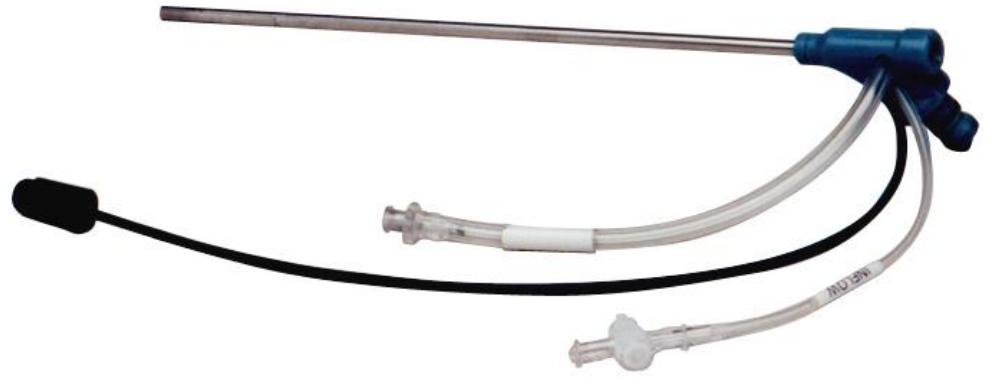


# Case History 17

## Disposable Spine Endoscope



### Market

Neurosurgery

### Client Type

Market leading medical device  
OEM (Medtronic)

### Unmet Need

Single-use, disposable, pyrogen-free operating endoscope for percutaneous discectomy (removal of nerve-impinging disc material through a tiny incision in the back)

### Approach

Replace the conventional lens relay system used in rigid endoscopes with fused fiberoptic image guides and a 3-element, molded plastic objective lens. Incorporate channels for instrument access and flushing of surgical debris.

### Product Features

High resolution 30,000 pixel image guide, wide field-of-view, fiberoptic illumination, inflow and outflow lines, 6fr operating channel, custom quick-release camera attachment, injection molded housing.

### Services Provided by OTI

- Optical design & engineering
- Mechanical engineering, including injection molded part design & vendor sourcing
- Development of assembly methods, including bonding, ultrasonic welding, and optical alignment
- Design & fabrication of assembly & test fixtures
- Complete FDA-compliant documentation set, including all drawings & procedures
- Prototyping
- Verification & validation testing
- Transfer to manufacturing, including training of Production & QA staff

### Customer Comment

*“When we got this contract, we had little experience in medical devices. Optimum Technologies authoritatively guided us through the development of this product every step of the way, from initial product concept through release of our pilot build and signoff of our DMR. We could not have done it without them.”*

- Joe Rokus, Director of Operations, Galileo Electro-Optics  
(provider to Medtronic)

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