

**OLYMPUS**<sup>®</sup>

Your Vision, Our Future

**EUS**  
ENDOSCOPIC ULTRASOUND SYSTEM

ULTRASONIC PROBE

**UM-2R/3R**

**Endoscopic Ultrasound System**  
**A New Generation of Endoscopic Ultrasound**



# Transendoscopic Application During Routine Endoscopy Examination

## Broader Application by 2.4mm Diameter, 12MHz/20MHz Ultra-high Definition Scanning

Endoscopic ultrasound has come of age. The growing process has been multidimensional and application has expanded. At the same time, the system has been refined and improved.

The advent of the UM-2R and UM-3R establishes a basic system for routine examination using endoscopic ultrasound which it is anticipated will rapidly become a part of standard diagnostic procedure in more and more medical facilities.

Endoscopic ultrasound was the solution to two major problems: how to provide visual imaging of occluded parts of the body such as tortuous or stenotic sections of the common bile and pancreatic ducts which precluded use of standard endoscopy procedures and how to provide greater definition of abnormal pathological changes in deeper tissue and extraperitoneal structures than was possible with current extracorporeal ultrasonic systems.

Initially, observation and diagnosis by endoscopic ultrasound was confined to specific cases. As standard diagnostic tools, the UM-2R and the UM-3R represent the next logical stage in the developmental process by bringing routine examination with endoscopic ultrasound within the range of all patients.

Technological innovations including reduction in dimensions of the insertion tube and intensification of ultrasonic frequencies have effected major advances in the operational and ultrasonic imaging capabilities of these two models.

Maximum compatibility with existing endoscopy system was a major condition in the development of these ultrasonic probes.

Smooth insertion via the instrument channel of all OLYMPUS fiberoptic and videoscopes with an instrument channel diameter of 2.8mm or more is assured by a very slim 2.4mm exterior in both the UM-2R and the UM-3R. Higher ultrasonic frequencies of 12MHz in the UM-2R and 20MHz in the UM-3R provide greater sonographic definition than ever before.

The OLYMPUS commitment to major technical innovation on all fronts in endotherapy is continually s-t-r-e-t-c-h-i-n-g the capabilities of its endoscopic ultrasound systems beyond current limits and transforming Tomorrow's potential into Today's reality.

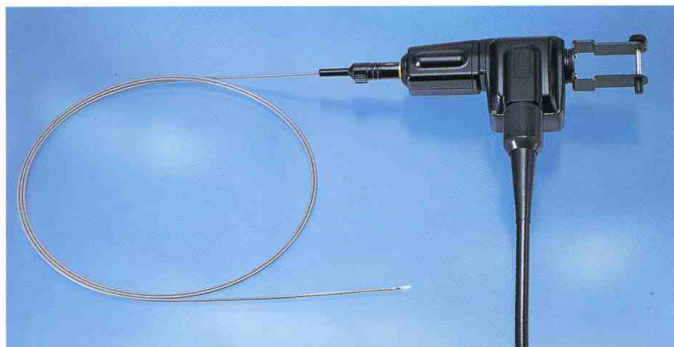
### Optimum Compatibility with All 2.8mm Channel Olympus Videoscopes & Fiberoptic

Complete compatibility with all OLYMPUS fiberoptic and videoscopes having an instrument channel of 2.8mm or more.

The very slim 2.4mm insertion tube easily penetrates even previously hard-to-reach target areas making the UM-2R and UM-3R extremely effective diagnostic tools, particularly in the detection of esophageal carcinoma and carcinoma of the large intestine as well as for monitoring subtle changes in sites of abnormal pathology in the stomach. Following routine examinations, the ultrasonic evaluation can be done in the biopsy-like manner.

### Radial Scanning

The excellent quality of the 360° sector mechanical/radial scanning effected by the transducer-generated ultrasonic beam facilitates orientation within body lumen.



### 20MHz High Definition Sonograms

The very high-definition ultrasound image provided by the 20MHz frequency in the UM-3R permit intensive examination, observation and diagnosis of the most subtle abnormal pathological changes occurring especially in the common bile and pancreatic ducts and the digestive tract.

### Complete Compatibility with the EU-M20/EU-M30 Endoscopic Ultrasound Center

Designed as a completely self-contained unit, the EU-M20/EU-M30 endoscopic ultrasound center is fully compatible with the UM-2R and the UM-3R. Used with probes and the OLYMPUS ancillary equipment of choice, EU-M20/EU-M30 provides fully integrated and comprehensive ultrasonic monitoring facilities as well as eradicating the need for uncoordinated support system.

● The UM-2R may also be used in conjunction with the EU-M3 endoscopic ultrasound center for monitoring purposes.

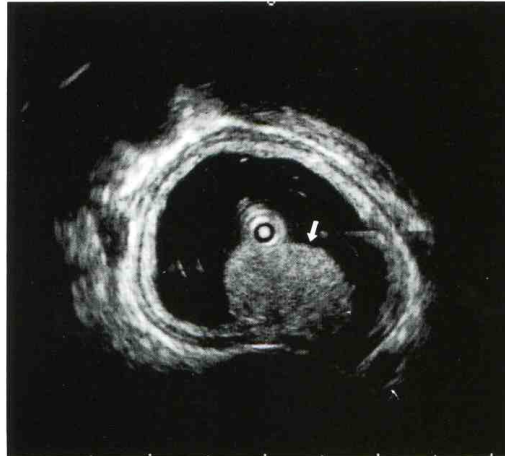
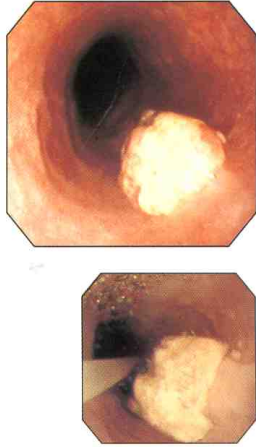
### Completely Waterproof

Caps fitted to connecting sections of the probes make them completely waterproof allowing total immersion in water, disinfectant or sterilizing fluid.

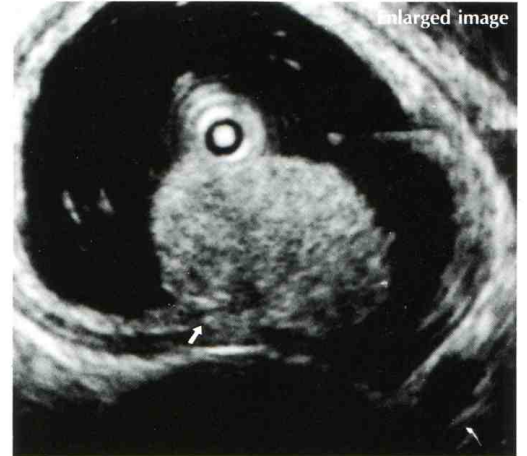


# Diseases of the Upper Digestive Tract

## Esophageal carcinoma

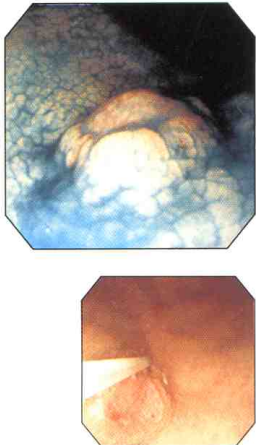


Protruded type esophageal carcinoma. Imaging was achieved using the de-aerated water immersion method. Ultrasonic probe was inserted after deaerated water was pured into the esophagus via the instrument channel. Direct observation of ultrasound sonography was used to identify the area of abnormal pathology and healthy tissue (above.)



A magnified image of the area of abnormal pathology (above.) The tumor has destroyed the third layer and reached the muscularis mucosa (arrowed.) The peripheral lymph node is not affected.

## Early stage of gastric cancer



Sonogram of the abnormal pathology obtained by de-aerated water immersion method (arrowed.)



Infiltration of abnormal pathology to submucosa accompanied by irregular pattern of the third layer submucosa (arrowed.)

## Submucosal gastric tumor



Ultrasonic observation of submusocal tumor accompanied by a depressed lesion in the central area obtained using de-aerated water immersion method.



A sonogram reveals fragmentation of the submucosa in the area of the depressed lesion through localized within the submucosa. Histologically it was a malignant lymphatic tumor.

