

## **Medical Fiber Optics Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)**

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### **Report description:**

The medical fiber optics market is projected to register a CAGR of 5.7% during the forecast period (2023 - 2028).

The initial phase of the pandemic has had a substantial impact on the growth of the medical fiber optics market owing to the significant decline in volumes of surgical treatments, especially elective surgeries such as ophthalmic, cosmetology, and dentistry laser-based procedures. These treatments were classified as non-urgent procedures and were either postponed or delayed during the outbreak to curb the spread of the SARS-CoV-2 virus. For instance, according to the article titled "Access to Eye Care During the Covid-19 Pandemic" published in National Center for Biotechnology Information in February 2021, it has been observed that the patient numbers visiting eye care hospitals fell to a mere 3.5%. In addition, during the COVID-19 epidemic, a backlog of approximately half a million endoscopic operations, critical for identifying gastrointestinal malignancies and illnesses, built up significantly. Furthermore, according to the article titled 'COVID-19 Backlog of Half a Million Endoscopies and Rising' published in March 2020, 476,000 backlogs were estimated by the researchers in January 2021. That number might climb to more than 870,000 if there is another full or partial lockdown and a slow return to normalcy. Such backlogs by the outbreak of the pandemic is expected to drive the demand for the endoscopy procedures during the post-pandemic period, thereby contributing to the growth of the market.

Likewise, according to an article published in the National Center for Biotechnology Information in 2021, titled "Laser Vision Correction in the United States," the practice of laser vision correction changed as a result of the forced closures of elective LVC clinics due to the COVID-19 outbreak from late March 2020 to a delayed reopening in early June 2020. Approximately 65% of laser eye surgeries were postponed due to the pandemic. As a result, such procedures dropped drastically, ultimately hampering the demand for medical fiber optics within healthcare settings. Since these fiber optics play a crucial role in several surgical procedures for illumination, image transfers, and laser signal delivery, the decrease in elective surgical procedures greatly

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hampered the market growth in the initial phase of the pandemic. However, introducing COVID-19 vaccines and the gradual relaxation of pandemic restrictions globally have recommenced elective and emergency treatments worldwide. With resumed procedures, the demand for medical fiber optics across medical settings will likely increase over the coming years. For instance, in April 2022, the Victorian government reported investing USD 1.5 billion to address its growing elective surgery waitlist as part of a catch-up scheme that will increase surgical capacity by one quarter. The COVID Catch-Up Plan aims to increase capacity to 125 percent by 2023, with 40,000 additional surgeries scheduled for the following year. Therefore the rise in the number of surgeries is also expected to drive the growth of the medical optics owing to the extensive usage in surgeries, thereby contributing to the growth of the market.

Furthermore, the constantly evolving healthcare infrastructure, widespread use of technologically advanced medical devices, the rising prevalence of chronic diseases like cancer, an increase in endoscopic operations for diagnostic and therapeutic purposes, and increasing adoption of minimally invasive procedures are all projected to fuel market growth. Lasers are widely employed in cosmetology and dentistry, and numerous research studies on biomedical sensors are being done. Laser technology deployed across hospitals uses medical fiber optics to provide benefits such as faster recovery, shorter hospital stays, decreased blood loss, and lower overall body pain resulting from smaller incisions. Thus, a surge in the number of laser procedures will, in turn, bolster the demand for medical fiber optics across the globe. For instance, according to the 2020 Plastic Surgery Statistics Report, in the United States, approximately 757,808 hair removal procedures were performed, and around 168,682 people opted for laser treatment for leg veins; 997,245 people opted for laser skin resurfacing procedures, and 199,945 people opted for laser tattoo removal.

Thus the above-mentioned factors are expected to drive the growth of the market during the forecast period. However, the high cost of medical fiber optics and the low adoption rate in emerging and underdeveloped countries will likely limit market expansion.

#### Medical Fiber Optics Market Trends

##### Endoscopic Imaging Segment Is Expected to Garner a Significant Share Over the Forecast Period

By application, the endoscopic imaging segment is anticipated to garner a significant market share over the forecast period. Endoscopic imaging techniques are non-surgical treatments that use a flexible tube and a camera with a light to allow a physician to examine a patient's body. Fiber optics powers this equipment. It contains two fiber-optic bundles, one that provides adequate body lighting and the other that delivers the image to the video monitor or into an eyepiece. The higher number of fiber-optics delivers a considerably brighter light to the physician and enables more color to be seen than with a standard filament lamp endoscope.

Endoscopy is becoming more popular in hospitals since it decreases risk by allowing for better diagnosis via direct imaging of the affected area. Endoscopic imaging is also less invasive than other diagnostic and therapeutic alternatives, which reduces expenses by reducing hospital stays. Thus, growth in the number of endoscopic procedures such as bronchoscopy, colonoscopy, laparoscopy, and thoracoscopy, among others, is likely to drive the demand for medical fiber optics for better illumination and detection in the coming years. Furthermore, an article titled "Single Fiber Endoscope " published in January 2021, mentioned that advances in fiber optic systems led to the development of flexible endoscopes, enabling high-resolution images of narrow sections of the body and reducing the number of biopsies required for a specific diagnosis. Such Advantages provided by the fiber optics in endoscopy is expected to drive the demand for the growth of the mstudied segment during the forecast period.

Additionally, the advantages of medical fiber optics over traditional light sources used in endoscopy are increasingly boosting their adoption across healthcare settings. For instance, optical fibers remain unaffected by electromagnetic interference (EMI), are non-hazardous, chemically inert, and innately safe. Their usage will not trigger interference with the traditional electronics in

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medical theatres. Thus, the benefits of medical fiber optics in endoscopic procedures will likely augment the segment's growth over the analysis period.

In addition, technological breakthroughs such as fiberscopes and video-assisted endoscopes, as well as raising awareness of the early diagnosis of disease and the benefits related to minimally invasive diagnostic procedures, are further propelling the growth of the medical fiber optics market for the endoscopic imaging segment.

#### North America is Expected to Have the Significant Market Share

North America is anticipated to hold the major market share over the forecast period owing to the rising prevalence of chronic diseases, increasing demand for endoscopy procedures, growing awareness about minimally invasive treatments, and key regional players.

The rising prevalence of chronic diseases such as cancer, and cardiovascular and gastrointestinal diseases, which increase the demand for endoscopic operations, is likely to boost the market growth in the region. For instance, according to GLOBOCAN, 2020, around 2,281,658 new cancer cases were diagnosed in the United States in 2020, with 612,390 fatalities. In addition, according to an article published by the American Family Physician in 2021, laparoscopy procedures are returning to their pre-pandemic levels in 2021, owing to increasing demand in late 2020 or early 2021 to address postponed surgeries, which will ultimately boost the adoption of medical fiber optics across medical settings for better illumination. Similarly, the increasing demand for minimally invasive and non-invasive procedures, advanced healthcare infrastructure, and continuous integration of innovative technologies making use of optical fibers in various fields, including cosmetology and dermatology, such as skin tightening, and face lifting procedures, are also likely to contribute to the growth of the market. For instance, according to the statistics published by the American Society of Plastic Surgeons in the Plastic Surgery Report 2020, the United States reported 234,374 facelifting procedures in 2020. These include surgeries as well as minimally invasive procedures which employ the medical fiber optics in the surgical procedure, thereby contributing to the growth of the market.

Moreover, the presence of key players focusing on developing and expanding their medical fiber optics portfolio is expected to positively impact the market growth in North America. For instance, in April 2022, Honeywell announced the expansion of its Spectra Medical Grade (MG) Biofiber portfolio with a blue-hued fiber that provides a strong visual aid to distinguish between multiple suture sets in complex surgeries. This enables healthcare professionals to operate more accurately by creating clear color contrast and can lead to greater safety and comfort for patients.

Thus, the rising incidence of chronic diseases and the presence of key players are increasing the demand for medical fiber optics in the coming years.

#### Medical Fiber Optics Market Competitor Analysis

The market is moderately competitive with the presence of many players. As a result, players focus on developing advanced monitoring systems, technology and sensors, cost reduction, and innovation to ensure sustainability. Some major players are Integra Lifesciences Corporation, Coherent Inc., Molex, LEONI AG, and Schott AG.

#### Additional Benefits:

- <li> The market estimate (ME) sheet in Excel format </li>
- <li> 3 months of analyst support </li>

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