OmniGuide’s BeamPath® System
for OTOLOGY AND NEUROTOLOGY
For decades, lasers have provided the only no-touch cutting tool available to surgeons. Of these, CO₂ lasers have always been considered the most safe and precise. CO₂ laser energy is readily absorbed in water, the main component of living cells, leading to minimal thermal spread and collateral tissue injury. Due to its absorption properties, CO₂ laser energy is ten times more effective than KTP for ablation of the ossicular chain. Until recently however, CO₂ laser energy could not be delivered via a flexible fiber, leading many surgeons to utilize less optimal wavelengths such as the KTP or Argon. Surgeons no longer have to choose between the optimal wavelength and the optimal delivery system. OmniGuide’s novel technology, the BeamPath OTO System, enables for the first time flexible delivery of CO₂ laser energy to the delicate structures of the middle ear.

The BeamPath OTO is a hand-held, flexible CO₂ laser system that enables precise otologic surgery. Intuitive handheld design empowers the surgeon to freely direct CO₂ laser energy at any angle and navigate around critical middle ear anatomy. This versatile tool enables standard primary and revision stapes surgery, as well as chronic ear surgery complicated by diseased tissue: cholesteatoma, scar tissue, and adhesions.

The first hand-held and flexible CO₂ Laser for Otology

>> Superior outcomes reported using the CO₂ laser for primary stapes surgery when compared to the KTP laser

>> Recommended for revision stapes surgery

>> 10X more efficient than KTP/Argon for ablation of the ossicular chain

>> Atraumatic tool for no-touch dissection and removal of diseased tissue from healthy anatomy

>> Enables microvascular coagulation

The CO₂ laser has a depth of penetration that is 400 times less in unpigmented tissue and 40 times less in pigmented tissue compared to the KTP/Argon laser.

Adapted from Brown, Dale. Laryngoscope. 2000; 110: 854-867

Clinical Indications

>> Stapedectomy/Stapedotomy

>> Revision Stapes Surgery

>> Ossicular Chain Reconstruction

>> Tympanoplasty/Mastoidectomy

>> Cholesteatoma Removal

>> Glomus Tumor

>> Acoustic Neuroma

>> Myringoplasty

>> Eustachian Tuboplasty

>> Cochlear Implant
**CLASS – CO₂ Laser Assisted Stapes Surgery**

The BeamPath OTO-S fiber’s streamlined geometry enables superior visualization in the confined space of the middle ear. The BeamPath OTO-S is designed for Primary and Revision Stapes surgery and is used to precisely resect the stapes tendon and crus and to safely form a rosette in the footplate. The superficial absorption of CO₂ laser energy in the perilymph may help to minimize the risk of damage to underlying middle and inner ear structures. Thousands of CLASS procedures have been performed using the BeamPath OTO system. These procedures include:

- **Primary Stapedectomy/Stapedotomy**
- **Revision Stapedectomy/Stapedotomy**

Large clinical study reports superior outcomes using the CO₂ laser for primary stapes surgery when compared to the KTP laser:

- 97% of patients treated with the CO₂ laser had post-op ABG ≤ 10dB compared with 92% of patients treated with the KTP laser.
- Frequency-specific ABG outcomes at 4kHz, showed statistically significant improvement with the CO₂ laser compared to the KTP laser.

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**CLEAR – CO₂ Laser Enabled Ablation & Resection**

The BeamPath OTO System offers surgeons a no-touch dissection tool, ideal for use around the delicate structures of the middle ear. The combined cutting, ablation, and microvascular coagulation capabilities of the BeamPath OTO system allow for efficient yet delicate, layer-by-layer removal of diseased tissue. No-touch dissection of diseased tissue, often encountered during chronic ear surgery, can be performed without vibrational trauma to the adjacent ossicular chain. The CLEAR surgical technique is used for removal of diseased tissue during:

- Revision procedures (e.g. Tympanoplasty, Mastoidectomy)
- Tympanoplasty & Mastoidectomy
- Tumor Removal (Glomus Tympanicum, Acoustic Neuroma)
- Ossicular Chain Reconstruction

The handheld BeamPath OTO allows CO₂ laser energy to be used as never before, for:

- Adhesion ablation
- Scar tissue dissection
- Cholesteatoma removal
- Debunking and coagulation of vascular tumors

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The BeamPath OTO-S Fiber

The BeamPath OTO-S fiber’s intuitive handheld design empowers Otologists to direct CO\textsubscript{2} laser energy at any angle and navigate around critical middle ear anatomy. The BeamPath OTO-S fiber’s streamlined geometry and custom handpiece are optimized for primary/revision stapes surgery.

- Small spot size, 0.25mm, for precise cutting
- Compact tip, 0.55mm, for superior visualization
- Superior outcomes reported using the CO\textsubscript{2} laser for primary stapes surgery when compared to the KTP laser\textsuperscript{1}

The BeamPath OTO-M Fiber

The BeamPath OTO-M fiber and handpiece offer surgeons a no-touch dissection tool for atraumatic use around the delicate structures of the middle ear. Combined cutting, ablation, and microvascular coagulation allow efficient yet delicate, layer-by-layer removal of diseased tissue encountered during complex middle ear surgery.

- Compact tip, 0.55mm, for superior visualization
- Continuous wave operation enables efficient cutting, ablation & coagulation
- Enables atraumatic, no-touch dissection of diseased tissue near critical anatomy

TO RECEIVE A COMPLIMENTARY DVD FEATURING DETAILED SURGICAL TECHNIQUES PLEASE EMAIL OTOTOLOGY@OMNI-GUIDE.COM OR CALL 888-666-4484 OR 617-551-8444.

1 Vincent R, Grolman W, Oates J, Sperling N, ROWs M. A nonrandomized Comparison of Potassium Titanyl Phosphate and CO\textsubscript{2} Laser Fiber Stapedotomy for Primary Otosclerosis with the Otology-Neurotology Database. Laryngoscope, 2010 Jan 7. [epub ahead of print].
<table>
<thead>
<tr>
<th>Catalog #</th>
<th>Product Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTO-S</td>
<td>BeamPath OTO-S Fiber</td>
<td>Single pulse fiber for stapes surgery Spot size = 0.25mm, Outside Diameter = 0.55mm Length = 150 cm. Set of 10 fibers.</td>
</tr>
<tr>
<td>OTO-M</td>
<td>BeamPath OTO-M Fiber</td>
<td>Continuous wave fiber for chronic ear/tumor surgery Spot size = 0.25mm, Outside Diameter = 0.55mm Length = 150 cm. Set of 10 fibers.</td>
</tr>
<tr>
<td>OTO-HS</td>
<td>BeamPath OTO Handpiece Set</td>
<td>Includes two OTO-HP-4 handpieces and one autoclave tray.</td>
</tr>
<tr>
<td>OTO-HP-4</td>
<td>BeamPath OTO Handpiece</td>
<td>4 cm working length. Compatible with OTO-S and OTO-M fibers.</td>
</tr>
<tr>
<td>ACC-GFU-100</td>
<td>Gas Filter Unit</td>
<td>100 PSI sterile gas filter units. Pack of 10.</td>
</tr>
<tr>
<td>ACC-GH-1</td>
<td>Nitrogen Gas Hose</td>
<td>8-foot nitrogen gas hose.</td>
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<tr>
<td>ACC-GH-2</td>
<td>Helium Gas Hose</td>
<td>8-foot helium gas hose.</td>
</tr>
<tr>
<td>ACC-SH-510</td>
<td>Helium Gas Cylinder</td>
<td>Helium gas tank (510 liter).</td>
</tr>
<tr>
<td>ACC-SH-290</td>
<td>Helium Gas Cylinder</td>
<td>Helium gas tank (290 liter).</td>
</tr>
<tr>
<td>ACC-GR-SH1</td>
<td>Gas Tank Regulator</td>
<td>Gas tank regulator: 0-200 PSI output pressure. For use with the SH-510 and SH-290 helium gas cylinders.</td>
</tr>
<tr>
<td>ACC-SG-1</td>
<td>Safety Glasses</td>
<td>Laser safety glasses.</td>
</tr>
</tbody>
</table>

For more information or to order call 888-666-4484/617-551-8444 or visit www.omni-guide.com

The FELS-25A Intelliguide laser system is a precision CO₂ laser combined with an OmniGuide flexible fiber beam delivery system. The laser’s operating wavelength is 10.6 μm providing clinically documented safety and efficacy for procedures in the specialties of Neurosurgery, ENT and Gynecology. It offers multiple modes of operation including continuous wave, single pulse, and repeat pulse in both non-superpulse and superpulse modes. And while beam delivery is achieved with the clinically proven OmniGuide flexible fiber system, FELS-25A Intelliguide offers even more value to the operating room experience through advanced automation.

**SYSTEM HIGHLIGHTS INCLUDE:**

- Two modes of operation: Continuous wave and Superpulse
- Three exposure modes: Continuous, Single pulse and Repeat pulse
- Intuitive and easy-to-use touch screen interface
- Programmable settings for simplicity in system set up and operation
- Automated control of cooling helium flow throughout the procedure
- Includes 1 year warranty (extended service options available)

**Touch screen** control simplifies laser operation enabling programmable laser settings and single button actuation. Throughout the procedure, the system maintains a controlled flow of helium through the hollow core laser fiber, ensuring the surgical field is kept clear of blood, smoke and other fluids. The FELS-25A Intelliguide automates and simplifies key laser operations promoting efficiency and safety.
There are three main components of the OmniGuide BeamPath system:

**FIBER ENABLED LASER**
Footswitch actuated, the laser system enables delivery of CO₂ laser energy with power levels ranging up to 20 watts* in continuous pulse and superpulse operation modes.

**FIBERS**
The BeamPath® flexible fibers connect directly to the IntelliGuide laser system and have a hollow core through which CO₂ laser energy and inert cooling gas propagate. The fibers can be used either with a handpiece, or through a rigid or flexible endoscope, to enable access to difficult-to-reach anatomy.

**HANDPIECES**
BeamPath system handpieces are optimized for specific surgical procedures. They are designed to provide the surgeon with control over the fiber's delivery of CO₂ laser energy while maintaining good visibility of target tissue.

The OmniGuide BeamPath system is equipped with various accessories to meet your needs including custom-made sterile laser drapes, gas filter units, and laser safety glasses.

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**FELS-25A SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
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<tbody>
<tr>
<td>Type of Laser</td>
<td>CO₂, RF Excited, air cooled with quiet fans</td>
</tr>
<tr>
<td>Wavelength</td>
<td>10.6 μm</td>
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<tr>
<td>Transmission System</td>
<td>Fiber</td>
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<tr>
<td>Laser Exposure Modes</td>
<td>CW: 1-20W Single Pulse: 40ms-500ms, Repeat Pulse with Ontime: 40ms-500ms</td>
</tr>
<tr>
<td></td>
<td>SuperPulse: 1-10W Single Pulse: 40ms-500ms, Repeat Pulse with Ontime: 40ms-500ms</td>
</tr>
<tr>
<td>Spot size and Divergence at the tip</td>
<td>See fiber product insert</td>
</tr>
<tr>
<td>Control Panel</td>
<td>Intuitive, full color touch screen with 360 articulation, integrated gas management and surgeon presets</td>
</tr>
<tr>
<td>Laser</td>
<td>13.5&quot;H x 20.3&quot;W x 20.8”D (34.3 x 51.6 x 52.8cm)</td>
</tr>
<tr>
<td>Weight</td>
<td>69 lb (31.3 Kg)</td>
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<tr>
<td>Laser Cart</td>
<td>39&quot;H x 22.5&quot;W x 24.5”D (99.1 x 57.2 x 62.2 cm)</td>
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<tr>
<td>Weight</td>
<td>65 lb, (29.5 Kg) (does not include gas tanks)</td>
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<tr>
<td>Electrical</td>
<td>110VAC, 10A, 50 or 60 Hz (220V, 5A, 50 or 60 Hz)</td>
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*Please see OmniGuide fiber product insert.

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