

Lightin™ System

Lightin™

Lightin™ Generator

Lightin™

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“Lightin™ System used for injection laryngoplasty procedures to indicate the injection site ”



Solmedix Co.,Ltd.

Solution of Medical Device for Innovative Exit™

Lightin™ System | Light Guided Injection System

Lightin™ System Description

Lightin™ System used for injection laryngoplasty procedures to indicate the injection site

Lightin™ System consists of Lightin™ and Lightin™ Generator. Lightin™ is a light-guided needle used in injection laryngoplasty and Lightin™ Generator delivers the light energy to Lightin™ by generating LED light from an AC-powered light source.

Indication for Use

- Lightin™ is a needle for injection laryngoplasty with an optical fiber.
- Lightin™ Generator is an AC-powered light source including Light Guide which is a fiber optic cable that transmits light at the tip of fiber optics embedded within Lightin™.
- Lightin™ System used for injection laryngoplasty procedures to indicate the injection site with visible light.

Office-based setting of real-time light-guided vocal fold injection

The injectors consist of a needle (1.5-inch, 23-gauge) and a connector with an optical fiber cable (Fig. 1). When the needle entered the skin and approached the CT membrane, the needle tip was identified by the red light emitted through the subglottic mucosa.

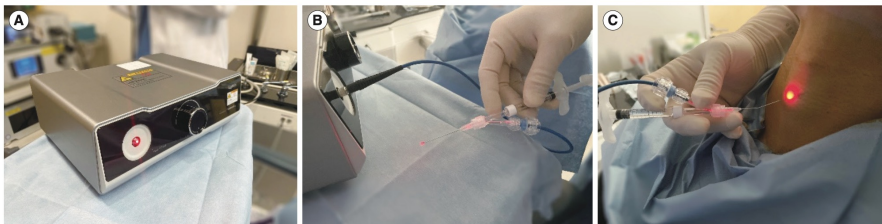


Fig. 1. Office-based setting of real-time light-guided vocal fold injection (RL-VFI). (A) Light generator of the RL-VFI device. (B) Injector of the RL-VFI device. (C) A patient is seated with the chin pointing upward (sniffing position) for the cricothyroid membrane approach. Red light is emitted from the injector.

Ref.: Gene Huh, Pil Geun Jang, Seung Hoon Han, Ramla Talib Mohammad, Woo Jin Jeong, Wonjae Cha. Real-Time Light-Guided Vocal Fold Injection via the Cricothyroid Membrane in Unilateral Vocal Fold Paralysis: A Human Pilot Study. *Clinical and Experimental Otorhinolaryngology* Vol. 15, No. 3:264-272, August 2022

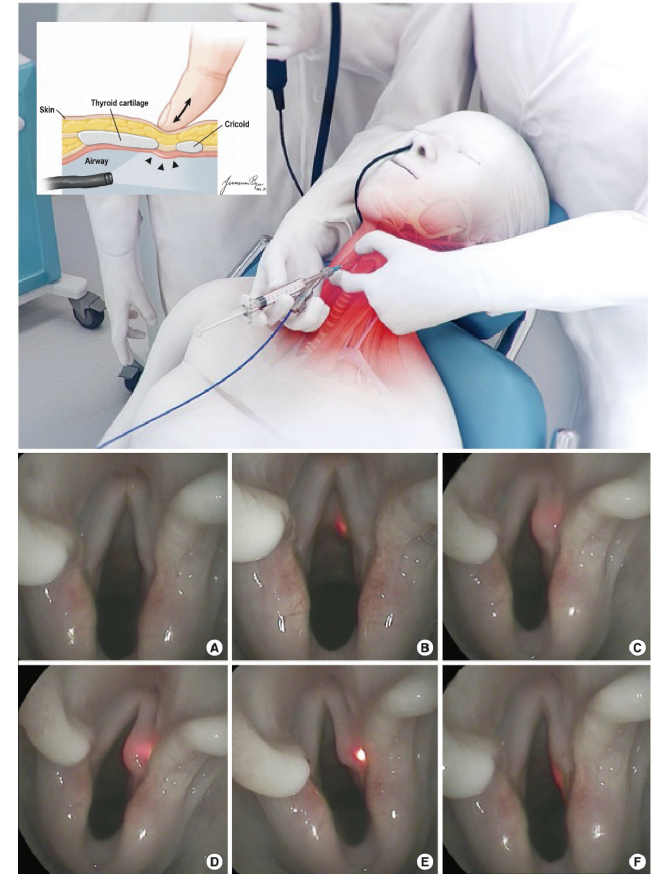


Fig. 3. Identification of the needle tip in the cricothyroid (CT) approach using the real-time light-guided vocal fold injection device. The location of the needle tip can be identified by the red light (A) before the needle insertion, (B) on the CT membrane, (C) in the paraglottic space, (D) lateral to the vocal process, (E) on the mucosa on the superior surface of the vocal fold, and (F) on the medial surface of the vocal fold. The scattering and intensity of the light can inform the depth of the needle in the vocal fold.

Ref.: Hee Young Son, Sanghoon Kim, Ramla Talib Mohammad, Gene Huh, Hyejin Kim, Woo-Jin Jeong, Wonjae Cha. Real-Time Light-Guided Vocal Fold Injection: An In Vivo Feasibility Study in a Canine Model. *Clinical and Experimental Otorhinolaryngology* Vol. 14, No. 3: 338-346, August 2021.

Lightin™ System | Light Guided Injection System

Lightin™ System Features

Lightin™ consists of injection needle, Y-connector and SMA connector/cable. Lightin™ Generator is an AC-powered light source.



Lightin™ and Lightin™ Generator



Lightin™ 23G
(Single Use)



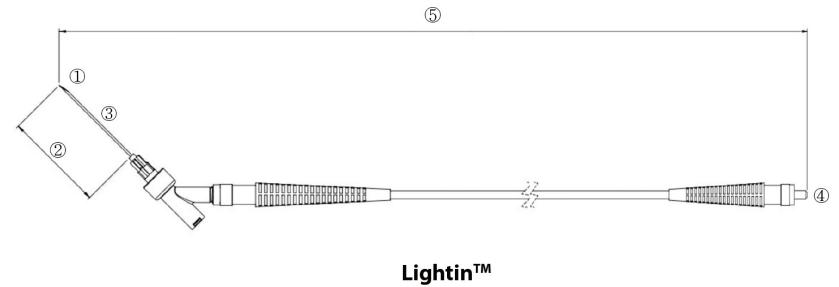
Lightin™ 25G
(Single Use)



Lightin™ Light Guide

Lightin™ Spec.

A single optic fiber was inserted in a needle. A led light module is used as the light source. The needle tip is accurately localized, and the depth from the mucosa could be estimated by the brightness and size of the redlight spot.



(Unit : mm)

MODEL	Needle			Optic Fiber	
	① Outer Diameter	② Length	③ Size	④ Outer Diameter	⑤ Length
LI-23G - 20	0.600~0.673	37	23G	0.125	200
LI-23G - 50					500
LI-25G - 20	0.500~0.530		25G		200
LI-25G - 50					500



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Distributor

Doc No : BR-01(Rev.01)

Lightin™ System Ordering Information

Product	Spec.	Ref. Number	Qty.
Lightin™	Needle: 23G × 38mm Fiber length: 200mm	LI-23G-20	10 EA / BOX
	Needle: 23G × 38mm Fiber length: 500mm	LI-23G-50	10 EA / BOX
	Needle: 25G × 38mm Fiber length: 200mm	LI-25G-20	10 EA / BOX
	Needle: 25G × 38mm Fiber length: 500mm	LI-25G-50	10 EA / BOX
Lightin™ Generator	≤8mW / 625nm	LIG-LD-625	1 SET

• This system does not contain or deliver drugs.

This device has to be used by on the order of a physician.
This material is intended for healthcare professionals.
For detailed product information, including indications for use, contraindications, precautions and warnings, please consult the product's applicable Instructions for Use (IFU) prior to use.

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