



PRECISION IN VISION INNOVATION IN HEALTHCARE



| OptiVein |

EVLA | Proctology | TTTS | Cyst Ablation | Perforator Vein Incompetence |
Dentistry | ENT | PLDD | Cosmetic | Urology

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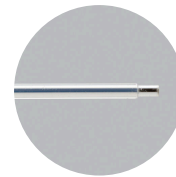
Arkaya Optics: Revolutionizing Surgical Optical Fiber Manufacturing in India

Arkaya Optics was established under the "Make in India" initiative in May 2023.

At Arkaya Optics, our unwavering commitment to the "Make in India" initiative is the cornerstone of our mission. Our products are designed to enhance the accuracy and efficiency of surgical procedures, leading to better patient outcomes. The flexibility and ability to transmit light signals over long distances with minimal loss make optical fibers essential components in modern medical devices.

OPTIVEIN Laser Surgery Fibers Offered in Three Distinct Micron Sizes

Bare tip fibers - 600 micron/ 400 micron/ 200 micron



Medical Application of Energy Delivery:

Fiber optic technology stands at the forefront of medical innovation, empowering surgeons to execute intricate procedures with unprecedented precision and efficiency. By harnessing the capabilities of fiber optics, medical professionals can seamlessly repair organs, diagnose joint conditions, and eradicate diseased tissues, all while ensuring minimal impact on the patient's recovery time.

This revolutionary approach to energy delivery offers a multitude of benefits across various medical specialties. In EVLA (Endovenous Laser Ablation), fiber optic lasers are utilized to address varicose veins, promoting optimal outcomes with minimal invasiveness. Moreover, in general laser surgery, these advanced systems facilitate incision, excision, vaporization, and coagulation procedures with enhanced accuracy and control.

With its ability to precisely target affected areas while minimizing collateral damage, fiber optic technology is revolutionizing the landscape of modern medicine, unlocking new possibilities for improved patient care and treatment efficacy. From varicose vein surgeries to periodontal treatments, from disc herniation interventions to tumor resections, fiber optic lasers offer a versatile solution for a wide range of medical conditions.



BARE TIP FIBER 600/400/200 MIC

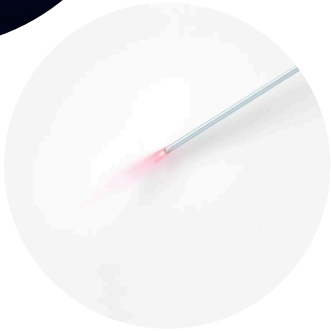
DESCRIPTION

"OptiVein" is surgical laser bare fiber, designed to be compatible with a 905 SMA, and it is specifically tailored for directing laser energy at soft tissue during contact and non-contact minimal invasive surgical procedures. The intended applications include general surgery, Endovenous Laser Treatment (EVLT), and neurology. This product seems well-suited for applications that require precision and controlled delivery of laser energy in medical procedures.

FEATURES

OptiVein is specifically designed for use with Diode Lasers within a wide range of wavelengths 440nm – 2200nm and is compatible with both peak and continuous power ranging from 1 to 300 Watts. The versatility in compatible lasers indicates its capability to handle a variety of surgical requirements. It can be used for various minimally invasive procedures, including incision, excision, tissue dissection, removal of external tumors and lesions, resection of internal organs, tumors, or lesions (complete or partial), tissue vaporization, hemostasis, and coagulation.

OptiVein bare fiber consists of three layers: a core (600 μm), cladding (30 μm), and jacket (150–200 μm). Extraction of the jacket from the distal end of the fibre across a 5–6 mm length exposes the bare cladding and core, enabling precise laser energy direction during surgical procedures.



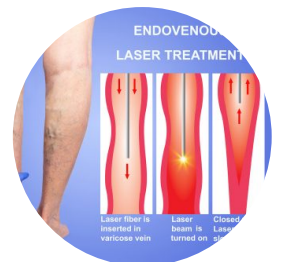
EMMISSION FROM BARE FIBERS

The beam emitted from the surface of a bare fiber can be accurately characterized as a three-dimensional cone / Torch Firing.

APPLICATION

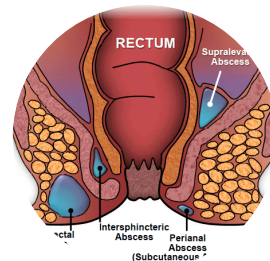
EVLA - TORTUOUS VEIN

Endovenous Laser Ablation is a minimally invasive medical procedure used to treat varicose veins. It involves the use of laser energy to close off a diseased vein. This is often done by inserting the distal end of the bare laser fiber into the vein during the ablation procedure.



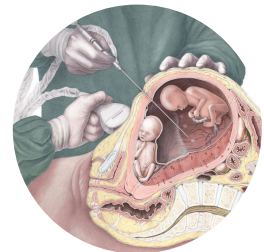
PROCTOLOGY

Proctology is a branch of medicine that deals with the diagnosis and treatment of disorders affecting the rectum, anus, and colon. Tip of OptiVein is employed for delivering laser energy to obliterate hemorrhoidal nodes. This laser treatment is applied internally, potentially through the anal canal or rectum, to address hemorrhoidal nodes.



TTTS LASER SURGERY

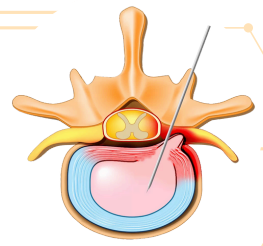
Utilizing the OptiVein bare fiber with a diameter of 600 microns ensures the safe execution of laser surgery for twin-to-twin transfusion syndrome (TTTS), resulting in a notable enhancement of survival rates and neurological outcomes when compared to conventional amniodrainage procedures.



PLDD

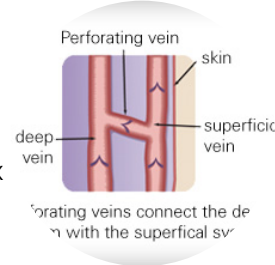
PLDD is a minimally invasive procedure used to treat herniated intervertebral discs. OptiVein bare fibers are employed in PLDD procedures to treat herniated intervertebral discs. The specific design and diameters (600 microns /400 microns) of the bare fibers contribute to their suitability for delivering laser energy with precision during the decompression process.

A needle is percutaneously (through the skin) inserted into the affected area of the intervertebral disc. The OptiVein bare fiber is then threaded through the inserted needle. The fiber, with its bare tip, is designed to deliver laser energy precisely to the targeted area within the intervertebral disc. The laser energy is used to burn or ablate the nucleus pulposus, which is the inner, gel-like substance of the intervertebral disc.



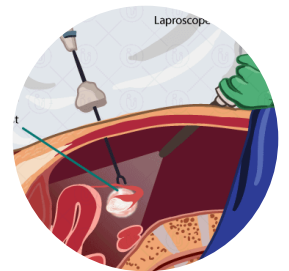
PERFORATOR VEIN INCOMPETENCE

Inadequate function of perforator veins can lead to discomfort, alterations in skin appearance, and the development of ulcers, warranting timely intervention. The OptiVein bare fiber, with a diameter of 400 microns, is specifically designed for minimally invasive management of superficial vein incompetence and reflux in the lower extremities, including the treatment of incompetent perforator veins characterized by reflux.



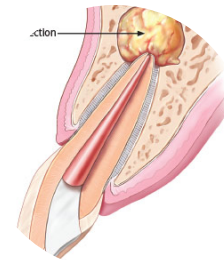
CYST ABLATION

Cyst ablation refers to the removal or destruction of cysts, which are fluid-filled sacs, through medical intervention. The OptiVein bare fiber is specifically employed for the ablation of cysts during gynecological surgeries. The choice of the OptiVein bare fiber for cyst ablation suggests a focus on precision and controlled delivery of laser energy. This is crucial in gynecological surgeries to minimize damage to surrounding tissues and organs while effectively treating the targeted cysts.



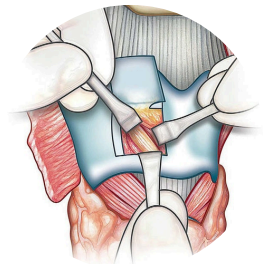
DENTISTRY

OptiVein fibers are used in Dentistry as well. The application of optical fibers in dentistry often involves the use of lasers for various dental procedures like soft tissue surgery, Preodontal Treatment, Endodontic Procedures, Teeth Whitening, lesion removal etc. The bare fiber design allows for direct and precise delivery of laser energy, making it suitable for various dental procedures requiring accuracy and control, reduce discomfort, and enhance precision in various clinical applications.



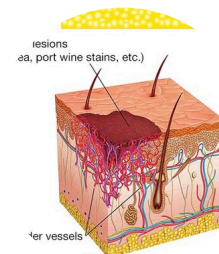
ENT

Use of optical fibers in Ear, Nose, and Throat (ENT) surgeries suggests its application in delivering laser energy for various procedures within the field of otolaryngology. These procedures include Laryngeal Surgery, Otolgic Surgery, Nasal Procedures, Pharyngeal Surgery, Head and Neck Surgery and Laser Tonsillectomy. OptiVein bare fiber design allows for the direct and targeted delivery of laser energy, which can be crucial in ENT surgeries that require precision and control. The specific applications would depend on the type of laser system used, the wavelength of the laser, and the requirements of the surgical procedure.



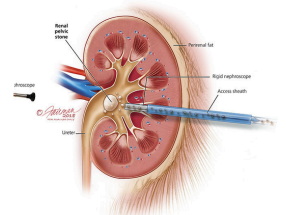
COSMETIC

OptiVein's bare tip laser surgery optical fibers redefine cosmetic treatments by offering unparalleled precision and versatility. These advanced fibers allow for precise targeting of cosmetic imperfections such as pigmentation, scars, and vascular lesions, resulting in superior outcomes and minimal downtime for patients. Whether used for skin resurfacing, hair removal, or vascular lesion treatment, OptiVein's innovative technology ensures optimal results, making it a preferred choice among cosmetic practitioners.



UROLOGY

OptiVein's advanced bare tip laser surgery optical fibers are tailored to meet the demanding requirements of urological procedures. Specifically designed for urological applications, these fibers enable surgeons to efficiently target and address issues such as benign prostatic hyperplasia (BPH), kidney stones, and urethral strictures. With OptiVein, urologists can confidently navigate complex anatomical structures, delivering optimal outcomes and improving patient care in the field of urology.

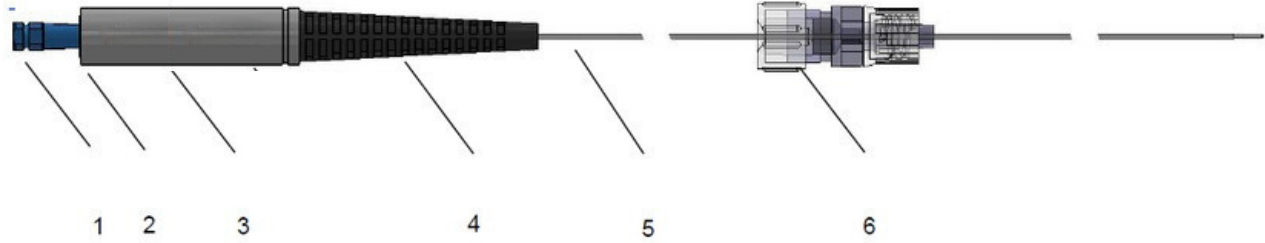


CONTACT

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FIBER SPECIFICATIONS

AO-600 HPCS / AO-400 HPCS / AO-200 HPCS



- 1 Protective cap
- 2 Standard SMA 905 connector
- 3 Extension sleeve (silver)
- 4 Bend Protection (boot; black)
- 5 600µm, 400 µm, 200µm low OH silica fiber
- 6 Luer lock Adapter

DEVICE FEATURES:

Length: 2.5m ± 0.2m
Connector: SMA 905 Standard
Distal end: Flat fiber tip

OPTICAL:

NA: 0.37 ± 0.02
Core: Ø 600µm ± 2%
Clad: Ø 630µm ± 3%
Buffer: Ø 950µm ± 5%
Buffer material: cleartefzel

NA: 0.37 ± 0.02
Ø 400µm ± 2%
Ø 430µm ± 2%
Ø 730µm ± 2%

NA: 0.37 ± 0.02
Ø 200µm ± 2%
Ø 230µm ± 2%
Ø 530µm ± 2%



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