PHYSICIANS AND SURGEONS NEED MORE RELEVANT INFORMATION

Millions of unnecessary, random biopsies with low yield are made every year

Thousands of unnecessary repeat procedures and surgeries are performed
THE MOST RELEVANT INFORMATION IS MICROSCOPIC
REAL TIME MICROSCOPIC IMAGING IS PART OF AN INEVITABLE TREND IN MEDICINE

- Earlier and more precise characterization of tissue
- Fewer unnecessary and costly procedures
CELLVIZIO DELIVERS THE MOST RELEVANT INFORMATION TO THE RIGHT PEOPLE AT THE RIGHT TIME AND PLACE

Cellvizio®
the Fastest Way to See Cancer
Cellvizio provides

✓ Real-time en-face views of the tissue, which correlate very well with histopathology
✓ Microscopic
✓ Instantaneous
✓ Minimally invasive
✓ Compatible with all endoscopes and other access technologies

CELLVIZIO IS A BREAKTHROUGH, WAY AHEAD OF COMPETITION

Protected by over 150 patents
ONE RAZOR, MULTIPLE BLADES FOR DIFFERENT NEEDS

- Gastrointestinal tract
- Pulmonary tract
- Urinary tract
Surveillance and treatment of Barrett's Esophagus\textsuperscript{2-5}

Characterization of pulmonary lesions\textsuperscript{6,7}

Detection of biliary\textsuperscript{8-10} and pancreatic\textsuperscript{11,12,a} cancers

Treatment and monitoring of inflammatory Bowel Diseases\textsuperscript{8-10}

Follow up of colorectal EMR\textsuperscript{15}

Detection and treatment of bladder cancer\textsuperscript{16,b}
A SHORT LEARNING CURVE

- Surveillance and treatment of Barrett’s Esophagus
- Characterization of pulmonary lesions
- Detection of biliary and pancreatic cancers
- Treatment and monitoring of inflammatory Bowel Diseases
- Follow up of colorectal EMR
- Detection and treatment of bladder cancer

Squamous (Healthy)
Cellvizio image of intestinal metaplasia
Cellvizio image of dysplasia
Cellvizio image of adenocarcinoma
CELLVIZIO’S USER INTERFACE IS NOW DESIGNED FOR EVERYONE’S ROUTINE USE

On-board atlas to increase confidence

Intuitive features, automatic sequence selection

Easy sharing within hospital, colleagues and patients

Export to DICOM

QuickReport™

DirectPrint™
MANY PUBLICATIONS SUPPORT THE CLINICAL UTILITY OF CELLVIZIO

250+ Clinical Articles

100 Pre-clinical Articles

500+ Articles on Endomicroscopy
THERE ARE GUIDELINES SUPPORTING THE USE OF CELLVIZIO IN GASTROENTEROLOGY

• ASGE guideline on biliary neoplasia
  • “Confocal laser endomicroscopy is an imaging technology that uses laser illumination to scan 1 focal plane and allows a microscopic view of the surface epithelium and as much as 250 μm of the lamina propria. For biliary imaging, a confocal miniprobe is passed through the channel of a side-viewing endoscope and advanced into the biliary tree. This technology appears to have a useful role in differentiating benign from malignant biliary strictures with performance characteristics to be determined by additional study.”
THERE ARE GUIDELINES SUPPORTING THE USE OF CELLVIZIO IN GASTROENTEROLOGY

• NCCN guideline for colorectal cancer screening
  • “Biopsies can be better targeted to abnormal-appearing mucosa using chromoendoscopy, narrow-band imaging, autofluorescence, or confocal endomicroscopy. Targeted biopsies have been found to improve detection of dysplasia, and should be considered for surveillance colonoscopies in patients with ulcerative colitis”
400 OF THE WORLD’S BEST MEDICAL INSTITUTIONS AND PHYSICIANS USE CELLVIZIO
CELLVIZIO HAS STRONG SUPPORT FROM KEY OPINION LEADERS

- ICCU, a unique multi-disciplinary event now considered a reference scientific meeting
- Strong support of KOLs
- 2014 edition:
  - 261 attendees
  - 30 countries
  - 11 medical and surgical specialties
  - 85 experts

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CELLVIZIO IS ALREADY CLEARED FOR ITS KEY CLINICAL DOMAINS OF APPLICATIONS IN KEY COUNTRIES

GASTRO-ENTEROLOGY

INTERVENTIONAL PULMONOLOGY

ENDOUROLOGY

Regulatory clearances

7 510(k) clearances from US FDA
CE Mark
SFDA clearance in China
MHLW clearance in Japan
ANVISA clearance in Brazil
Proven by 3 Randomized Controlled Trials on 300 patients

1. DONT BIOPCE trial FINAL RESULTS
   multi-center, randomized controlled trial, 101 patients, 2 arms

   Sensitivity **doubled** with Cellvizio over white light

   - White Light: 34%
   - Narrow Band Imaging: 45%
   - With Cellvizio: 68%
   - With Cellvizio: 76%

**Sharma P. et al.** *Real-time Increased Detection of Neoplastic Tissue in BE with pCLE GI Endoscopy, 2011.*
2. MODENA BARRETT’S STUDY
single-center, randomized trial, 100 patients, 2 arms

Dysplasia Detection **tripled** with Cellvizio over white light

- White Light: 10%
- White Light + Cellvizio: 28%

Biopsies could have been avoided for 58% of patients

*Bertani H et al.* Improved detection of Incident Dysplasia by probe-based confocal laser endomicroscopy in a Barrett’s Esophagus surveillance program, *Digestive Disease & Science 2012*
BARRETT’S ESOPHAGUS

3. CEBE TRIAL FINAL RESULTS
multi-center, randomized controlled trial, 192
patients, 2 arms

Diagnostic yield of biopsies **tripled** with endomicroscopy
over white light
Treatment plan improved for 36% of patients

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<table>
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<tr>
<td>HD White Light</td>
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<td>HD White Light +</td>
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<td>endomicroscopy</td>
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**Take-home Message**
- The addition of confocal laser endomicroscopy to high-definition white-light endoscopy enables improved real-time endoscopic diagnosis of Barrett’s esophagus neoplasia, targeted biopsy of abnormal mucosa to reduce unnecessary mucosal biopsies, and potentially reduced costs. It may positively influence patient care by changing the plan for immediate endoscopic management.

*Canto, M. et al.* In vivo endomicroscopy improves detection of Barrett’s esophagus-related neoplasia: a multicenter international randomized controlled trial, *GI Endoscopy 2013*

From the editors of GIE, the official journal of the ASGE
CELLVIZIO OPENS THE BLACK BOX OF BILIARY STRICTURES

In the biliary tree, more than **50% of cancers are missed**

Patients go through **3.1 ERCPs on average before diagnosis**

Cellvizio ERCP registry Final Results
multi-center, 89 patients

Sensitivity of detection **doubled** with Cellvizio

<table>
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<th>Biopsies: 45%</th>
<th>Cellvizio: 98%</th>
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CELLVIZIO IS BRINGING A SOLUTION TO THE PANCREATIC CYSTS MANAGEMENT CONUNDRUM

EUSFNA procedure  EUS image of a cyst

No direct diagnosis method until Cellvizio

Cellvizio image of a serous cyst
Benign

Cellvizio image of an IPMN
Malignant
CELLVIZIO FOR PANCREATIC CYSTS MANAGEMENT: STRONG CLINICAL RESULTS

INSPECT trial final results
multi-center, international, 66 patients

100+ specificity for the characterization of mucinous cystic neoplasms

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<th>Sensitivity of nCLE: 59%</th>
<th>Specificity of nCLE: 100%</th>
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CONTACT Phase 1 study
multi-center, 31 patients

100+ specificity for the characterization of serous cyst adenomas

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Napoléon B, et al. A novel approach to the diagnosis of pancreatic serous cystadenoma: needle-based confocal laser endomicroscopy Accepted for publication in *Endoscopy 2014*
“With efforts under way to increase the usability of this tool through the development of a smart atlas and targeted molecular probes, CLE promises to achieve better surgical outcomes and more effective management for patients with urothelial carcinoma.”


“Our observational survey suggests the existence of specific pCLE characteristics in patients with acute rejection”

Yserbyt MD, Christophe Dooms MD, PhD, Marc Decramer Md, PhD, Geert Verleden MD, PhD, J Heart Lung Transplant
CELLVIZIO’S ACTIVITY IN SURGICAL ONCOLOGY IS GROWING EXPONENTIALLY

- Many new publications
- **23** active investigator initiated studies in surgical oncology:
  - Urology
  - Neurosurgery
  - Colorectal
  - GYN
  - Digestive surgery
  - ENT
  - ...

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**Accepted Manuscript**

Confocal laser endomicroscopy guided endoscopic myotomy
Helmut Neumann, Michael Vieth, Bernard Dallemagne, Jacques Marescaux, Haru Inoue, Silvana Perretta

**Probe-based confocal laser endomicroscopy and fluorescence-based enhanced reality for real-time assessment of intestinal microcirculation in a porcine model of sigmoid ischemia**

Michele Diana · Bernard Dallemagne · Hyunsoo Chung · Yoshihiro Nagao · Peter Halvax · Vincent Agnus · Luc Soler · Veronique Lindner · Nicolas Demartines · Pierre Diemunsch · Bernard Geny · Lee Swanström · Jacques Marescaux

**Review**

Confocal laser endomicroscopy for non-invasive head and neck cancer imaging: A comprehensive review

Muriel Abbac 1,5, Ingrid Breuskin 5, Odile Casiraghi 5, Frederic De Leeuw 1,5, Malek Ferchiou 4,5, Stephane Temam 1, Corinne Laplace-Builh 5,5,5

1 Gustave Roussy, Imaging and Cytometry Platform, IBGN, 114 rue Edouard Vaillant, Villejuif 94805, France
2 Univ Paris-Sud, UMR CNRS 8081-IBGN, Orsay F-91405, France
3 Gustave Roussy, Department of Otorhinolaryngology and Head and Neck Surgery, France
4 *Gustave Roussy, Department of Pathology, France*
CELLVIZIO IS EVOLVING IN ORDER TO FIT THE NEEDS OF SURGEONS

- Recent FDA clearance for Cellvizio 785 nm (near-infrared): compatibility with existing surgical systems now standard of care

![White light](image1)

![Fluorescence @ 800 nm](image2)
COMMUNITY HOSPITALS ARE INCREASINGLY ADOPTING CELLVIZIO

12 customers today:

• Ochsner
• West Jefferson
• Silver Cross
• Northwest
• Livingston
• St Mary’s
• Coliseum
• Columbus Regional
• Valley View
• Augusta Health
• Dubois Health system
• El Camino Hospital

• An active pipeline of 300+ community hospitals
What is Cellvizio®?

Image behavior in REALTIME

Empower your experiments with Cellvizio® is the smallest video-microscope. It offers high-resolution, confocal imaging and provides in vivo & in situ imaging. Neuron activity as it happens in vivo!

Deep network activity monitoring.

Real-time imaging of neurons in animals achieving basic behavioral tasks.

Deep brain imaging in freely-moving mice!

Cellvizio® Laser Scanning Unit

- Confocal Microscope
- 488 and 660 nm excitation beam
- Dual Band excitation/Detection
- Highly sensitive (APD)
- Handy, turn-key, easy-to-use

Cellvizio® Confocal Microprobes

- Designed for different applications
- High Resolution: up to 1.4 µm
- Diameter down to 300 µm
- Flexible

Cellvizio® Acquisition Software

- Real-Time video recording
- Quantification features
- Frame rate 12-200 fps
- LSU control
- Various exports

www.cellviziolab.com
A Wealth of Applications
Visit us at www.maunakeatech.com