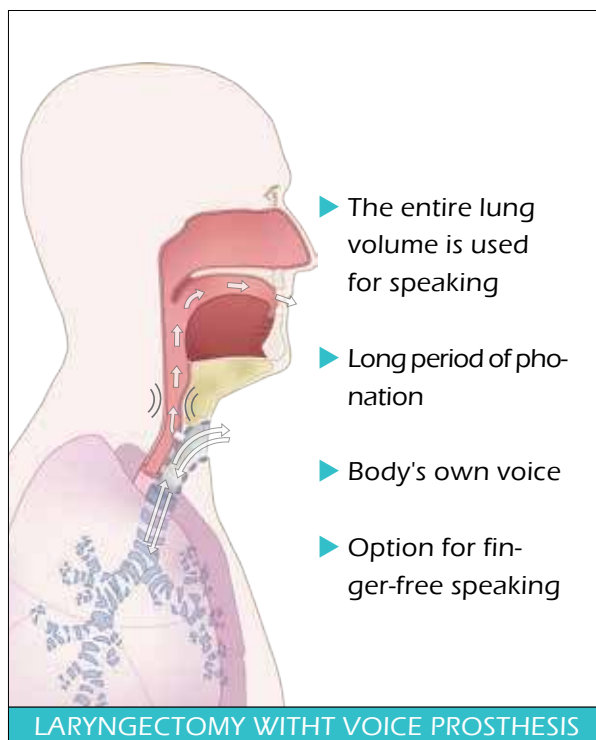
This method employs an electronic device to produce a sound for speaking. The device is held against the cheek, chin or neck, where it generates sound vibrations which are transmitted to the air in the mouth and throat, where they can be used for speaking. Once a suitable contact point has been found on the soft parts of the throat for the device, learning this substitute voice is possible quite quickly and without complications. In the course of speech therapy, the length of utterances, intonations and handling of the device are practised and adjusted individually.



SPEAKING WITH A VOICE PROSTHESIS

The voice prosthesis (shunt valve) is a placeholder with a small valve that sits between the trachea and oesophagus in a so-called fistula channel. This voice prosthesis is used either in primary surgery for laryngectomy, or in another, later surgery. This is a one-way valve that prevents food and liquids from passing from the oesophagus into the trachea. This valve, when handled correctly, e.g. by a manual tracheostoma closure, allows air to enter the oesophagus during exhalation. As with the ructus voice, the "vocal segment" is made to vibrate to create a sound. This sound can then be articulated and used for speaking. With this substitute voice, the long duration of expression is a great advantage, as all the exhaled air can be used for speaking.

With the aid of additional free-hand valves, finger-free speech can be learned so that both hands remain uninvolved when speaking.



SUMMARY

Which forms of substitute voice are suitable for which patient should be decided together individually with the person concerned. Decisive factors for the decision include the extent of the surgical laryngectomy, the patient's individual life situation and the general state of health of the person concerned.

Of course, those affected do not have to make this important decision alone. The various options for vocal rehabilitation are explained and presented in discussions with the physician and speech therapist. A joint decision is then made together with the person concerned as to which variant is most suitable. The physician already takes this decision into account during surgery, as far as possible (for example, by placing a voice

prosthesis). During the subsequent speech therapy, they cooperate in learning the new form of communication. In close cooperation between the speech therapists, physicians and providers of medical aids, the most suitable medical aids and therapy for the individual patient are coordinated appropriately.

Individual patient care with needs-based aids is of elementary importance for voice rehabilitation. This can facilitate vocalisation as well as significantly improve voice quality.



ELECTRONIC SPEECH AID

After successful laryngectomy, it is most important for the patient to be able to speak as quickly as possible and to be well understood. That is why we recommend speech facilitation with a speech therapist.

The speech therapist will usually start speech facilitation with the oesophageal voice (or ructus voice). In parallel to this, speaking with an

electronic speech aid can also be a part of voice rehabilitation.

The electronic speech aid generates sound oscillations, through special electronic switching, which are transmitted to the mouth-pharynx area, when the device is applied to the throat, and can thereby transform the normal articulation motions into well comprehensible speech.



BLOM-SINGER® ELECTROLARYNX

SPEECH AID



The BLOM-SINGER® ELECTROLARYNX is a handy and functional speech aid for laryngectomised patients and is easy to handle due to its light weight.

The speech aid is applied to the user's throat and generates sound oscillations, which are transmitted to the pharyngeal, oral and nasal area through a membrane. These oscillations

are converted through natural speaking motions and form an understandable replacement voice.

The pitch settings as well as the volume control of the speech aid can be individually and optimally adjusted to the user's circumstances via easy-to-operate control knobs. A rotating head attachment enables fine-tuning of the sound quality.

If contact to the neck or the floor of the mouth is not possible due to surgery or radiation, an oral adapter is included in the scope of delivery. This is placed at the corner of the mouth and directs the sound directly into the oral cavity through a short tube.

The BLOM-SINGER® ELECTROLARYNX does not require a special charger and is powered by a standard household 9 V block battery. A spare battery can always be kept ready for use without any problems. The supplied carrying strap enables comfortable transport of the speech aid.

TECHNICAL DATA

Frequency range	40 Hz to 170 Hz
Dimensions of the device	129 mm x 36 mm
Weight	85 g (without battery)
Battery capacity	600 mAh
Type of battery	9 Volts

SCOPE OF DELIVERY

1 BLOM-SINGER® ElectroLarynx Digital Speech Aid	1 Carrying strap
1 9-Volt battery	1 Battery lid
1 Oral adapter	

ORDER INFORMATION

BLOM-SINGER ELECTROLARYNX DIGITAL SPEECH AID

REF

EL1000

LABEX DIGITAL

SPEECH AID



TECHNICAL DATA	
Variable sound frequency	yes
Variable volume	yes
Frequency range	55–155 Hz
Volume	60–83 dB
Speaking time	up to 4 hours per charge
Dimensions of the device	34 x 98 mm
Weight	72 g without battery
Battery capacity	600 mAh
Type of battery	rechargeable, 9 V, Li-Ion
Charger	2 charging compartments for 9 V, Li-Ion
Charging time	4 h 30 min, with Labex charging unit

LABEX HARMONY/INSPIRATION

SPEECH AID



Inspired by the classic speech aid, LABEX HARMONY has all the features which make up an efficient product for providing a good voice substitute result. The metal housing gives the speaking aid a very high-quality look. It is possible to set the two speaking keys to an individual volume and pitch so that one can quickly adjust one's voice for different everyday situations. The device offers a long operation time and very clear digital sound generation.

The LABEX INSPIRATION is easy to control via a touch control panel, whereas the LABEX HARMONY can be operated with two buttons.

SCOPE OF DELIVERY

1 LABEX Harmony – electrolarynx	1 Carrying strap
1 Rechargeable battery – 9 V, Li-Ion, 600 mAh	1 Charger

ORDER INFORMATION

	REF
LABEX HARMONY	442204
LABEX INSPIRATION	442235

LABEX DIGITAL/COMFORT

SPEECH AID

The LABEX DIGITAL is a handy and functional electronic speech aid for laryngectomised patients. The speech aid has only one button, which makes it easy to use. The housing of the LABEX DIGITAL is made of plastic, making it ideal for everyday use. This speech aid is suitable for patients who prefer a user-friendly, compact classic speech aid.

The LABEX COMFORT features two buttons which can be used to set two different pitches.



SCOPE OF DELIVERY

1 LABEX Digital – electrolarynx	1 Carrying strap
1 Rechargeable battery – 9 V, Li-Ion, 600 mAh	1 Charger

ORDER INFORMATION

	REF
LABEX DIGITAL	442082
LABEX COMFORT	442044

Transmitter unit



Receiver unit



TECHNICAL DATA

Transmitter unit

Power supply	2 x 1.5 V, type AA
Housing dimensions	90 x 60 x 24 mm
Weight	70 g (without battery)

Receiver unit

Power supply connector	110–240 V AC, 300 NI/50–60 Hz
Power supply	6 x 1.2 V, 1000 mAh, NI-MH, type AA
Receiving frequency	863–865 MHz (choice of 3)
Range	approx. 10 m
Housing dimensions	140 x 80 x 45 mm
Weight	270 g
Operating time	approx. 6-10 hours
Charging time	approx. 5-7 hours



The VOICETEC® voice amplifier can be used whenever a louder conversation volume is desired, to, e.g., be understood even with high levels of background noise. With the aid of the VOICETEC® voice amplifier, this is also possible without strenuous attempts to speak loudly.

The wireless, radio-controlled transmitter unit enables greatest possible mobility. This extends the patient's comfort and field of application.

An unpleasant side effect in many voice amplifiers is the feedback, which is very noticeable with a loud whistling noise. These annoying background noises are reduced to a minimum with the VOICETEC® speech amplifier.

The audio connection cable included is a useful accessory and enables the connection of an external amplifier/mixer. It is particularly suitable when speaking in front of many people, e.g., when giving a speech at an event.

SCOPE OF DELIVERY

1 Receiver unit	2 1.5-V batteries
1 Transmitter unit	2 1.2-V batteries
1 Audio connecting cable	1 Clip-on microphone
1 Power unit	1 Hand microphone
1 Headband	1 Operating Instructions

ORDER INFORMATION

VOICETEC® VOICE AMPLIFIER

REF

77350

VOICE PROSTHESES

After the loss of the larynx through a laryngectomy, the restoration of voice is the prime focus of rehabilitation. For many years, voice prosthesis care for patients has been successfully established at German clinics.

Two major functions of the missing larynx are replaced by using a voice prosthesis (shunt valve) between the trachea and oesophagus. On the one hand, it enables air flow. This allows the entire lung air volume to be used for speaking, from the lungs via the oesophagus into the throat. Whereby the expired air is used for speaking. On the other hand, the shunt valve seals the connection to the trachea when swallowing foods and drinks. This protects the user from accidentally swallowing nutrients. Voice prostheses are not implants and are changed

by the physician when they lose their functionality. Different causes can make a prosthesis replacement necessary. For example, bacterial colonisation of the material (e.g. with *Candida albicans*) can lead to unwanted leaks, or changes in the tissue situation of the shunt canal may require replacement. These days, voice prostheses are available in a large variety with very different product features.

If you would like to have details about surgical voice rehabilitation, you should contact the attending physician directly.

A voice prosthesis passport for managing your voice prosthesis data is included with every initial delivery of a voice prosthesis or can be reordered under article number 28999.



LARYVOX® UNIEK ULTRA LOW RESISTANCE

VOICE PROSTHESIS



The LARYVOX® UNIEK Ultra Low Resistance voice prosthesis made of medical silicone is an indwelling prosthesis with very low flow resistance, which means that only a low phonetic blowing pressure is required for speaking.

It has a semicircular, smooth-running slit valve on the oesophageal side for directing the airflow towards the throat and mouth.

The silicone of the LARYVOX® UNIEK Ultra Low Resistance voice prosthesis is completely mixed with barium sulphate and thus ensures excellent radiographic imaging if required.

The voice prosthesis is changed anterograde through the tracheostoma with the LARYVOX® INSERTER UNIEK. Here, the tracheal flange of the voice prosthesis is placed on the head of the placement instrument and the safety thread is fixed. The voice prosthesis is then inserted into the applicator and placed correctly in the shunt canal by slowly advancing it. Alternatively, retrograde insertion with the LARYVOX® GUIDEWIRE is also possible.

The voice prosthesis is available in shaft thicknesses of 21 Fr. and 24 Fr. and in sizes 5 mm – 11 mm and 13 mm in sterile version.

The correct selection and change of the voice prosthesis is done by a physician.

SIZE	SHAFT THICKNESS Ø mm 21 FR.	SHAFT THICKNESS Ø mm 24 FR.	LENGTH mm	REF 24 FR.	REF 21 FR.
5	7.0	8.0	5.0	25020-05	25010-05
6	7.0	8.0	6.0	25020-06	25010-06
7	7.0	8.0	7.0	25020-07	25010-07
8	7.0	8.0	8.0	25020-08	25010-08
9	7.0	8.0	9.0	25020-09	25010-09
10	7.0	8.0	10.0	25020-10	25010-10
11	7.0	8.0	11.0	25020-11	25010-11
13	7.0	8.0	13.0	25020-13	25010-13

The colour of the item number corresponds to the colour of the inserter to be used.

LARYVOX® INSERTER UNIEK



The LARYVOX® INSERTER UNIEK consists of a placement instrument as well as an adapter and facilitates the perfect anterograde placement or replacement of the LARYVOX® UNIEK voice prosthesis/shunt valve. Additionally, the rounded applicator tip promotes gentle placement and makes changing the voice prosthesis as comfortable as possible.

The applicator of the LARYVOX® INSERTER enables effortless insertion of the voice prosthesis and is readily prepared in a few steps.

ORDER INFORMATION	PU	REF
LARYVOX® INSERTER UNIEK	1	25925

LARYVOX® GUIDEWIRE

STERILE

The LARYVOX® GUIDEWIRE is a sterile guidewire. It is used for retrograde placement of a voice prosthesis as part of a primary or secondary puncture after laryngectomy as well as for the retrograde change of a voice prosthesis.

The voice prosthesis is attached to the angled fixation end within the context of a primary puncture and positioned retrogradely. The straight fixation end is used to fix and guide the voice prosthesis within the context of the secondary puncture.



Special anatomical conditions may make a retrograde voice prosthesis change necessary. The curved shape of one fixation end facilitates the advancement of the guidewire in cranial direction (towards the head) to allow subsequent tissue-sparing retrograde prosthesis passage (from the mouth to the shunt canal).

ORDER INFORMATION	PU	REF
LARYVOX® GUIDEWIRE	1	25100

INHEALTH 22.5 FR INDWELLING VOICE PROSTHESIS



The InHealth 22.5 Fr indwelling voice prosthesis made of medical silicone is an indwelling prosthesis with special product features.

As part of general voice prosthesis placement after laryngectomy, problems such as premature leakage through the valve (valve defect) or involving the voice prosthesis (widened shunt canal) occur time and again.

The InHealth 22.5 Fr. indwelling voice prosthesis features a special silicone valve flap which contains silver oxide. This substance exhibits resistance to material-related candida colonisation (fungal infestation), which results in greater durability and longevity of the voice prosthesis. In addition, an internal titanium ring gives the prosthesis body greater dimensional stability. This way, early candida-related valve defects can be avoided.

A significantly enlarged, oesophageal retaining flange prevents an unwanted transfer of fluid from the oesophagus into the trachea if the shunt canal is widened or has changed its shape.

By using a gel capsule during placement, the voice prosthesis slides easily into the shunt canal and facilitates the change, which is performed from the front through the tracheostoma.

The correct selection and change of the voice prosthesis is done by a physician.

The voice prosthesis is available exclusively in the shaft thickness 22.5 Fr. and in the sizes 6 mm – 12 mm.

SIZE	SHAFT THICKNESS Ø mm 22.5 FR.	LENGTH mm	REF
6	7.5	6.0	VP2206-LEF
8	7.5	8.0	VP2208-LEF
10	7.5	10.0	VP2210-LEF
12	7.5	12.0	VP2212-LEF
The colour of the item number corresponds to the colour of the inserter to be used.			

BLOM-SINGER® CLASSIC™ INDWELLING

VOICE PROSTHESIS



The BLOM-SINGER® Classic™ indwelling voice prosthesis made of medical silicone is an indwelling prosthesis which remains in a surgically created shunt (surgically created opening between the trachea and oesophagus) and enables laryngectomy patients to speak. The BLOM-SINGER® Classic™ Indwelling voice prosthesis is a valve system that requires a low blowing pressure for comfortable speaking. By using a gel capsule during placement, the voice prosthesis slides easily into the shunt canal and facilitates the change, which is

performed from the front through the tracheostoma.

The BLOM-SINGER® rinsing pipette enables easy and gentle cleaning of the voice prosthesis. The pipette can be filled with water or air and placed on the voice prosthesis. The powerful jet of water or air when compressing the pipette flushes out contaminants, e.g. stuck secretions, from the prosthesis.

In addition, the slightly modified version, the BLOM-SINGER® Classic™ Indwelling voice prosthesis in a sterile version, is available for use in an intraoperative primary placement. The safety thread on the shunt valve has been adapted in its shape to simplify fixation during primary puncture. This sterile version is available in shaft thicknesses of 16 Fr. and 20 Fr. with lengths (= sizes) between 8 mm and 14 mm.

The correct selection and change of the voice prosthesis is done by a physician.

SIZE	SHAFT THICKNESS Ø mm 16 FR.	SHAFT THICKNESS Ø mm 20 FR.	LENGTH mm	REF 16 FR.	REF 20 FR.	REF 16 FR. STERILE	REF 20 FR. STERILE
4	5.3	6.6	4.0	IN1604-NS	IN2004-NS	-	-
6	5.3	6.6	6.0	IN1606-NS	IN2006-NS	-	-
8	5.3	6.6	8.0	IN1608-NS	IN2008-NS	IN1608-SO	IN2008-SO
10	5.3	6.6	10.0	IN1610-NS	IN2010-NS	IN1610-SO	IN2010-SO
12	5.3	6.6	12.0	IN1612-NS	IN2012-NS	IN1612-SO	IN2012-SO
14	5.3	6.6	14.0	IN1614-NS	IN2014-NS	IN1614-SO	IN2014-SO
16	5.3	6.6	16.0	IN1616-NS	IN2016-NS	-	-
18	5.3	6.6	18.0	IN1618-NS	IN2018-NS	-	-
20	5.3	6.6	20.0	IN1620-NS	IN2020-NS	-	-

The colour of the item number corresponds to the colour of the inserter to be used.

BLOM-SINGER® CLASSIC™ INDWELLING LEF VOICE PROSTHESIS



The BLOM-SINGER® LEF (Large Oesophageal Flange) is an indwelling prosthesis and has an enlarged esophageal flange (19 mm diameter) for the indication-specific treatment of periprosthetic leaks. A large flange variant is also available. Both the oesophageal and tracheal flanges are enlarged (LF). Both shunt valves are available as 16 and 20 Fr. variants in sizes 4 mm – 14 mm.

The correct selection and change of the voice prosthesis is done by a physician.

SIZE	SHAFT THICK- NESS Ø mm 16 FR.	SHAFT THICK- NESS Ø mm 20 FR.	LENGTH mm	REF 16 FR.	REF 20 FR.
4	5.3	6.6	4.0	IN1604-LEF	IN2004-LEF
6	5.3	6.6	6.0	IN1606-LEF	IN2006-LEF
8	5.3	6.6	8.0	IN1608-LEF	IN2008-LEF
10	5.3	6.6	10.0	IN1610-LEF	IN2010-LEF
12	5.3	6.6	12.0	IN1612-LEF	IN2012-LEF
14	5.3	6.6	14.0	IN1614-LEF	IN2014-LEF

The colour of the item number corresponds to the colour of the inserter to be used.

BLOM-SINGER® CLASSIC™ INDWELLING LF VOICE PROSTHESIS

The BLOM-SINGER® LF (Large Flange) is an indwelling prosthesis and has an enlarged tracheal and esophageal flange (19 mm diameter) for the indication-specific treatment of periprosthetic leaks. The voice prosthesis is available as a 16 Fr and 20 Fr version in sizes 4 mm – 14 mm. The correct selection and change of the voice prosthesis is done by a physician.



SIZE	SHAFT THICK- NESS Ø mm 16 FR.	SHAFT THICK- NESS Ø mm 20 FR.	LENGTH mm	REF 16 FR.	REF 20 FR.
4	5.3	6.6	4.0	IN1604-LF	IN2004-LF
6	5.3	6.6	6.0	IN1606-LF	IN2006-LF
8	5.3	6.6	8.0	IN1608-LF	IN2008-LF
10	5.3	6.6	10.0	IN1610-LF	IN2010-LF
12	5.3	6.6	12.0	IN1612-LF	IN2012-LF
14	5.3	6.6	14.0	IN1614-LF	IN2014-LF

The colour of the item number corresponds to the colour of the inserter to be used.

BLOM-SINGER® CLASSIC™ IR

VOICE PROSTHESIS



The BLOM-SINGER® CLASSIC™ IR (Increased Resistance) is an indwelling prosthesis and features a special high resistance valve. This valve is equipped with a reinforced silicone flap hinge and prevents unintentional opening of the valve in the event of excessively high tracheo-oesophageal suction pressure. The voice prostheses are available as 16 Fr. and 20 Fr. variants in sizes 6 mm – 12 mm.

The correct selection and change of the voice prosthesis is done by a physician.

SIZE	SHAFT THICK- NESS Ø mm 16 FR.	SHAFT THICK- NESS Ø mm 20 FR.	LENGTH mm	REF 16 FR.	REF 20 FR.
6	5.3	6.6	6.0	IN1606-IR	IN2006-IR
8	5.3	6.6	8.0	IN1608-IR	IN2008-IR
10	5.3	6.6	10.0	IN1610-IR	IN2010-IR
12	5.3	6.6	12.0	IN1612-IR	IN2012-IR
The colour of the item number corresponds to the colour of the inserter to be used.					

BLOM-SINGER® CLASSIC™ LEIR

VOICE PROSTHESIS

The BLOM-SINGER® CLASSIC™ LEIR (Large Esophageal Flange Increased Resistance) is an indwelling prosthesis and features a special high resistance valve. This valve features a reinforced silicone flap hinge and prevents unintentional opening of the valve in the event of excessively high tracheo-oesophageal suction pressure. This variant (LEIR) also features an enlarged oesophageal flange. The voice prosthesis is available as a 16 Fr and 20 Fr version in sizes 4 mm – 8 mm. The correct selection and change of the voice prosthesis is done by a physician.



SIZE	SHAFT THICK- NESS Ø mm 16 FR.	SHAFT THICK- NESS Ø mm 20 FR.	LENGTH mm	REF 16 FR.	REF 20 FR.
4	5.3	6.6	4.0	IN1604-LEIR	IN2004-LEIR
6	5.3	6.6	6.0	IN1606-LEIR	IN2006-LEIR
8	5.3	6.6	8.0	IN1608-LEIR	IN2008-LEIR
The colour of the item number corresponds to the colour of the inserter to be used.					

BLOM-SINGER® CLASSIC™ INDWELLING LETO VOICE PROSTHESIS



The BLOM-SINGER® Large Esophageal Flange TEP Occluder (LETO) is an indwelling prosthesis substitute and is used for the non-invasive closure of the shunt canal without further phonation option. The valve flap is sealed and a large oesophageal flange achieves a good seal during shunt dilatation. The BLOM-SINGER® Large Esophageal Flange/TEP Occluder (LETO) is available in 16 Fr. and 20 Fr. variants and in sizes 4 mm – 14 mm. The correct selection and change of the voice prosthesis is done by a physician.

SIZE	SHAFT THICK- NESS Ø mm 16 FR.	SHAFT THICK- NESS Ø mm 20 FR.	LENGTH mm	REF 16 FR.	REF 20 FR.
4	5.3	6.6	4.0	IN1604-LETO	IN2004-LETO
6	5.3	6.6	6.0	IN1606-LETO	IN2006-LETO
8	5.3	6.6	8.0	IN1608-LETO	IN2008-LETO
10	5.3	6.6	10.0	IN1610-LETO	IN2010-LETO
12	5.3	6.6	12.0	IN1612-LETO	IN2012-LETO
14	5.3	6.6	14.0	IN1614-LETO	IN2014-LETO

The colour of the item number corresponds to the colour of the inserter to be used.



BLOM-SINGER® ADVANTAGE®

VOICE PROSTHESIS



The BLOM-SINGER® ADVANTAGE® hard valve assembly voice prosthesis made of medical silicone is an indwelling prosthesis. It is distinguished by special material durability and longevity. The silicone valve contains silver oxide, a substance which prevents biofilm colonisation. This material is therefore better protected against candida infection. This enables the changing intervals for the shunt valve to be lengthened. In addition, a stabilising titanium ring is integrated into the inner lumen of the prosthesis shaft, which leads to prolonged dimensional stability and material durability.

By using a gel capsule during placement, the voice prosthesis slides easily into the shunt canal and facilitates the change, which is performed from the front through the tracheostoma

The BLOM-SINGER® ADVANTAGE® hard valve assembly voice prosthesis is available in the shaft diameter 20 Fr. and in each of the sizes 4 mm – 14 mm.

The correct selection and change of the voice prosthesis is done by a physician.

SIZE	SHAFT THICKNESS Ø mm 20 FR.	LENGTH mm	REF 20 FR.
4	6.6	4	AD2004-NS
6	6.6	6	AD2006-NS
8	6.6	8	AD2008-NS
10	6.6	10	AD2010-NS
12	6.6	12	AD2012-NS
14	6.6	14	AD2014-NS
The colour of the item number corresponds to the colour of the inserter to be used.			

BLOM-SINGER® DUAL VALVE™ INDWELLING VOICE PROSTHESIS



The BLOM-SINGER® DUAL VALVE™ INDWELLING indwelling prosthesis features two independent sequential low-pressure valves made of silicone containing silver oxide. Should one of the two valves fail due to candida infestation, then the second valve ensures that proper functioning is maintained. The BLOM-SINGER® DUAL VALVE™ INDWELLING is available as a 20 Fr. variant in sizes 6 mm – 14 mm.

The correct selection and change of the voice prosthesis is done by a physician.

SIZE	SHAFT THICKNESS Ø mm 20 FR.	LENGTH mm	REF 20 FR.
6	6.6	6.0	DV2006-NS
8	6.6	8.0	DV2008-NS
10	6.6	10.0	DV2010-NS
12	6.6	12.0	DV2012-NS
14	6.6	14.0	DV2014-NS

The colour of the item number corresponds to the colour of the inserter to be used.

BLOM-SINGER® DUAL VALVE™ LF INDWELLING VOICE PROSTHESIS

The BLOM-SINGER® DUAL VALVE™ LF (Large Flange) indwelling prosthesis represents a functional extension to the BLOM-SINGER® DUAL VALVE™. This prosthesis is additionally equipped with two enlarged flanges (oesophageal and tracheal flanges) for treatment of peri-prosthetic leakages as appropriate for the indication. The BLOM-SINGER® DUAL VALVE™ LF is available as a 20 Fr. variant in sizes 6 mm – 14 mm. The correct selection and change of the voice prosthesis is done by a physician.



SIZE	SHAFT THICKNESS Ø mm 20 FR.	LENGTH mm	REF 20 FR.
6	6.6	6.0	DV2006-LF
8	6.6	8.0	DV2008-LF
10	6.6	10.0	DV2010-LF
12	6.6	12.0	DV2012-LF
14	6.6	14.0	DV2014-LF

The colour of the item number corresponds to the colour of the inserter to be used.

BLOM-SINGER® LOW PRESSURE VOICE PROSTHESIS



The BLOM-SINGER® Low Pressure voice prosthesis made of medical silicone is an interchangeable prosthesis characterised by a valve system that requires a particularly low blowing pressure for comfortable speaking.

The BLOM-SINGER® Low Pressure voice prosthesis can be changed by the patients themselves after receiving professional instruction and training.

SIZE	SHAFT THICKNESS Ø mm 16 FR.	SHAFT THICKNESS Ø mm 20 FR.	LENGTH mm	REF 16 FR.	REF 20 FR.
6	5.3	6.6	6	BE 6009	BE 2014
8	5.3	6.6	8	LP16-008	LP20-008
10	5.3	6.6	10	BE 6010	BE 2018
12	5.3	6.6	12	LP16-012	LP20-012
14	5.3	6.6	14	BE 6011	BE 2022
18	5.3	6.6	18	BE 6012	BE 2026
22	5.3	6.6	22	BE 6013	BE 2030
25	5.3	6.6	25	BE 6014	BE 2033
28	5.3	6.6	28	BE 6015	-

BLOM-SINGER® DUCKBILL VOICE PROSTHESIS

The BLOM-SINGER® DUCKBILL made of medical silicone is an interchangeable prosthesis which features a slit valve system that requires a low blowing pressure for comfortable speaking.

The BLOM-SINGER® DUCKBILL can be changed by the patients themselves after receiving professional instruction and training.



SIZE	SHAFT THICKNESS Ø mm 16 FR.	LENGTH mm	REF
6	5.3	6	DB16-006
8	5.3	8	DB16-008
10	5.3	10	BE 6000
12	5.3	12	DB16-012
14	5.3	14	BE 6001
18	5.3	18	BE 6002

LARYVOX® INSERTER



STANDARD



The LARYVOX® INSERTER consists of a placement instrument as well as an adapter and facilitates the perfect anterograde placement or replacement of a voice prosthesis. Additionally, the rounded applicator tip promotes gentle placement and makes changing the voice prosthesis as comfortable as possible.

The applicator of the LARYVOX® INSERTER is readily prepared in a few steps. The placement instrument has three different fixation options to allow easy and safe placement of various voice prostheses.

ORDER INFORMATION	PU	REF
LARYVOX® INSERTER	1	25900

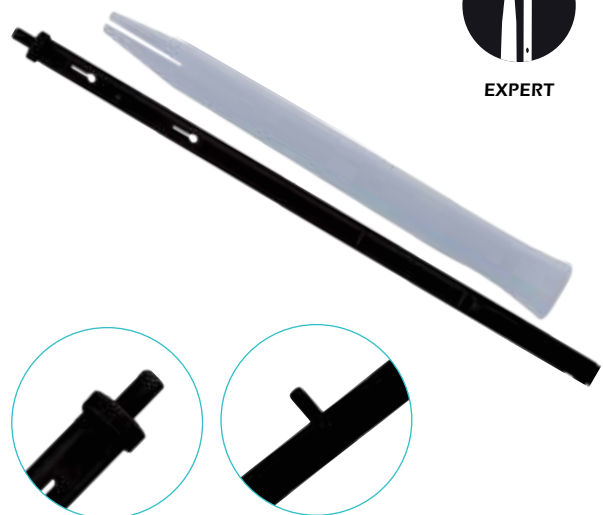
LARYVOX® INSERTER EXPERT

The LARYVOX® INSERTER EXPERT consists of a placement instrument and an applicator and is used for the optimal anterograde placement of a **BLOM-SINGER DUAL VALVE™ VOICE PROSTHE-SIS**. The rounded applicator tip also promotes gentle placement and makes changing voice prostheses as comfortable as possible.

The applicator of the LARYVOX® INSERTER EXPERT is readily prepared in a few steps. The placement instrument has three different fixation options to allow easy and safe placement of various voice prostheses.



EXPERT



ORDER INFORMATION	PU	REF
LARYVOX® INSERTER EXPERT	1	25910

LARYVOX® INSERTER EXPERT SMALL



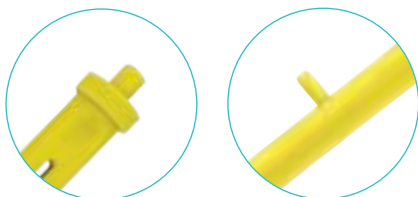
EXPERT SMALL



The LARYVOX® INSERTER EXPERT SMALL consists of a placement instrument as well as an adapter and facilitates the perfect anterograde placement or replacement of a voice prosthesis with a **shaft length of 4 mm**. Additionally, the rounded applicator tip promotes gentle placement and makes changing the voice prosthesis as comfortable as possible.

The applicator of the LARYVOX® INSERTER EXPERT SMALL is readily prepared in a few steps.

The placement instrument has three different fixation options to allow easy and safe placement of various voice prostheses.



ORDER INFORMATION	PU	REF
LARYVOX® INSERTER EXPERT SMALL	1	25915

LARYVOX® INSERTER SPECIAL

The LARYVOX® INSERTER SPECIAL is particularly suitable for a constricted shunt canal with a deep position or running diagonally or with a particularly small tracheostoma.

With this inserter, a shunt valve can be securely fixed to the placement instrument and placed anterograde in the existing shunt canal/fistula canal using **the gel capsule technique**.

The angled shape in the front section of the LARYVOX® INSERTER SPECIAL also optimises the view during placement.

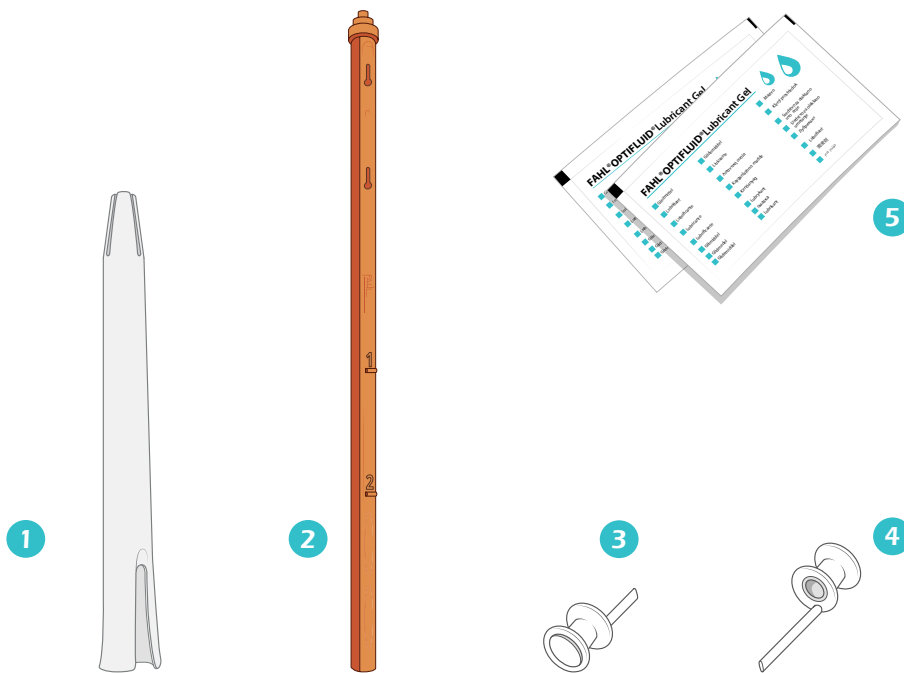


SPECIAL

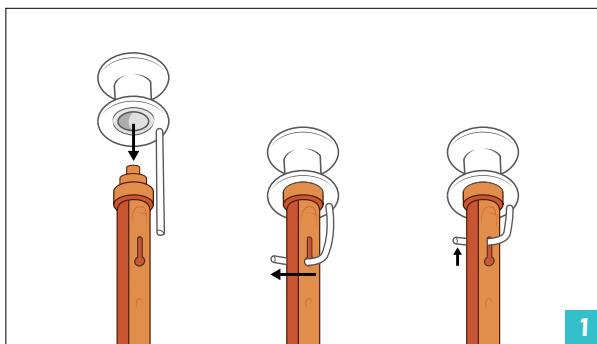


ORDER INFORMATION	PU	REF
LARYVOX® INSERTER SPECIAL	1	25920

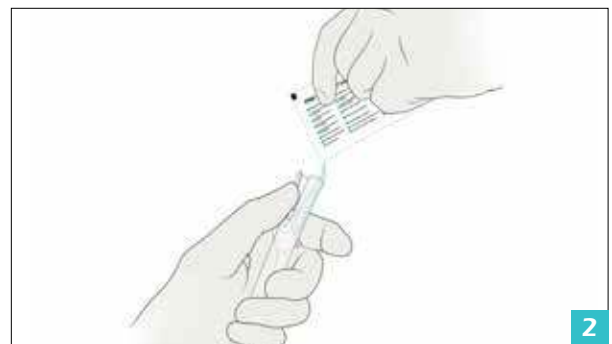
CHANGE OF VOICE PROSTHESIS WITH AN INSERTER



- 1** Applicator
- 2** Placement instrument (inserter)
- 3** Oesophageal side of the voice prosthesis
- 4** Tracheal side of the voice prosthesis
- 5** Lubricant

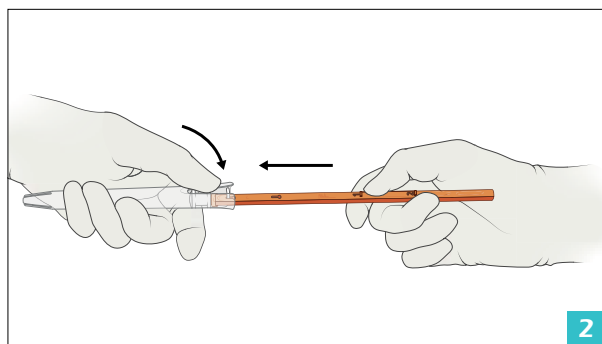


Place the tracheal flange of the voice prosthesis on the head of the placement instrument. Fixate the safety thread of the voice prosthesis.

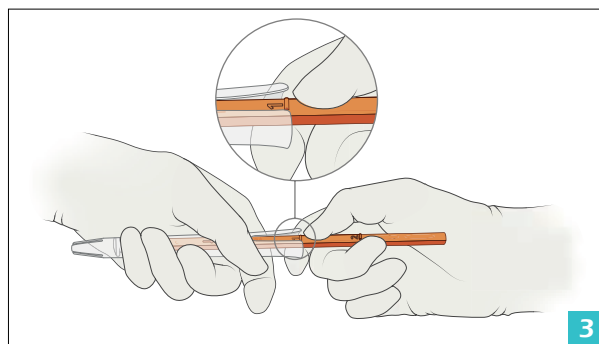


For better lubrication of the applicator to advance the voice prosthesis, you can use the FAHL® OPTIFLUID® Lubricant Gel included in the scope of delivery.

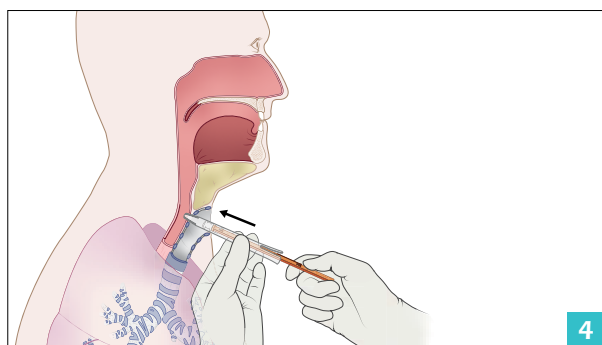
CHANGE OF VOICE PROSTHESIS WITH AN INSERTER



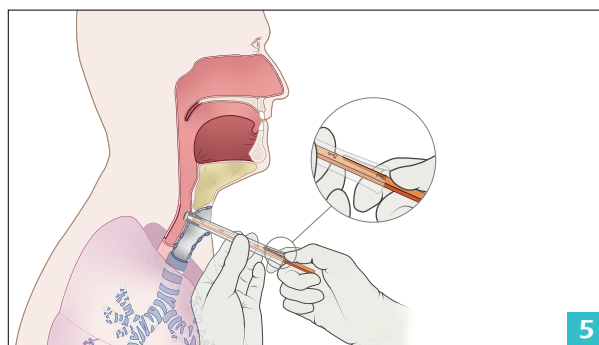
Press the oesophageal flange together so that the valve flap points forwards. Push the placement instrument forwards by approx. 1 cm into the slotted opening of the applicator.



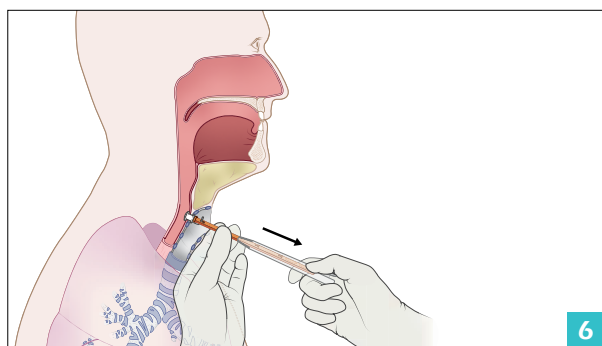
Slide the voice prosthesis slowly forwards through the applicator up to marking 1.



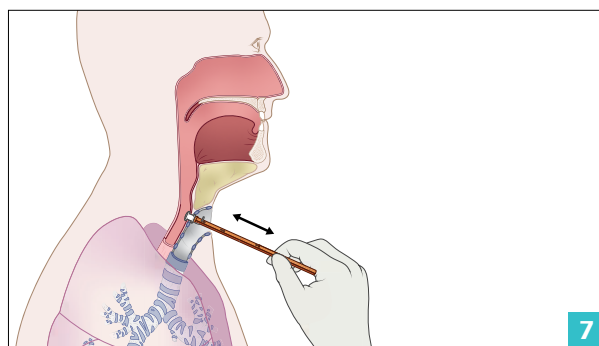
Guide the tip of the applicator carefully into the shunt channel.



Slide the voice prosthesis slowly forwards through the applicator up to marking 2. The oesophageal flange will open at the lumen of the oesophagus.

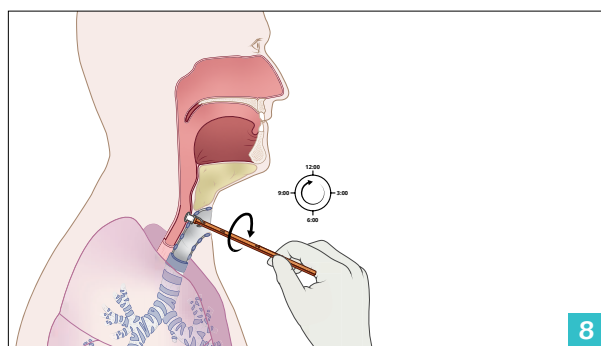


Retract the applicator carefully via the placement instrument so that the tracheal flange opens in the trachea.

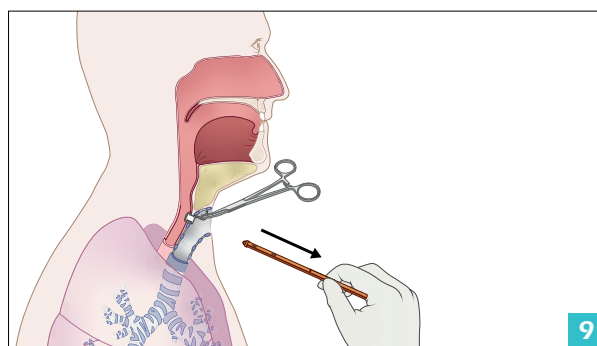


Check the correct position of the voice prosthesis by rotating and slightly pulling the placement instrument.

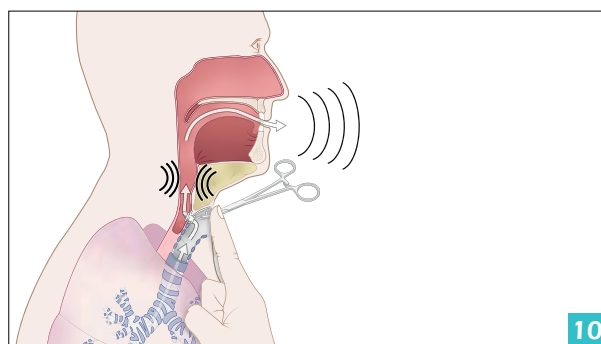
CHANGE OF VOICE PROSTHESIS WITH AN INSERTER



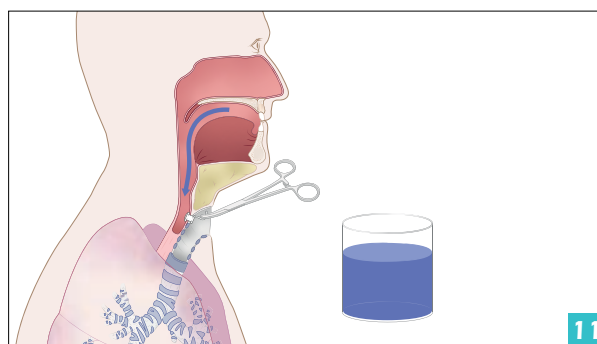
Finally, rotate the voice prosthesis into position such that the safety thread is in the 12 o'clock position.



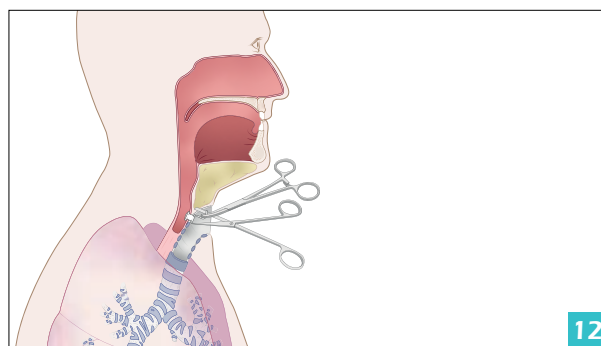
Fixate the safety thread with an atraumatic clamp and remove the placement instrument.



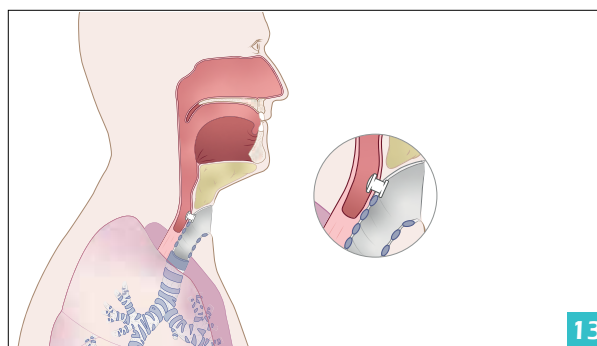
Perform a phonation test.



Check the tightness of the voice prosthesis with an attempt to swallow.



If the voice prosthesis is in the correct position, cut the safety thread flush with the tracheal flange.



Regular monitoring of the position and functionality of the voice prosthesis is an important part of professional voice prosthesis care.

LARYVOX® PUNCTURE SET

STERILE



The LARYVOX® PUNCTURE SET is a complete, sterile puncture set for single use in surgery. It is used for the placement of a voice prosthesis as part of a primary or secondary puncture after laryngectomy.

The ergonomically shaped pharyngeal protector serves to protect the oesophageal mucosa during puncture. The 3-sided finely ground puncture trocar enables precise and rapid tracheo-oesophageal puncture. It is already inside a plastic sleeve for the subsequent advancement of a catheter.

The LARYVOX® GUIDEWIRE serves as a pull-through catheter for voice prosthesis placement both in a primary or secondary puncture and as part of a retrograde voice prosthesis change.

Characteristic for the guide wire are the two differently shaped ends with fixation option.

The voice prosthesis is attached to the angled fixation end within the context of a primary puncture and positioned retrogradely. The straight fixation end is used to fix and guide the voice prosthesis within the context of the secondary puncture. Special anatomical conditions may make a retrograde voice prosthesis change necessary. The curved shape of one fixation end facilitates the advancement of the guidewire in cranial direction to allow subsequent tissue-sparing retrograde prosthesis passage.

SCOPE OF DELIVERY			
1	Trocar	1	LARYVOX® Guidewire
1	Trocar sleeve	1	Pharynx protector
ORDER INFORMATION			REF
LARYVOX® PUNCTURE SET			25200

BLOM-SINGER® PLACEMENT SURGICAL KIT**STERILE**

The BLOM-SINGER® VOICE PROSTHESIS PLACEMENT SURGICAL KIT 20 Fr. is a complete surgery set for single use and serves the intraoperative primary or secondary puncture for placing a Blom-Singer® voice prosthesis.

Guide catheter, trocar and a pharyngeal protector are included in the scope of delivery (single-use instruments).

The trocar features an extremely sharp-edged tip with a 3-sided ground blade enabling easy puncture. The trocar is seated in a colour-coded sleeve. The colour code offers the unique option of measuring the length of the shunt channel already while performing the puncture and selecting a voice prosthesis that fits precisely.

SCOPE OF DELIVERY

1 Trocar	1 Guidewire
1 Trocar sleeve	1 Pharynx protector
1 BLOM-SINGER® Classic™ Indwelling sterile 8 mm -14 mm	

ORDER INFORMATION

BLOM-SINGER® VOICE PROSTHESIS PLACEMENT SURGICAL KIT, 20 Fr.

REF**TP1001**

BLOM-SINGER® REPLACEMENT GEL CAPS



The BLOM-SINGER® REPLACEMENT GEL CAPS serve as a replacement gel capsule for the placement of a BLOM-SINGER® voice prosthesis.

With the aid of the BLOM-SINGER® REPLACEMENT GEL CAPS, the voice prosthesis is introduced atraumatically into the shunt canal. The gel cap dissolves completely in the oesophagus after a few minutes and unfolds the oesophageal flange. The gel cap can be coated with a water-soluble local anaesthetic to speed up the procedure.

ORDER INFORMATION	PU	REF
BLOM-SINGER® REPLACEMENT GEL CAPS, 16 Fr.	90	BE3190
BLOM-SINGER® REPLACEMENT GEL CAPS, 18 Fr.	90	BE3195
BLOM-SINGER® REPLACEMENT GEL CAPS, 20 Fr.	90	BE3290
BLOM-SINGER® REPLACEMENT GEL CAPS, 22 Fr.	60	BE3295

BLOM-SINGER® DILATOR SIZER

The BLOM-SINGER® DILATOR SIZER is an important tool for every change of voice prosthesis. It combines two different functions in one innovative product. In a single step, the shunt canal can be dilated (widened) as needed during voice prosthesis placement and additionally measured via the measuring scale for size verification.



ORDER INFORMATION	PU	REF
BLOM-SINGER® DILATOR SIZER, 18 Fr. for 16 Fr. voice prostheses	1	BE2051
BLOM-SINGER® DILATOR SIZER, 22 Fr. for 20 Fr. voice prostheses	1	BE2052

LARYVOX® PLUG



The LARYVOX® PLUG sealing plug serves for the short-term use with a defective voice prosthesis to prevent transprosthetic fluid leakage (centrally through the shunt valve). It is compatible with most common voice prostheses (20-22.5 Fr.). The sealing plug is only to be used temporarily.

Use of the LARYVOX® PLUG prevents swallowing while eating and drinking. Speaking is not possible while in use.

ORDER INFORMATION

ORDER INFORMATION	PU	REF
LARYVOX® PLUG	1	25800

LARYVOX® PLUG 4 MM

The LARYVOX® PLUG 4 mm sealing plug for small voice prostheses serves for the short-term use with a defective voice prosthesis to prevent transprosthetic fluid leakage (centrally through the shunt valve). It is compatible with all common 4 mm voice prostheses. The sealing plug is only to be used temporarily.

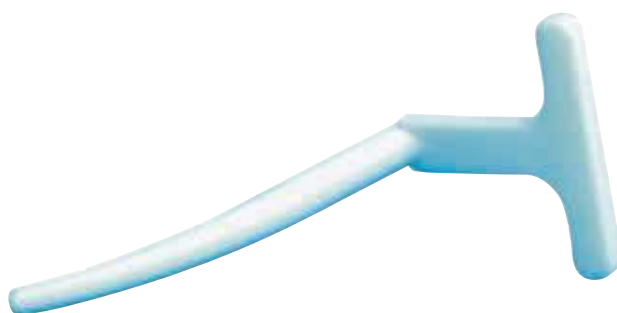
Use of the LARYVOX® PLUG prevents swallowing while eating and drinking. Speaking is not possible while in use.



ORDER INFORMATION

ORDER INFORMATION	PU	REF
LARYVOX® PLUG 4 mm	1	25810

BLOM-SINGER® TRACHEOESOPHAGEAL PUNCTURE DILATOR



The BLOM-SINGER® TRACHEOESOPHAGEAL PUNCTURE DILATOR is a tracheoesophageal puncture dilator for a straightforward change of voice prosthesis. The fixed conical silicone stent is used for successive dilatation of the shunt canal in the context of a voice prosthesis change when using 16- or 20-Fr. voice prostheses.

ORDER INFORMATION	PU	REF
BLOM-SINGER® TRACHEOESOPHAGEAL PUNCTURE DILATOR, 18 FR.	1	BE6050
BLOM-SINGER® TRACHEOESOPHAGEAL PUNCTURE DILATOR, 22 FR.	1	BE2050

LARYVOX® SUCTION TUBE

The LARYVOX® METAL SUCTION TUBE was specially developed for users of a voice prosthesis. It enables targeted suction of the shunt valve while the stoma light effectively illuminates the tracheostoma. The suction tube is attached to the suction device's suction tube with a tube connector. A stoma lamp, which can be ordered separately, can be securely attached in the retaining clip of the suction tube.



ORDER INFORMATION	PU	REF
LARYVOX® SUCTION TUBE	1	69000

LARYVOX® DUO BRUSH



The LARYVOX® DUO BRUSH is designed for the gentle and thorough daily cleaning of voice prostheses. One side features a brush for cleaning the inner channel of the voice prosthesis in the tracheoesophageal fistula and the other side features a foam sponge for removing debris and secretions from the tracheal flange of the voice prosthesis.

We supply the LARYVOX® DUO BRUSH in a sturdy, reusable plastic box with six brushes. In addition, a retaining clip is included for attaching a stoma lamp. The combination of brush and tracheostomy lamp allows the cleaning process to be performed under good visibility with one hand while the other hand remains free. The stoma lamp is to be ordered separately. There is a mirror on the back of the box for convenient cleaning when travelling.

SIZE	VOICE PROSTHESIS SIZES	PU	REF
6.0	4 - 6	6	29110-06
8.0	7 - 8	6	29110-08
10.0	9 - 10	6	29110-10
12.0	11 - 13	6	29110-12
18.0	14 - 18	6	29110-18

LARYVOX® STOMALIGHT

The LARYVOX® STOMALIGHT made of sturdy metal can be attached to the suction tube or a LARYVOX® DUO BRUSH (cleaning brush for voice prostheses).

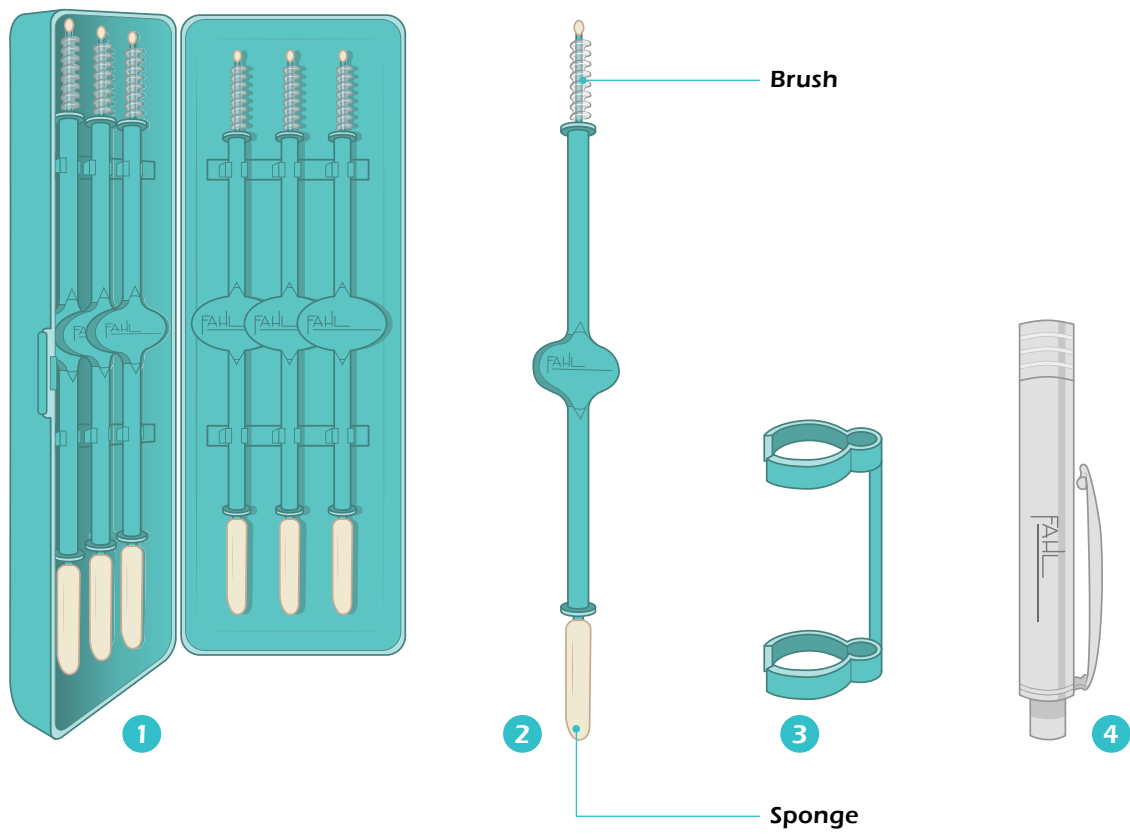
The stoma light is switched on and off using the button at one end. It is powered by 2 standard 1.5 Volt AAA micro batteries, which are included in the scope of delivery.

The powerful light source provides good illumination during tracheostoma care, e.g. when cleaning the voice prosthesis or during suctioning.



ORDER INFORMATION	PU	REF
LARYVOX® STOMALIGHT	1	69101

CLEANING OF VOICE PROSTHESES

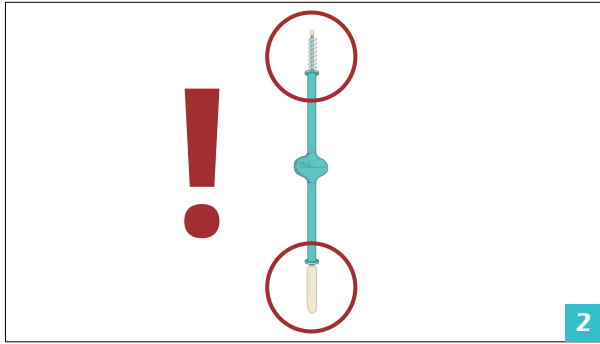
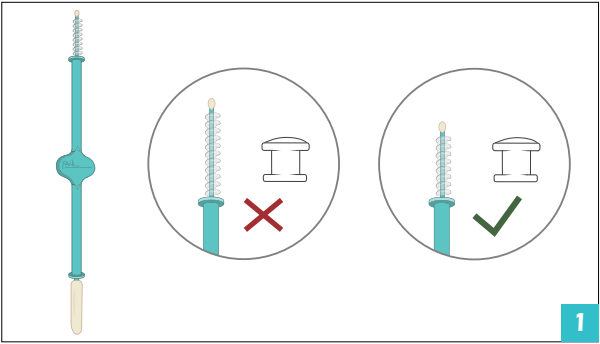


1 LARYVOX® DUO-BRUSH case

2 LARYVOX® DUO BRUSH

3 LARYVOX® CLIP

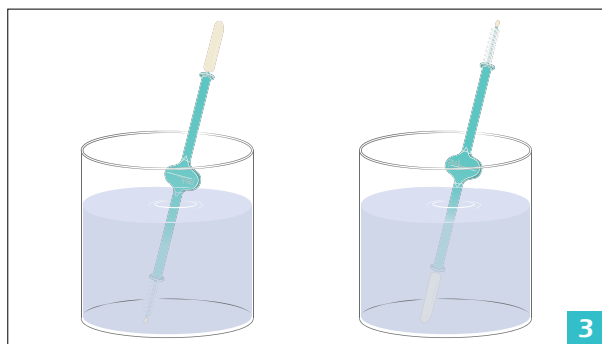
4 LARYVOX® STOMALIGHT



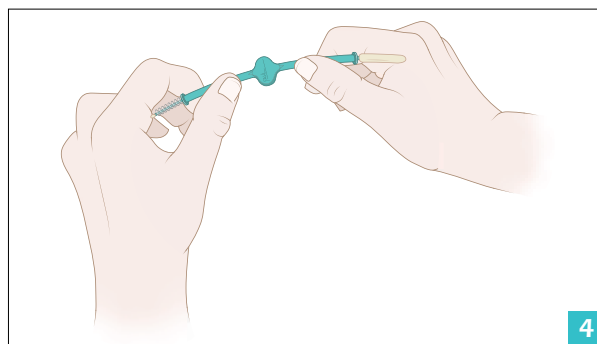
Select the size of the LARYVOX® DUO BRUSH according to the size of the voice prosthesis.

Check the LARYVOX® DUO BRUSH for possible damage before use.

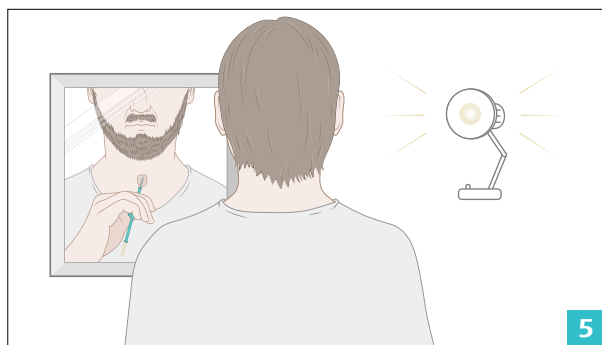
CLEANING OF VOICE PROSTHESES



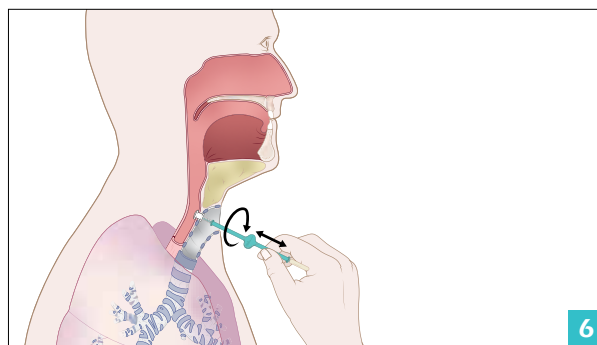
Moisten the brush and the sponge with potable water before use.



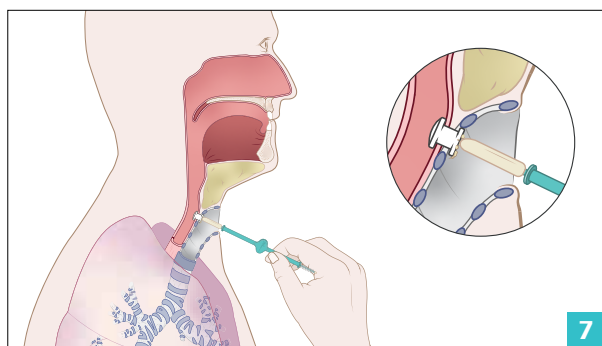
If necessary, you can bend the cleaning brush individually to the required shape.



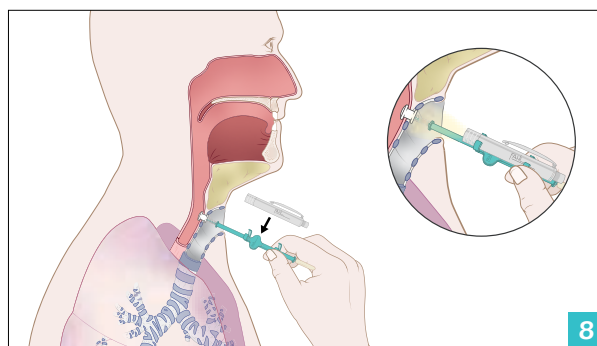
To achieve good cleaning results, improve your vision with optimal lighting.



Guide the cleaning brush into the voice prosthesis with the brush side. Move the brush back and forth, rotating it between your fingers.



Carefully remove external secretions with the sponge.



For a better view and more thorough cleaning results, you can attach the LARYVOX® STOMALIGHT to the cleaning brush with the LARYVOX® CLIP.



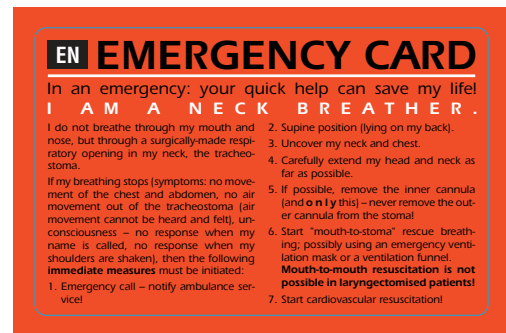
EMERGENCY EVENT

Basically, every patient is at high risk of spontaneously getting into an emergency situation after a tracheostomy. Even an unintentionally inhaled, larger foreign body can cause respiratory distress and cannot be coughed up productively due to reduced or non-existent subglottic pressure. There is a risk of suffocation without immediate endotracheal suction.

Therefore, all persons involved in the care of the patient must be prepared for an emergency and its professional management. Here too, laryngectomised patients represent a special case. Since inhalation and exhalation take place exclusively via the tracheostoma, no alternative airway (mouth/nose) can compensate for the problem.

HOW CAN I TAKE PRECAUTIONS?

Keep the emergency telephone number clearly visible on the telephone at home. Special emergency aids should be close at hand. A signal emergency device is also helpful. Emergency cards and stickers inform potential first responders about the special handicap. Affix the emergency stickers in a clearly visible place in your home environment and/or on the car window and always carry the card with you.



HOW DOES ONE RECOGNISE AN IMPENDING EMERGENCY?

Symptoms such as palpitations, sudden nausea, dizziness and feeling faint or blurred vision can be signs of an impending emergency.

By activating the LARYVOX® ALARM signal call device, which produces a shrill alarm tone, the affected person can attract the attention of people in his/her vicinity.

Immediate measures to strengthen circulation are advisable in any case: lay the affected person flat on the floor, make an emergency call, raise the legs slightly, clear the airway opening (tracheostoma),

stretch the head backwards, remove an internal cannula if necessary.



IMPORTANT: STAY CALM!