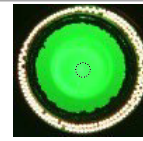


OK Fiber Technology Co., Ltd. is a venture company originated from the National Institutes for Quantum and Radiological Science and Technology. Building on the advanced composite optical fiber technologies developed at the National Institutes for Quantum and Radiological Science and Technology, we conduct research and development for medical and industrial applications, creating new value for the world.

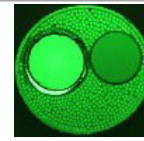
Composite Optical Fiber

The composite optical fiber enables simultaneous transmission of laser beams and optical images. By integrating different types of optical fibers into a single coaxial structure, it eliminates optical misalignment and facilitates miniaturization.

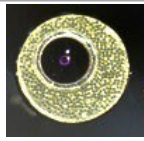
Composite Optical Fiber Tip



Coaxial Type

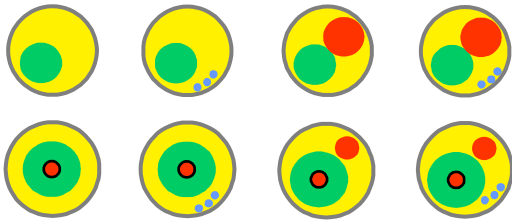


Parallel-Axis Type



Ultra-Thin Type

Composite Fiberscope Cross-Section (Schematic)

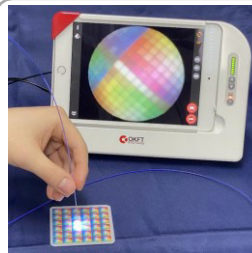


Cross-Section

Integrate laser-delivery fiber and image-transmission fiber into a single coaxial structure

- Fiber for cauterization laser
- Fiber for PDT laser
- Fiber bundle for blood flow measurement
- Fiber bundle for lighting
- Fiber bundle for viewing

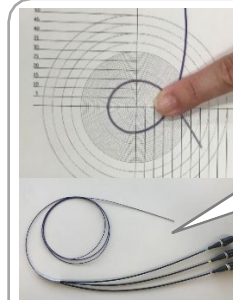
Portable endoscope



Portable system with battery-operated light source

Patents: JP 7040729, etc. (Patents granted in Japan)

Flexible Fiberscope



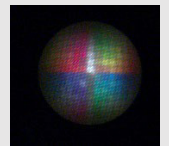
Flexible fiberscope with laser transmission

Overall Length: ~2.5m
Outer Diameter: ~1mm
Minimum Bend Radius: R15mm

Fiber Tip

- for imaging
- for lighting
- for laser

Example Endoscopic Image

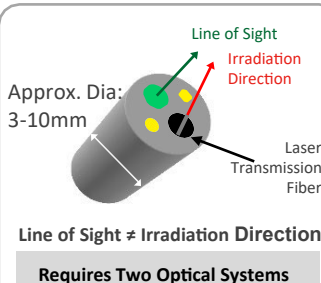


Patents: JP 7302816 ; CA 3,108,250 ; DE 11 2019 004 349 ; ZL 2019 8 0053849.6 ; US 12,193,639 (Patents granted in Japan, Canada, Germany, China, and the United States), etc.

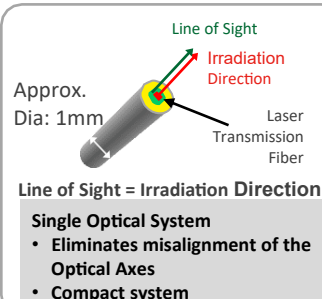
Key Features of the Composite Fiberscope

Developing instruments for minimally invasive and precise laser treatment under direct visualization

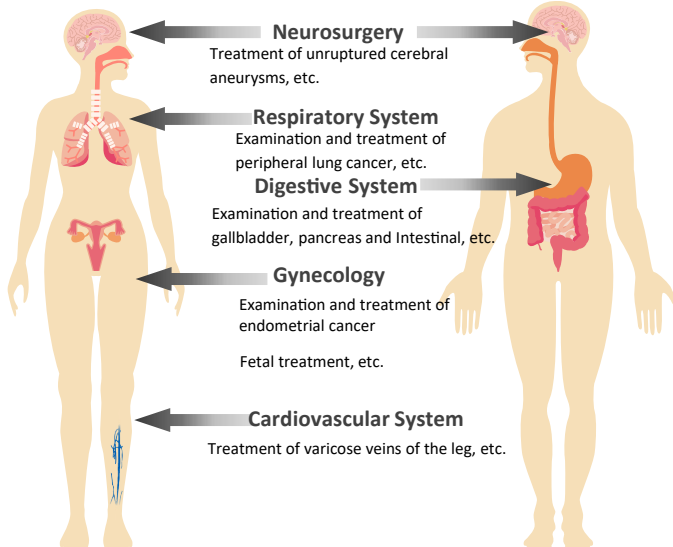
Typical Endoscope Tip



Composite Optical fiber Tip



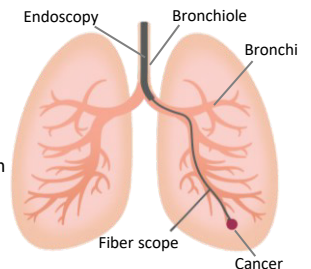
Composite optical fiberscopes are expected to have a wide range of applications in various medical fields.



Medical Applications

Visual Inspection of Peripheral Airways

We have developed a 1-mm-diameter composite optical fiberscope capable of both visualization and laser treatment in the peripheral lung regions. This scope enables access to the alveoli, which conventional bronchoscopes were unable to reach, thereby allowing visualization of the entire airway from the central bronchi to the alveoli. Moving forward, we aim to apply this approach to more efficient biopsies and therapeutic interventions for tumors.

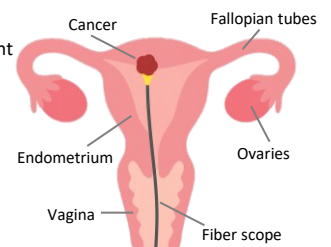


Peripheral Lung Cancer Treatment

Our optical fiberscope enables insertion, visualization, and laser treatment in the peripheral lung regions. By providing access down to the alveoli, it allows accurate navigation to peripheral lung cancers and precise laser delivery under direct visualization, thereby offering a promising new platform for minimally invasive laser therapy.

Intrauterine Examination and Treatment

Our composite optical fiberscope can be inserted through the cervical canal without cervical dilation, significantly reducing patient burden during diagnostic and therapeutic procedures. With multi-wavelength laser delivery, it enables diagnostic applications such as photodynamic diagnosis (PDD) and therapeutic procedures including ablation/coagulation and photodynamic therapy (PDT).



Contact Information

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