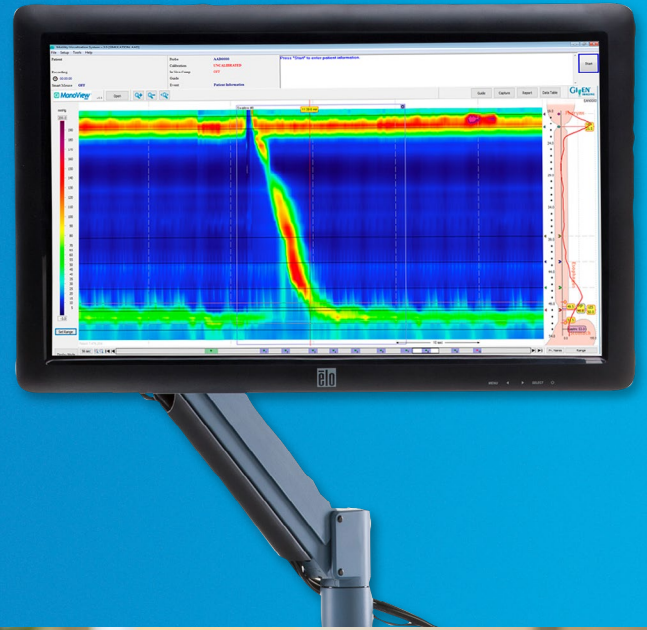
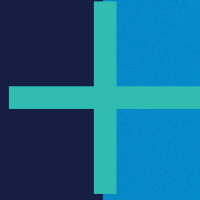


# ADVANCED EVALUATION OF ESOPHAGEAL MOTILITY DISORDERS



Manoscan™ Esophageal Manometry System  
High resolution and 3D esophageal manometry

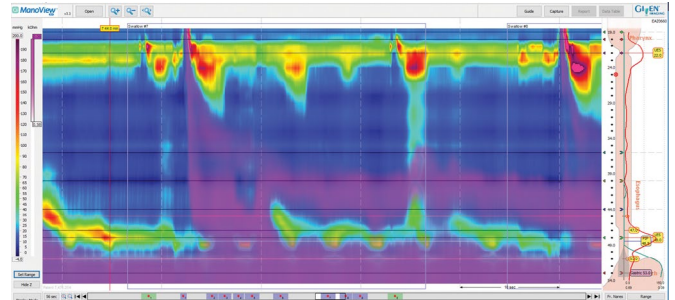
**Medtronic**  
Further, Together

# MULTIPLE SOLUTIONS IN A SINGLE PLATFORM

## ManoScan™ ESO Z module

ManoScan™ ESO Z module and catheter provide circumferential assessment of bolus movement as well as physiological mapping of esophageal motor function.

- Incorporates impedance measurements to **improve the ability to predict the success of failure of bolus movements** through the esophagus
- Maps from the pharynx to the stomach, **with a single placement of the catheter**



## Catheter specifications

High resolution esophageal catheter with impedance:

- 36 channels with 12 measuring points per sensor provide 432 points of measurement
- 18 impedance channels display bolus transition from pharynx to esophagus
- 4.2 mm diameter
- True circumferential sensors
- Part number MSC-1286

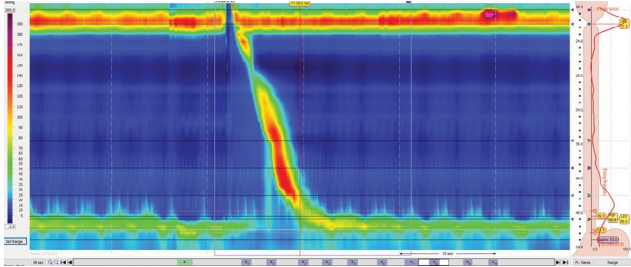




## ManoScan™ ESO module

ManoScan™ ESO module and catheter provide circumferential assessment of bolus movement as well as physiological mapping of esophageal motor function.

- Maps from the pharynx to the stomach, **with a single placement of the catheter**



### Catheter specifications

High resolution esophageal catheter:

- 36 channels with 12 measuring points per sensor provide 432 points of measurement
- 4.2 mm diameter
- True circumferential sensors
- Part number MSC-1286

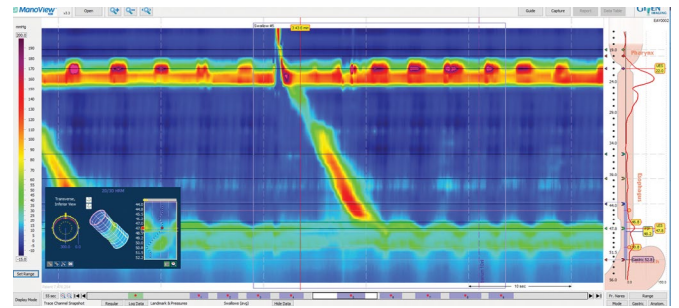
High resolution esophageal small diameter catheter:

- 36 channels with 16 measuring points per sensor provide 576 points of measurement
- 2.75 mm diameter
- Part number MSC-3886

## ManoScan™ ESO 3D module

ManoScan™ ESO 3D module and catheter allow for 3D visualization of the esophagogastric junction (EGJ).<sup>5</sup>

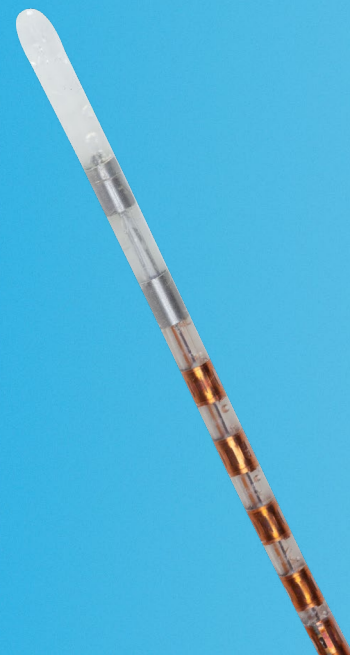
- Includes radial EGJ pressures, length measurement, and symmetry
- Provides information useful for the assessment of EGJ physiology



### Catheter specifications

ManoScan™ 3D esophageal catheter:

- 128 sensor flexible catheter
- 32 HRM sensors/channels
- 96 3D channels (12 axial centers by 8 radial sensing locations)
- 3D sensors located at the distal end of the catheter for lower esophageal sphincter pressure detection with standard intubation placement
- Part number FGS-8001







## ManoShield™ disposable catheter sheath

This single-use, hygienic, catheter protective cover is intended to prevent cross contamination of the catheter and reduce cleaning and disinfection efforts.

- Serves as a **disposable protective outer cover** that is removed and discarded immediately after the procedure
- **Reduces contamination** exposure of staff and equipment post-procedure
- Creates more efficient workflow and **minimizes catheter deterioration** by reduction of manual cleaning and disinfection effort



## ADVANCED IN THE EVALUATION OF ESOPHAGEAL SWALLOWING DISORDERS

The ManoScan™ esophageal manometry system allows you to map, display, and evaluate esophageal motor function. This easy-to-perform procedure precisely quantifies the contractions of the esophagus and its sphincters,<sup>1</sup> providing the clinician with reliable and consistent data for the accurate assessment of GI diseases.

Included with this advanced system are Chicago Classification Three algorithms and automatic findings as well as HIS/HL7 compatibility to support the “meaningful use” requirement.

### Advantages over conventional manometry

- Can be performed in **10 minutes or less** and with minimal specialized training<sup>2</sup>
- Depicts data in spatiotemporal contour plots, **making study interpretation easier**
- **Provides useful information with enhanced sensitivity to aid in the diagnosis** of conditions such as achalasia<sup>3</sup>
- Provides benefit in predicting which patients undergoing evaluation for antireflux surgery are more likely to develop late postoperative dysphagia<sup>4</sup>



### Full featured workstation

Pressure and impedance data are downloaded to the workstation for review and diagnosis. The full-featured ManoScan™ ESO workstation includes:

- Portable cart system
- LCD flat panel touchscreen with articulating arm
- Modular data acquisition controller
- Windows®\*-based operating system
- LAN connection and WiFi-enabled
- Integrated catheter auto-calibration system
- Large lockable wheels
- Patient isolation transformer
- High-speed quality printer

### ManoView™ software

ManoView™ software provides an intuitive suite of manometry study tools, enabling physicians to effectively identify motility disorders

- Procedural tools yield **precise measurement and detailed data analysis**
- **Anatomical profile display** includes graphical pointers to identify landmarks, including LES, UES, and PIP
- eSleeve function **instantly measures and ensures that sphincter barrier pressures** are correctly recorded, despite movement of the LES/EGJ during swallowing
- High-resolution and conventional displays provide **versatile and complete motility visualization**
- ManoView™ software can be installed on any Windows®\*-based computer, enabling clinicians to **review studies remotely**



# MEANINGFUL INNOVATIONS



"The associated benefits of the ManoScan™ ESO manometry system is that you get a more complete picture of esophageal pressure events. You have more data points, you have a bigger data set and acquisition, as well as displays are computerized, so you can use software tools to interrogate different parts of the esophageal pressure profile."

Dr. Gyawali, Professor of Medicine  
Washington University School of Medicine

## Further, Together

Medtronic is proud to partner with physicians, hospitals and institutions in the GI community who share our focus on advancing GI care and improving patients' lives. Together, we can work toward early detection and treatment of chronic GI diseases. For more information, please contact your [medtronic.com/gi](http://medtronic.com/gi)

**Caution:** Federal law restricts this device to sale by or on the order of a licensed healthcare practitioner. Rx only.

**Risk Information:** The risks of catheter insertion into the nasal passage associated with the ManoScan™ ESO high resolution manometry system include: discomfort, nasal pain, minor bleeding, runny nose, throat discomfort, irregular heartbeat with dizziness, and perforation. In rare instances, the catheter may be misdirected into the trachea causing coughing or choking, or the catheter may shift up or down causing false results. Medical, endoscopic, or surgical intervention may be necessary to address any of these complications, should they occur. These systems are not compatible for use in an MRI magnetic field.

Please refer to the product user manual or [medtronic.com/gi](http://medtronic.com/gi) for detailed information.

- References:**
1. Pandolfino JE, Fox MR, Bredenoord AJ, Kahrilas PJ. High-resolution manometry in clinical practice: utilizing pressure topography to classify oesophageal motility abnormalities. *Neurogastroenterol Motil.* 2009;21(8):796-806.
  2. Bansal A, Kahrilas PJ. Has high resolution manometry changed the approach to esophageal motility disorders? *Curr Opin Gastroenterol.* 2010;26:344-351. Page 345, Col1 and Page 350, Col 2.
  3. Kahrilas PJ. Esophageal motor disorders in terms of high-resolution esophageal pressure topography: what has changed? *Am J Gastroenterol.* 2010;105:981-987. Page 986, Col 2.
  4. Mello M, Gyawali CP. Esophageal reflux disease. *Gastroenterology Clinics of North America.* Volume 43, Issue 1, Page 83.
  5. Kwiatek MA, Pandolfino JE, Kahrilas PJ. 3D-high resolution manometry of the esophagogastric junction. *Neurogastro Motil.* 2011; 23(11):e461-469.

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