

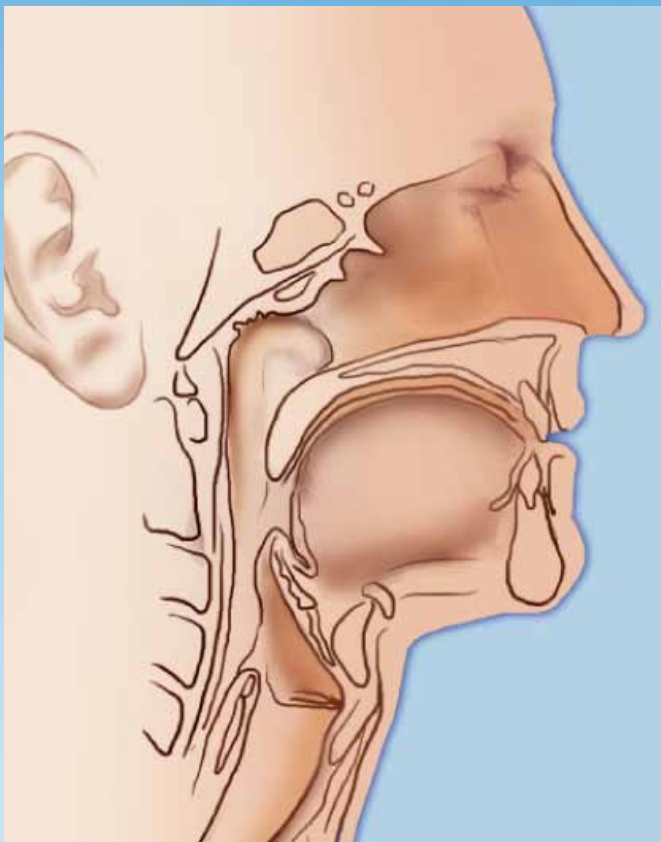


EVOLVE[®]

ENT Surgery

Expand your Range of Applications

EVOLVE®

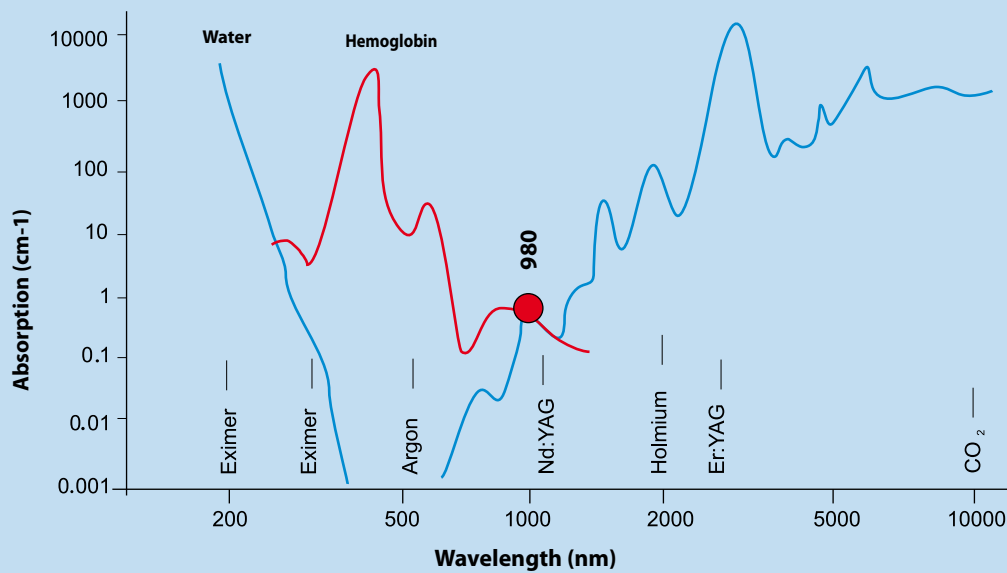


EVOLVE® is an innovative diode laser system with a compact, maintenance-free design for effective and safe use in ENT surgery. Specifically designed for various applications, this sophisticated system by biolitec® offers a wide range of possibilities for minimally invasive laser therapy of ear, nose and throat ailments.

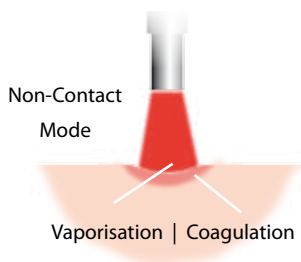
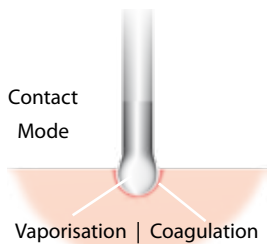
Whether in the OR, out-patient clinic or in private practice - the range of applications can be extended individually according to individual requirements.

Effective, precise, minimally
invasive with dedicated
Solutions in the following Areas:

- Endonasal surgery
- Oropharynx
- Dacryocystorhinostomy (DCR)
- Vascular lesions
- Otology
- Larynx
- Paediatrics
- Treatment of tumors



Significantly better Hemostasis



The wavelength of 980nm has a high absorbance in water and hemoglobin. The thermal penetration depth is less than in the Nd:YAG laser. This allows safe and precise procedures to be performed close to delicate structures while protecting the surrounding tissue. Compared to the CO₂ laser, this special wavelength exhibits a significantly better hemostasis and prevents bleeding during the operation, even in hemorrhagic structures such as nasal polyps and hemangioma.

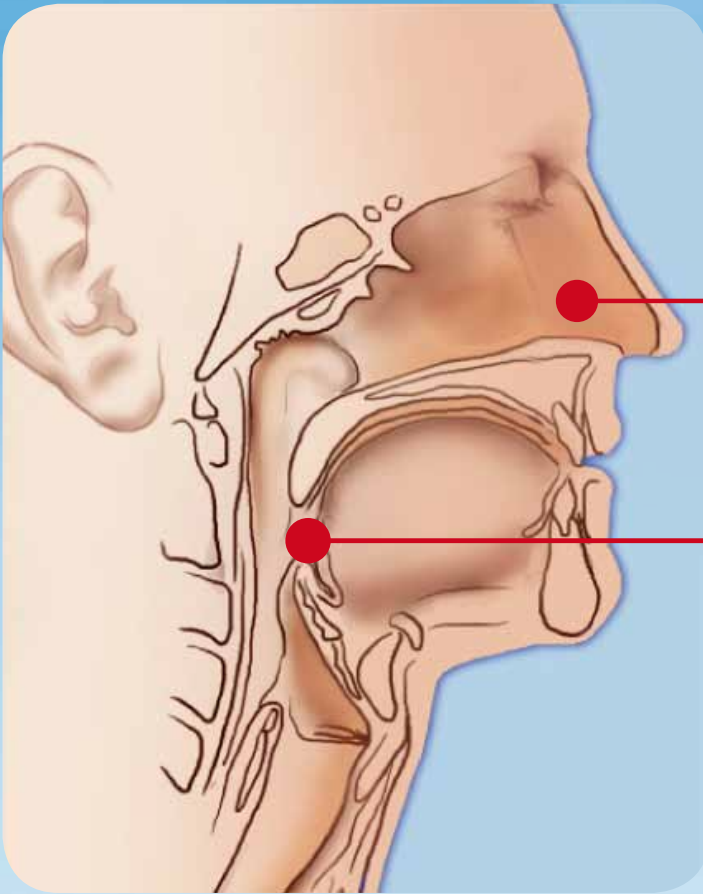
With the EVOLVE® system, precise excisions, incisions and vaporisation of hyperplastic and tumorous tissue can be performed effectively with almost no side effects.

Advantages

- Microsurgical precision
- Tactile feedback from the laser fiber
- Minimal bleeding, optimal in situ overview during the operation
- Few post-operative measures required
- Short recovery period for the patient

High Absorbance in Water
and Hemoglobin

EVOLVE[®] ENT



Areas of Application

- Nasal muscular hyperplasia
 - Septal spur, septal deformation
 - Epistaxis, Morbus Osler
 - Synechias, stenoses in endonasal structures
 - Concha bullosa
 - Paranasal surgery
 - Polyposis nasi et sinuum
 - Cysts, mucoceles
-
- Tonsillotomy
 - Laser assisted Uvulopalatoplasty (LAUP)
 - Partial glossectomy
 - Tumor vaporization

Short Recovery Time with
little postoperative Pain

Application Accessories

- Laser handpiece set with applicators in various shapes and lengths (autoclavable)
- Dual-channel handpiece with additional channel for smoke ventilation (autoclavable)
- Laser fibers of various diameters (220 μ m - 600 μ m), compatible with all commercially available laser endoscopes

Advantages

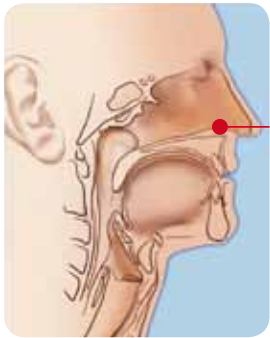
Endonasal Surgery

- Microsurgical precision
- Minimal post-operative swelling of tissue
- Bloodless operation
- Clear view of operating field
- Minimal operative side effects
- Outpatient operation possible under local anesthesia
- Short recovery period
- Optimum preservation of surrounding mucosal tissue

Oropharynx

- Outpatient operation possible
- Minimal invasive, bloodless procedure
- Short recovery time with little postoperative pain

Ambulatory Treatment

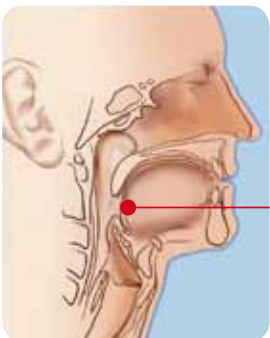


Endonasal Surgery

Endoscopic surgery is an established, modern process in the treatment of nasal and paranasal sinuses. However, due to the strong bleeding tendency of the mucosal tissue, surgical treatment in this area is often challenging. A poor operating field of vision due to bleeding often results in imprecise work; prolonged nasal packing and significant patient and doctor effort is usually unavoidable.

The main imperative in endonasal surgery is to maintain the surrounding mucosal tissue as much as possible. Due to the ideal laser-tissue interaction of the 980nm wavelength, adjacent tissue is protected optimally. This leads to rapid re-epithelialisation of bone areas that had been opened up.

As a result of the good hemostatic effect, precise procedures can be undertaken with a clear view of the operating area. Using the fine and flexible biolitec® optical laser fibers with core diameters of up to 220µm, optimal access to all nasal areas is guaranteed.



Oropharynx

One of the most frequent operations in the oro-pharynx area is laser tonsillotomy in children (Kissing Tonsils). In pediatric symptomatic tonsillar hyperplasias, LTT represents a sensible, gentle and very low risk alternative to tonsillectomy (children up to 6 years of age). The risk of post-operative bleeding is minimal.

The minimal amount of post-operative pain thanks to the shortened period of healing, the ability to perform out-patient operations (with general anesthesia) and the leaving behind of a tonsillar parenchyma are significant advantages of laser tonsillotomy.

Laser-assisted uvulopalatoplasty (LAUP) can be performed for snorers using the EVOLVE® system.

Due to the ideal laser-tissue interaction, tumours or dysplasias can be removed bloodlessly while keeping the adjacent tissue unaffected.

A partial Glossectomy can only be done under general anesthesia in a hospital operating room.

Applications for an Out-Patient Basis
under local Anesthesia

EVOLVE[®] ENT



Dacryocystorhinostomy (DCR)

Hindered drainage of tear fluid, caused by a blockage of the lacrimal duct, is a common condition, particularly amongst older patients. The traditional treatment method is to surgically reopen the lacrimal duct externally. However, this is a lengthy, difficult procedure associated with a high potential for side effects such as strong, post-operative bleeding and scar formation.

biolitec[®] has developed a procedure kit for DCR that makes the reopening of the lacrimal duct a safer, minimally invasive procedure.

The thin cannula with its atraumatically shaped mandrel is introduced once in order to perform the treatment pain-free and bloodlessly. Then, the required drainage is set in place using the same cannula. The procedure can be done under local anesthesia and leaves no scars.

Short Recovery Time with
little postoperative Pain

Application Accessories

Special DCR procedure kit consisting of:

- Laser fiber 220µm or 360µm
- Needle 22G

Advantages

Dacryocystorhinostomie (DCR)

- Atraumatic procedure
- Limited complications and side effects
- Local anesthesia
- No post-operative bleeding or oedema formation
- No infections
- No scars

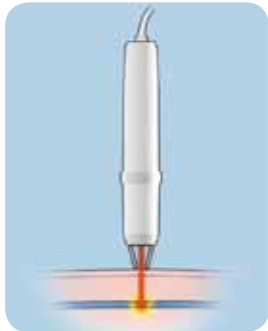
Vascular Lesions, Hemangioma

- Painless treatment, usually no anesthesia required
- Good aesthetic result, often after a single treatment
- Minimal side effects

Ambulatory Treatment

Areas of Application

- Telangiectasia
- Spider nevi
- Hemangioma



Vascular Lesions, Hemangioma

With the powerful EVOLVE® system, aesthetically undesirable vascular lesions such as spider veins and telangiectasias can also be effectively treated. A focusing handpiece and a special Derma mode of the biolitec Laser is used for transcutaneous treatments.

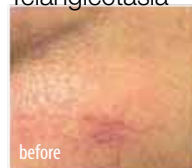
Larger cavernous hemangioma should be treated interstitially. Following puncture using a thin cannula, the laser fiber is introduced and the hemangioma is coagulated at low laser energy in a controlled manner.

Application Accessories

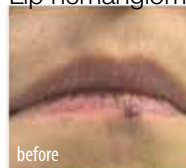
Laser handpiece for the treatment of vascular malformations:

- Different spot diameters: 0.6mm, 1.0mm, 1.5 mm
- Narrow, ergonomically designed grip for precise
- Guidance of the laser beam
- High-quality lens optics for homogeneous energy distribution in the laser spot

Telangiectasia

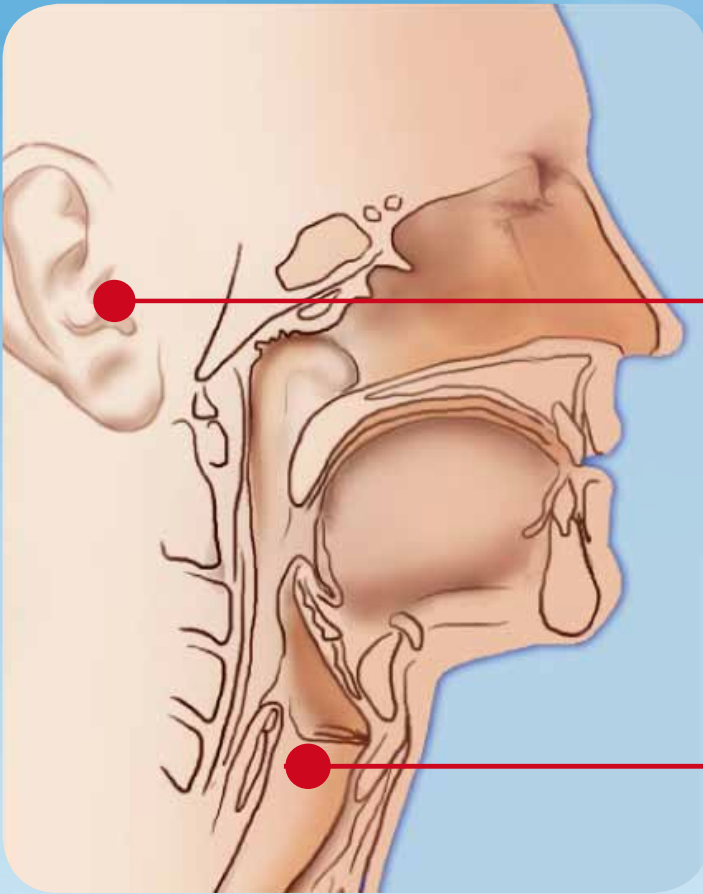


Lip hemangioma



Minimal Side Effects

EVOLVE[®] ENT



Areas of Application

- Stapedectomy
- Myringotomy (Paracentesis)

- Hemangioma
- Congenital and acquired laryngeal stenosis
- Neoplastic stenosis
- Laser eustachian tuboplasty (LETP) with a special micro-endoscope

- Papilloma
- Laryngeal cancer
- Strictures
- Cordectomy
- Arytenoid cartilage vaporisation
- Epiglottectomy

EVOLVE[®] Diode Laser System Applications

Accessories

Otology

- Laser handpiece set with applicators in various shapes and lengths (autoclavable)
- Laser fibers of various diameters (220µm - 600µm), compatible with all commercially available laser endoscopes

Larynx

- Flexible larynx handpiece with a length of 30 cm (autoclavable)
- Special larynx handpiece with additional channel for smoke ventilation (autoclavable)
- Laser fibers of various diameters (360µm - 600µm), compatible with all commercially available laser endoscopes

Pediatrics

- Laser handpiece set with applicators in various shapes and lengths (autoclavable)
- Dual-channel handpiece with additional channel for smoke ventilation (autoclavable)
- Laser fibers of various diameters (220µm - 600µm), compatible with all commercially available laser endoscopes and micro-endoscopes

Clinical Applications



Otology

With its extremely thin laser fiber (220µm), the EVOLVE® system can be used safely and very precisely on delicate structures in the inner ear using the contact method. In contrast to the CO₂ laser using the open beam method, this method almost completely eliminates the risk of laser energy inadvertently affecting other areas. The laser energy is only applied upon laser contact with the target tissue and in very short impulses, resulting in the absorption of all of the laser energy immediately at the tip of the fiber. The thermal damage depth is thus at a minimum.

Laser paracentesis is a minimally invasive bloodless operation which has the advantage of the opening in the eardrum made by the laser remaining open for about 3 weeks. The healing process is much shorter.

Larynx

The main imperative in surgical treatments in the larynx area is to avoid significant scar formation and undesired tissue loss since this can significantly affect phonetic functions. The pulsed diode laser application mode is used here. This way, the thermal penetration depth can be further reduced; tissue vaporisation and tissue resection can be executed precisely and in a controlled manner, even on sensitive structures, while optimally protecting the surrounding tissue.

Pediatrics

In pediatric procedures, surgery often involves very narrow and delicate structures. The EVOLVE® system offers considerable advantages. Using extremely thin laser fibers, such as in connection with a micro-endoscope, even these structures can be easily reached and precisely treated. For example, recurrent papiloma, a very common indication in children, becomes a bloodless and painless operation, with post-operative measures being significantly reduced.

Special Software for surgical
and transcutaneous Applications

EVOLVE®

Ceralas® E Diode Laser



Technical Specifications	CERALAS® E
Wavelength	980 nm
Optical output	15 W or 30 W at the distal end of the optical fiber (7.5 W with a 220µm fiber)
Aiming beam	635nm, 4 mW, brightness adjustable
Operating mode	CW, Pulse Mode
Pulse length / interval	0,01 – 100 sec
Power supply	100 -240 VAC; 50-60 HZ
Dimensions	22 cm x 26 cm x 38 cm /HxBxT
Weight	7.5 kg
For vein treatment extendable	

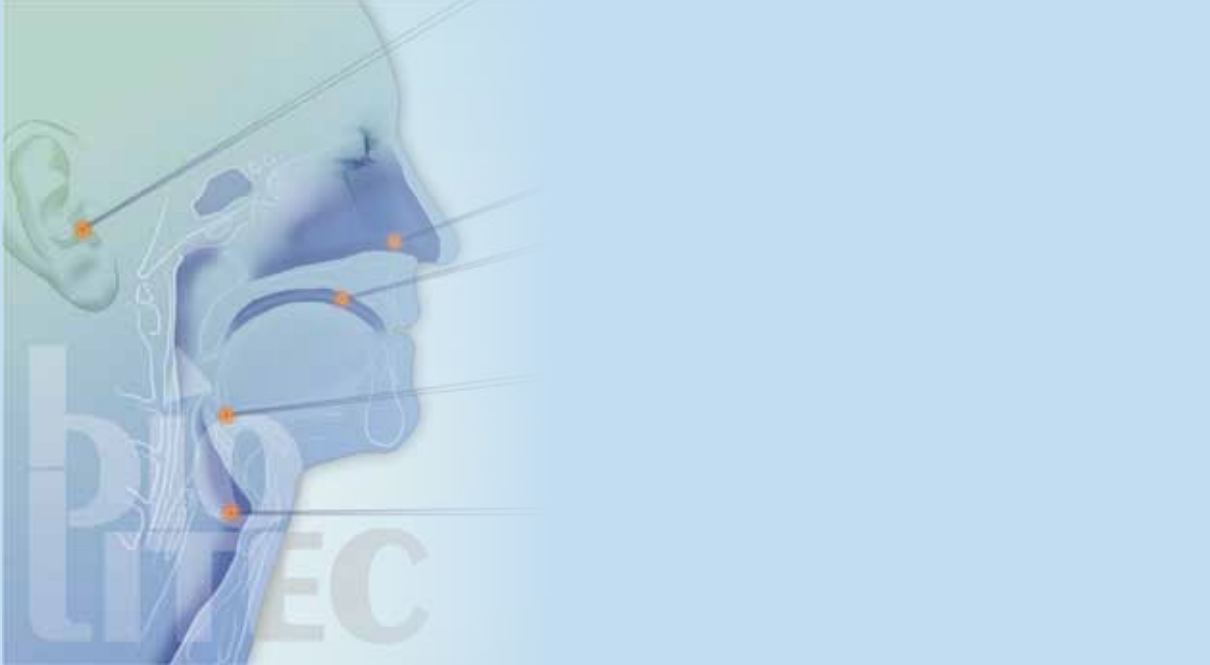
The EVOLVE® complete System by biolitec® offers unique Advantages

- Special software for surgical and transcutaneous applications
- 220µm fiber to be used for microsurgical applications (only 15 watt system)
- Moving system table with drawer and integrated cable channel
- Rapid setup and simple operation via touch screen
- Low running expenses
- Reliable diode technology; maintenance-free
- Compact, portable and ideal for use in clinics and operating rooms
- Standard power connection
- Attractive optional extensions of warrantee period available

EVOLVE® - Complete System

Training and After-Sales Support

biolitec® products are sold worldwide through an extended network of subsidiaries and exclusive distributors. Regular application training and information events are held at training centres with cooperating reference physicians.



Handpieces and Laser Fibers

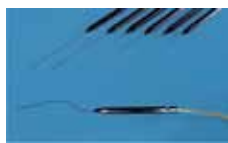




Visible and invisible laser radiation
Avoid eye or skin exposure to
direct or indirect radiation

CLASS 4 LASER PRODUCT

Diode-Laser 980 +/- 30nm CW 30W (MAX)
Diode-Laser 635 +/- 10nm CW 4mW (MAX)
EN 60825-1:2007 IEC 60825-2:2015

CE 1275

CeramOptec GmbH

Accessories	Art. -No.	Description	
Endo nasal Surgery Oropharynx Otology	500 200 008	Standard handpiece set, curved, straight, offset, (autoclavable), Manufacturer biolitec® Inc.	
Pediatrics	AB 1932	Dual-channel handpiece with integrated smoke ventilation (autoclavable)	
Larynx	AB 2099 AB 2122	Flexible handpiece, 30 cm, (autoclavable) Rigid handpiece, 30 cm, with integrated smoke ventilation (autoclavable)	
DCR	501 300 625 501 200 756	DCR Procedure kit (Bare Fiber WF360MDF35DL, Needle 22 G) CERALAS Bare fiber BFF 603 DL-750	
Laser Fiber	501 200 740 501 200 315 501 201 921	Bare Fiber 600µm, Flat Tip , ID(BFF 603 DL) Reusable Bare Fiber 600µm, Flat Tip ID (RBFSF 603 DL, ID (1x3M)) Reusable Bare Fiber 600µm, Flat Tip, ID (10x1h)	

Ceralas® E Diode Laser

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