Precision meets Quality

LARS Retractor

(Larynx Advanced Retractor System)
Why a new and sophisticated retractor like LARS?

Transoral surgery is gaining more & more popularity among ot-rhino-laryngologists all over the world. Already well established and technologically developed for the treatment of benign lesions mainly of the vocal folds, this is now a widely recognized approach for the treatment of early cancers of the mouth, the pharynx and the larynx.

With this in mind, several attempts have been made for developing a universal scope/retractor enabling to give access to the different parts of the mouth and throat. The basic idea is to have a framework on which different blades or instruments can be easily attached. We have ourselves contributed to the diffusion of one of them some years ago.

Relatively well accepted for trans-oral laser surgery (TLM), the necessity of such a tool is now crucial with the development of the transoral robotic surgery (TORS). Conventional laryngoscopes used for TLM are indeed unsuited for TORS for which the relatively large arms supporting the forceps, the cutting tool and the HD-3D endoscope, must pass through the mouth.

Having observed that the existing instruments were more or less cumbersome, not only in our hands but also in the hands of experienced colleagues, we have been very pleased to collaborate with the Fentex company for proposing some device improvements.

The major modifications implemented in the LARS are summarized below:

- A framework extended horizontally for making the passing of the arms through the mouth easier
- This framework is also bent for a better adaptation to the patient’s face
- Vertical bars easily adaptable to and removable from the framework, for the handling of instruments
- New set of blades
- Two adjustment screws allowing the sliding movement of the blade upward and downward as well as backward and forward.
- Universal connection to the most commonly used chest holders (Fentex, Olympus, Storz, Wolf)

This improved universal retractor which has been designed primarily for TORS is of course suitable for any kind of trans-oral approach. It may be used for the surgical treatment of benign and malignant lesions, including the Zenker’s diverticulum.

We hope that this new retractor will help you as it helps us and we are sure that it will become a very useful tool in your hands improving overall clinical outcome.

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Larynx Advanced Retractor System

Introduction

The LARS (Larynx Advanced Retractor System) represents an open retractor system designed to provide unobstructed access to tumors of the upper aerodigestive tract.

A truly modular design with a large variety of different tongue blades and other accessories makes this retractor system suitable for a wide range of indications in the surgical treatment of oropharyngolaryngeal tumors.

The convex shape and size of the frame itself is adapted to the facial anatomy and provides maximum exposure of the operative field transorally. Ideally suited for TORS (Trans Oral Robotic Surgery) the main retractor frame facilitates the movement of the robotic arms thus reducing set-up time and time for repositioning in the OR.

Advantages

- Larger frame for better accessibility
- Designed to work with the Da Vinci robot
- Easier to use
- Improved modularity (change and adapt during surgery)

Features and benefits

In comparison to conventional operating laryngoscopes the open LARS frame system allows a far better access and visibility of the anatomical region of interest without confining the surgeon to a small laryngoscope tube.

At the same time it considerably improves instrument maneuverability due to its large frame and flexible accessories.

The retractor head holding the tongue blade can be adjusted in multiple directions allowing vertical and horizontal movement as well as angular adjustment of the blade.

All accessories or attachments can be added or changed during surgery without removing the frame from its position.

A summary of features and benefits helping to improve overall surgical performance and patient safety:

- Optimized design with wide frame and convex shape to match facial contour
- Improved accessibility for hand instruments, endoscopes and laser instruments
- Far better visualization of the operating field compared to all known operating laryngoscopes
- Largely reducing risk of missing critical tumor tissue
- A variety of tongue blades to allow optimum access to different anatomical areas
- Attachments including tongue blades can be changed during surgery
- Approved for robotic surgery the Da Vinci robot (TORS)
- Large choice of accessories including evacuation tubes, light-carrier, telescope attachments
- Good stability, connects to the standard chest support (530500FX)
- Easy to assemble and disassemble – truly a modular concept
Larynx Advanced Retractor System

Indications

Management of tumors of the upper aerodigestive tract through a transoral approach. The indication includes access to tumor locations in the oral cavity, oropharynx, hypopharynx, larynx and upper esophagus.

For use in connection with transoral robotic surgery and/or transoral laser surgery.

Short Blades

Mouth and Oropharynx

- Mandibular blade: For the anterior mouth floor, inner cheeks and the frontal glosso-tonsillar furrows.
- Curved tongue blades with aperture: For the tongue base and its critical corners, and the rear glosso-tonsillar furrows.

Long Blades

Larynx

- Long blades are designed for supraglottic regions: laryngeal epiglottis, aryepiglottic fold and endolaryngeal indications.

Hypopharynx

- Long blades may also be inserted to perform surgery in the upper esophagus while the blade is adjusted to its most reclined position. In this case the patient's head remains in a less or non reclined position allowing the cerebral vertebrae to stay out of the operating situs.

Contraindications

Federal (USA) Law restricts this device to use or sale by or on the order of a physician. It is up to the experienced surgeon to select the appropriate tongue blade for a specific indication.

While applying the frame care should be taken to avoid damaging the patients’ dentition.

See also references

Marc Remacle, Nayla Matar, Geroges Lawson and Vincent Bach,
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Eric M. Genden, MD, Shaun Desai, BA, Chih-Kwang Sung, MD, MS
Transoral Robotic Surgery for the Management of Head and Neck Cancer: A preliminary Experience
Wiley InterScience (www.interscience.wiley.com) 2008

Weinstein GS, O’Malley Jr. BW, Snyder W, Hockstein NG.
Transoral robotic surgery: supraglottic partial laryngectomy.
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Application of LARS and adjustments

The Larynx Advanced Retractor System (LARS) connected to a standard chest support.

1. Insertion and Change of Tongue Blades. Choose the correct tongue blade prior to applying the frame and fix the blade with screw A.

2. Adjustments of Tongue Blades. Adjust the vertical position of the tongue blade by turning screw C and the angulation of the blade with screw B.

3. Move the tongue blade close to the palatine support plate (by turning wheel D) before carefully inserting the tongue blade with the palatine support plate into the patient's mouth. Be aware of possible damage to the patient's dentition and use teeth protectors. Gradually move the tongue blade caudally by turning wheel D.

4. Once you have achieved sufficient access connect the retractor handle to the chest support system (part: 540508X) to secure the frames position.

5. Readjust the tongue blade up/down “C” / angulation “B” – / mouth opening “D” to provide maximum access to the operating situs.

6. Insert appropriate cheek holders and pull tight.

7. Apply cross bars to accommodate additional accessories like suction, light carrier or a rigid endoscope.

Frame elements

A Fixation screw for tongue blade
B Screw for tongue blade angulation
C Screw for up- and down movement of the tongue blade
D Wheel for longitudinal movement of the blade head
R / L Right and left side of the frame (marked with R and L)

Complete LARS attached to a chest support.
Larynx Advanced Retractor System

**Basic Frame**

- **540507FX** Larynx Retractor by REMACLE-LAWSON, basic frame with gear drive for vertical blade movement
- **540512FX** Holding Bracket (clip) for cheek retractors (pair)
- **540504FX** Cheek Retractor, working length 40 mm (pair)
- **540509FX** Cheek Retractor, working length 90 mm (pair)
- **540511FX** Cheek Retractor, working length 110 mm (pair)

**Accessories**

- **540512FX** Cheek Holders, for cheek retractor (pair)
- **540528FX** Clip Bar, for light carrier, smoke evacuation tube, grasping forceps or 4 mm scopes
- **540529FX** Retaining Clip, for light carrier, smoke evacuation tube, grasping forceps or 4 mm scopes
- **540545FX** Tumor Garasping Forceps, self retaining
Larynx Advanced Retractor System

Accessories

540560FX  Adjustment Screwdriver for LARS
540508FX  Attachment Connector for chest support
540524FX  Fiberglass Light Carrier only
540525FX  Smoke Evacuation Tube only, ø 4 mm
540526FX  Disposable Suction Tip, Ø 7mm, flexible, for 540525FX (pack of 100)

Tongue Blades

540519FX  Tongue Blade, curved, total length 160 mm
540514FX  Mandibular Blade, curved, total length 140 mm
540516FX  Tongue Blade, curved, with left aperture for tongue base tumors, total length 180 mm
540517FX  Tongue Blade, curved, with right aperture for tongue base tumors, total length 180 mm

All tongue blades with safety stopper.

540519FX  Laryngeal Blade, concave, slightly curved, working length 150 mm, total length 250 mm
540520FX  Laryngeal Blade, concave, slightly curved, working length 170 mm, total length 265 mm
540521FX  Diverticuloscope Blade, concave, slightly curved, working length 220 mm, total length 310 mm
540522FX  Special Blade, working length 135 mm, total length 235 mm
Company Mission

To offer highly valued, innovative solutions to medical needs with a focus on the treatment of patients with head & neck disorders. We fully support the medical profession in achieving optimal results (functionally and aesthetically) when treating their patients.

We support you

- By providing the best quality surgical products at affordable cost
- By establishing and maintaining a technically competent sales and support organization
- By facilitating excellent training and education to all our partners
- By helping surgeons to develop new procedures and products
- By emphasizing what is best for our company as a whole, never sacrificing the quality of our products or services in order to enhance profits.
- By adhering to the highest professional standards in all activities