OLYMPUS

Solutions for Bronchoscopy

Elevating the Standard of Interventional Pulmonology

#Love
For
Lungs

Contents

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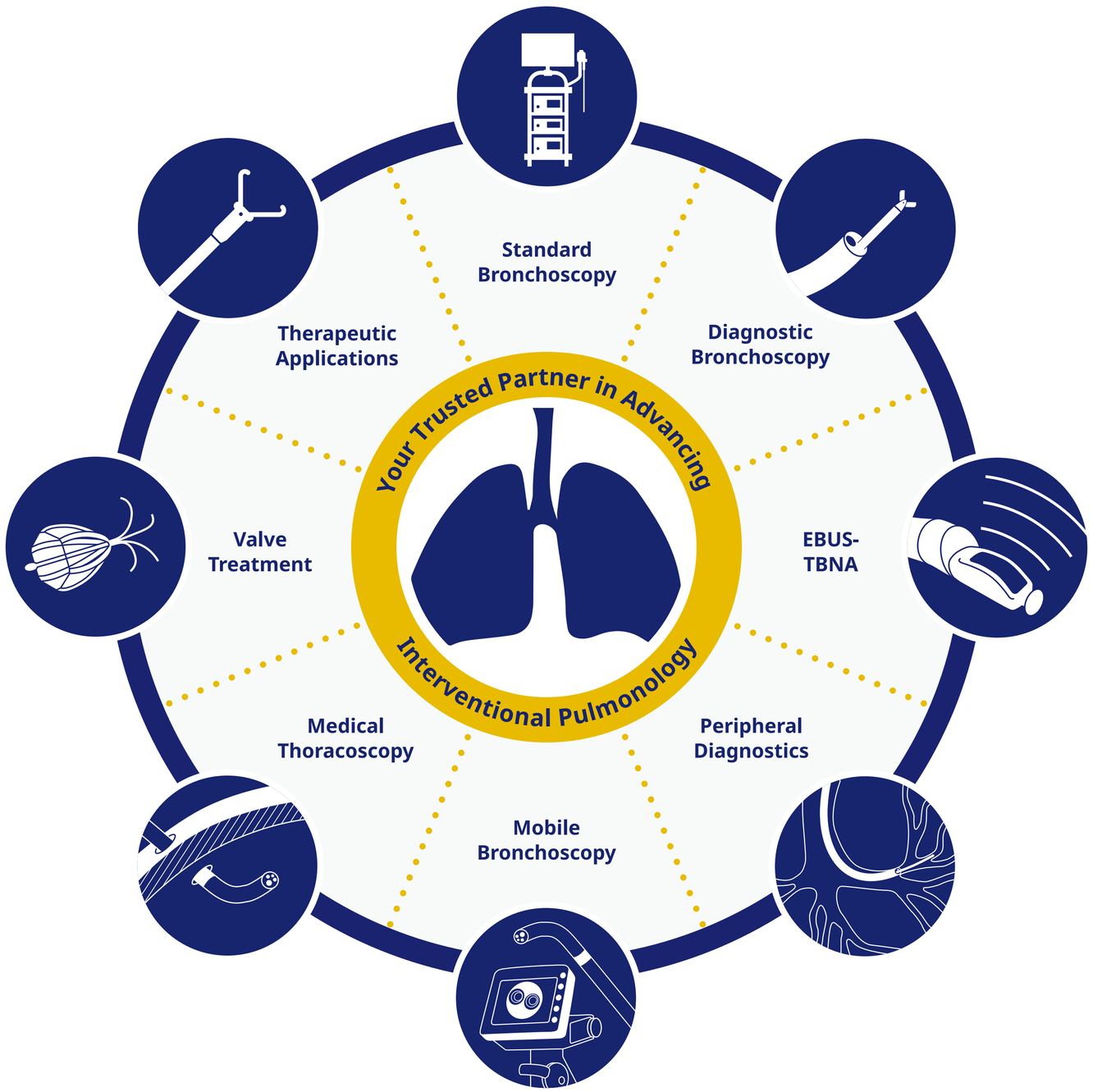
Solutions for Interventional Pulmonology



As the world leader in endoscopy, Olympus provides cutting-edge medical technology to health care professionals around the globe in their quest to elevate the standard in interventional pulmonology.

In the respiratory field, Olympus provides a wide range of innovative solutions — not only bronchoscopes but also solutions for endobronchial ultrasound, peripheral and pediatric bronchoscopy, and a semiflexible thoracoscope for the exploration of the thoracic cavity.

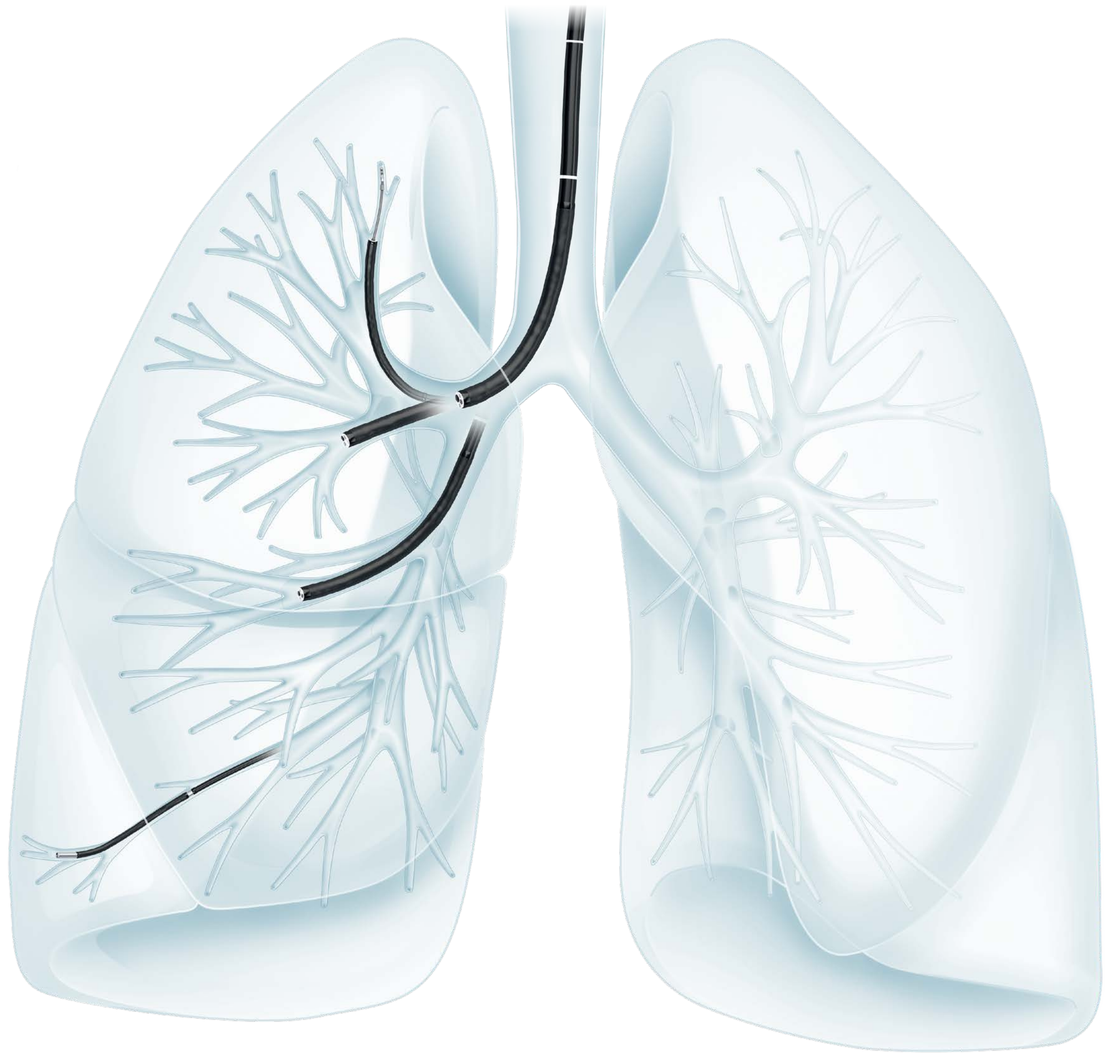
Olympus continually innovates in order to provide the most advanced equipment to support progress in respiratory diagnosis and treatment.

Your Trusted Partner in Interventional Pulmonology

Understanding and Delivering Solutions for Flexible Bronchoscopy Needs

The treatment possibilities of respiratory diseases are increasingly linked to reliable and effective endoscopic diagnostics. Olympus offers the widest portfolio for diagnostic and therapeutic bronchoscopy.

Innovations such as EBUS-TBNA, dedicated solutions for diagnostics of peripheral lung cancer and a portfolio of optical imaging modes (TXI, NBI, RDI) using selected, specific light bands can be applied to conquer the challenging tasks, elevating the standard in interventional pulmonology. Equally important, we have designed solutions to make bronchoscopy more ergonomic and more powerful, for example with the rotation function, touch display, native HDTV image resolution and opto-digital enhancements. Smartly enhanced illumination, tissue texture and color differentiation are broadening the possibilities for interventional pulmonologists.



EVIS X1 — A Unified Platform with Broad Compatibility

One dedicated platform: EVIS X1 merges the two worlds of EVIS EXERA III and EVIS LUCERA ELITE into one — resulting in an extended portfolio of compatible endoscopes.

Elevating the Standard of Bronchoscopy

Ease of Use

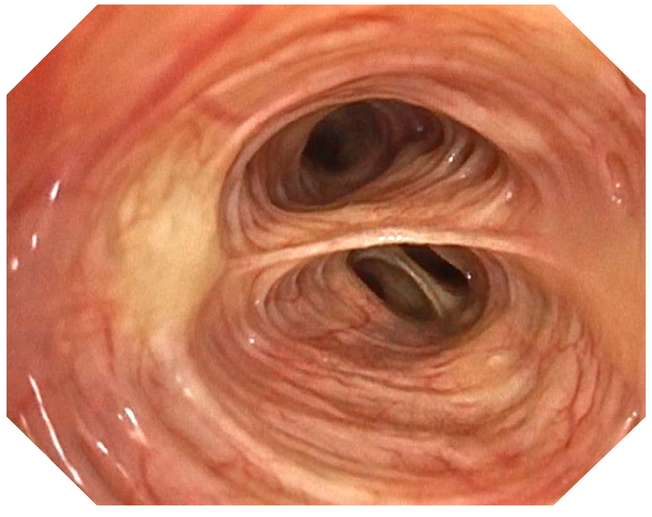
EVIS X1 introduces a range of new, easy-to-use technologies that aim to revolutionize the way pulmonary disorders can be detected, characterized and sampled. We want to support every endoscopist. In every procedure. Every day.

Learn more in the video

EVIS X1

Standard Bronchoscopy

Elevating the Standard of Bronchoscopy



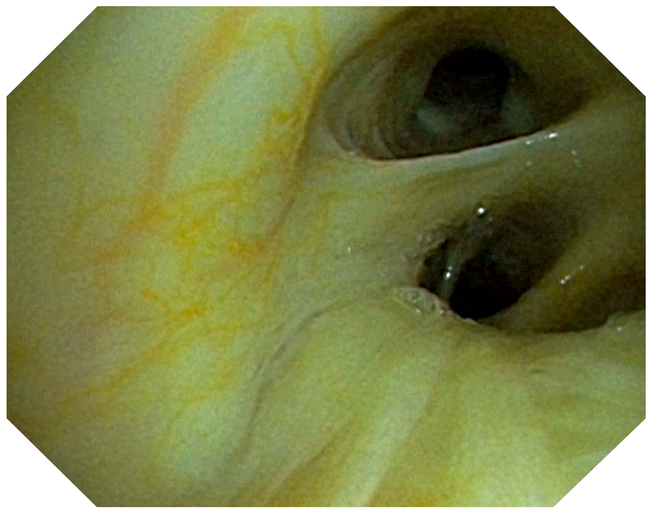
TXI view

BAI-MAC — The Confidence to See Further

Illumination inside the bronchial anatomy is crucial in order to also anticipate deeper structures. With BAI-MAC dark, distant areas of the image become brighter without overexposing the foreground.

TXI — The New White Light

TXI technology aims to enhance the visibility of potentially suspicious tissue, which includes inflammations and flat or depressed lesions. This new imaging modality provides an almost three-dimensional experience during bronchoscopy.



RDI view

RDI — The Safeguard for Endoscopic Therapy

Internal bleeding in general can be a serious challenge. Consequently, prevention and the fast management of bleeding are both crucial. RDI is designed to enhance the visibility of blood vessels in the deeper mucosal layers. By making superficial bleeding less prominent, RDI can help to locate bleeding spots.

Elevating the Standard of Bronchoscopy

High Imaging Performance

To get the most out of every endoscopic image, the EVIS X1 endoscopy system uses innovative technologies:

- Native HDTV image resolution in standard bronchoscopes with further reduced diameters.
- Narrow band technology for superficial (NBI) or deeper (RDI) mucosal blood vessel analysis.
- Digital image enhancement for evenly illuminated images (BAI-MAC), stronger tissue texture and improved color enhancement support detecting the most subtle mucosal changes (TXI).

Ergonomics

The EVIS X1 system and its range of bronchoscopes are the ideal tools for facing even challenging bronchoscopies.

The bronchoscopes' rotation function as well as the system's easily adjustable configuration supports the examiner's needs.

The EVIS X1 CV-1500 Video System helps to reduce the acoustic noise level. Full-screen imaging provides one more option to adjust to the requirements.

Standard Bronchoscopy

Outstanding Image Resolution Supporting Precise Observation and Treatment

Olympus has designed new sensors in the distal tips of the new flagship bronchoscopes BF-H1100 and BF-1TH1100.

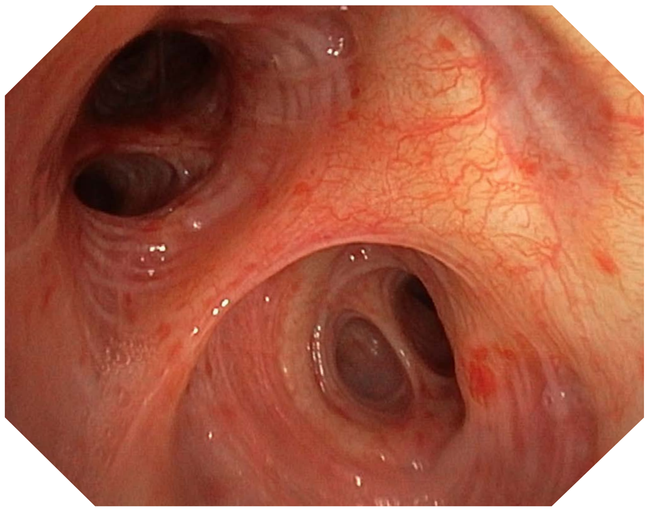
Olympus has defied some of the contradictions in bronchoscope design, as these tools are now even slimmer and come with an increased working channel diameter as compared to their predecessors.

The latest video bronchoscopes BF-H1100 and BF-1TH1100 in conjunction with the EVIS X1 CV-1500 Video System provide native HDTV imaging in:

· White Light (WL).
· Narrow Band Imaging (NBI).
· Red Dichromatic Imaging (RDI).
· Tissue and Texture Enhancement Imaging (TXI).

These bronchoscopes also offer an electronically zoomed full-screen image (16:9 aspect ratio), supporting the preferences of a variety of examiners.

Routine Bronchoscopy
BF-H1100 is the perfect combination of the former H190 and Q190 bronchoscopes. With an outer diameter of 4.9 mm, the BF-H1100 enables HDTV resolution diagnostics to be performed in deeper bronchial areas as well.



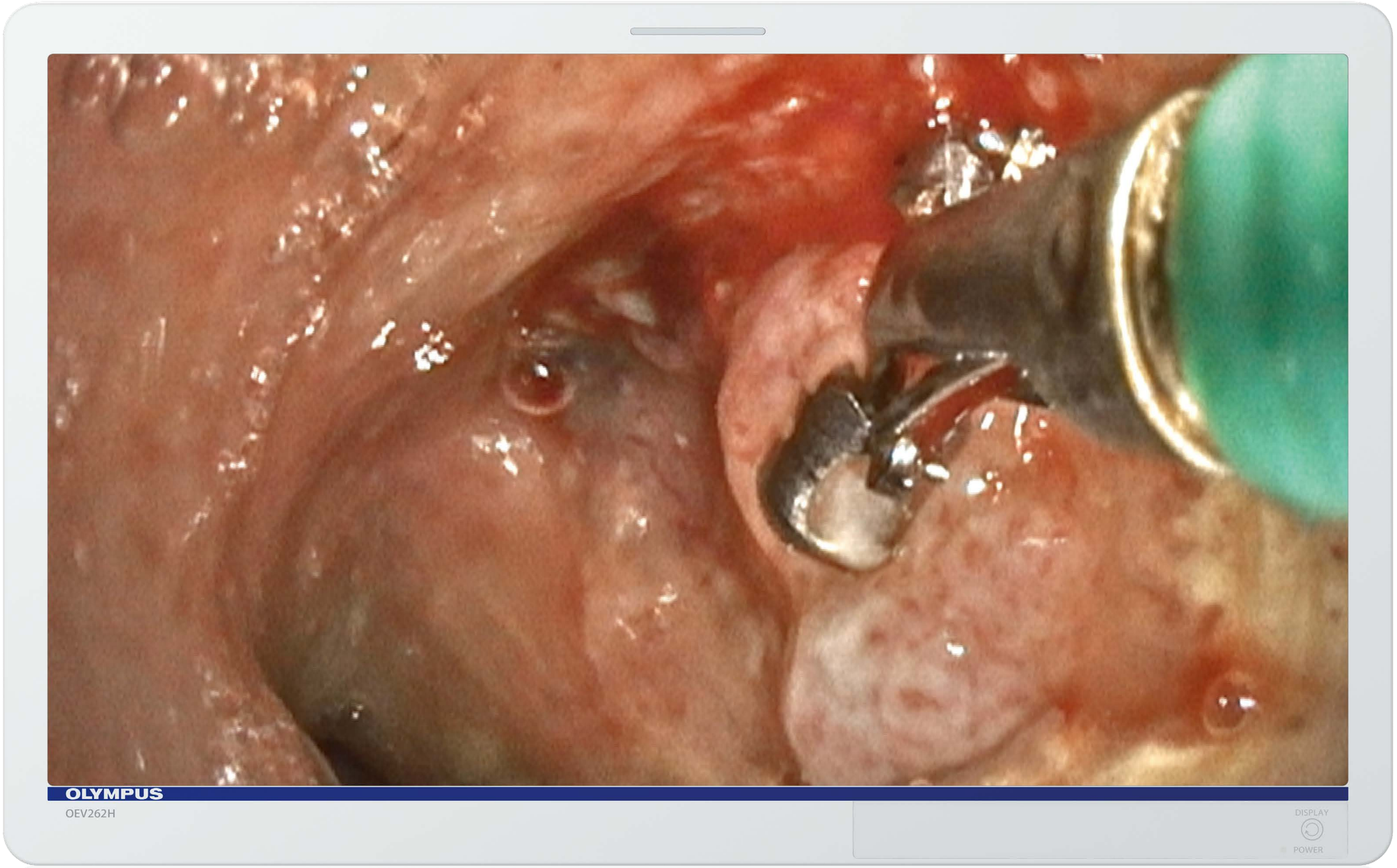
BF-H1100

With its 2.2 mm working channel for better suction and maneuverability of EndoTherapy devices, the BF-H1100 also shows high interventional capabilities.

Slim Design True Videoscopes
The very slim chip-on-the-tip video bronchoscopes (BF-P190/BF-XP190) provide stunning image quality while offering compatibility with a wide range of EndoTherapy instruments, improving diagnoses in the thinner bronchial lumina.

Standard Bronchoscopy

Outstanding Image Resolution Supporting Precise Observation and Treatment



Full-screen image captured with BF-1TH1100 prior to forceps biopsy of a neoplastic lesion using the FB-211D single-use alligator jaw

Standard Bronchoscopy

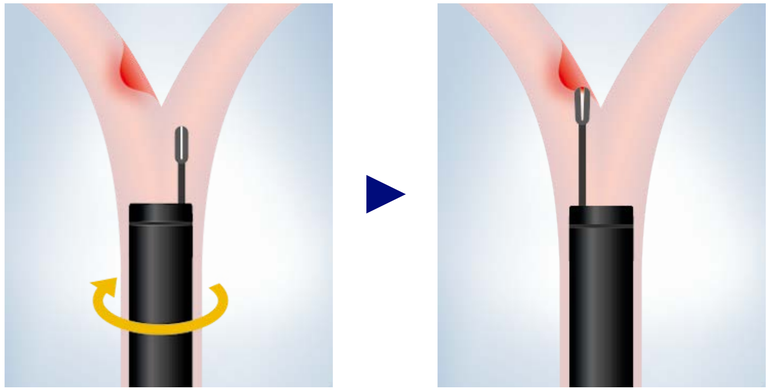
The Advantage of Ergonomic Scopes

Our endoscopic systems are designed to create a safe, comfortable and productive workspace.

Repetitive and prolonged gestures can result in musculoskeletal problems or even work-related injuries. To prevent these ergonomic challenges to the greatest extent possible, we have equipped our bronchoscopes with an insertion tube rotation function.

This function allows the bronchoscope handle and insertion tube to be rotated up to 120 degrees in both directions. Thus, the examiner can adopt a more ergonomic posture. Especially when targeting the left upper lobe, the insertion tube rotation function significantly improves ergonomic scores.[1]

(1) Gilbert et al., Assessment of Ergonomic Strain and Positioning During Bronchoscopic Procedures, J Bronchol Intervent Pulmonol 2020; 27:58-67.



Improved therapeutic capability

Improved Therapeutic Capability

With the insertion tube rotation function, it is easy to adjust the position of the distal end of the bronchoscope. Simply keep the handle in a fixed position and rotate the insertion tube and working channel opening to the position most suitable for the biopsy. This facilitates selecting the bronchi and targeting biopsy sites with EndoTherapy devices.

Easy Access

As the operation of EndoTherapy devices involves both the bronchoscopist and the assistant, the insertion tube rotation function can also be used to adjust the bronchoscope to the most convenient and simple-to-reach position. Keep the insertion tube rotation ring in a fixed position and simply rotate the handle with the working channel inlet toward the assistant.

Standard Bronchoscopy

The Advantage of Ergonomic Scopes

BF-H1100

Standard Bronchoscopy

Endoscopic Sampling

Forceps and Brushes | Needles | Peripheral Diagnostics

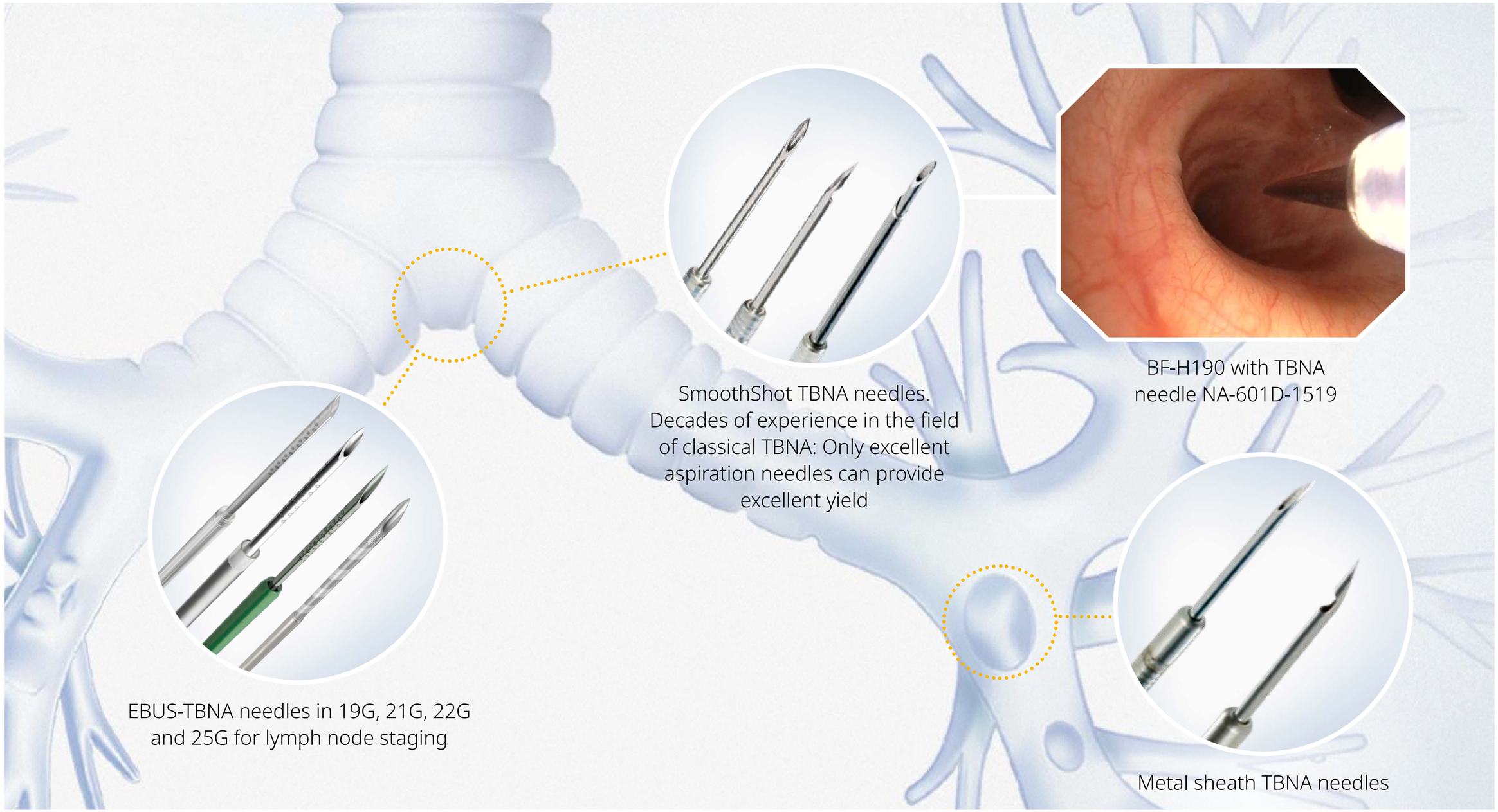
BF-XP190 with cytology brush BC-203D-2006

Micro bristle cytology brush

Full flexibility within the 1.2 mm working channel: biopsy forceps, cytology brushes, grasping forceps

EndoJaw biopsy forceps

Endoscopic Sampling



SmoothShot TBNA needles.
Decades of experience in the field of classical TBNA: Only excellent aspiration needles can provide excellent yield

BF-H190 with TBNA needle NA-601D-1519

EBUS-TBNA needles in 19G, 21G, 22G and 25G for lymph node staging

Metal sheath TBNA needles

Endoscopic Sampling

BF-P190

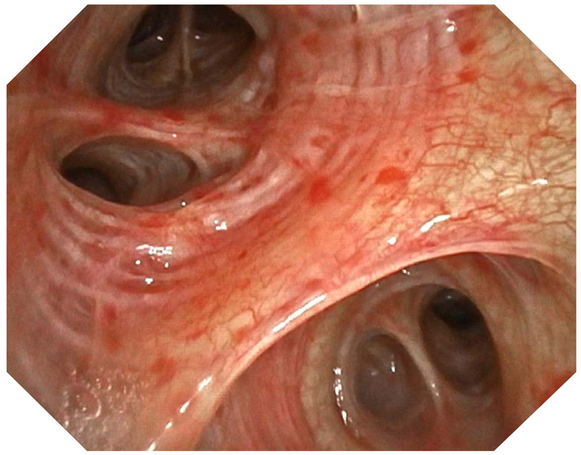
The GuideSheath technique allows repeated access to peripheral lesions. Studies confirm: A combination of different sampling methods helps to increase yields and diagnostic success

PeriView FLEX 21G TBNA needle supporting diagnostic yield for lesions with or without a bronchi leading to the lesion

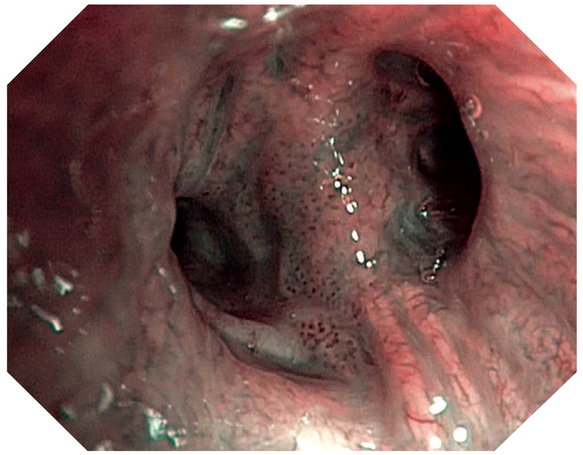
EBUS-TBNA and Peripheral Bronchoscopy

Lung cancer causes practically no early symptoms and is therefore usually diagnosed very late. Early detection can make a big difference. It means a curative treatment can be performed to counteract disastrous lung cancer statistics, give patients more hope and reduce medical costs. When detecting lung cancer, an accurate assessment of the progression of the disease is essential for defining the following treatment.

Endoscopic detection and confirmation of early cancer is in many cases challenging using white light endoscopy alone. Consequently, Olympus continues to develop optical as well as digitally enhanced imaging modalities — such as TXI and NBI.

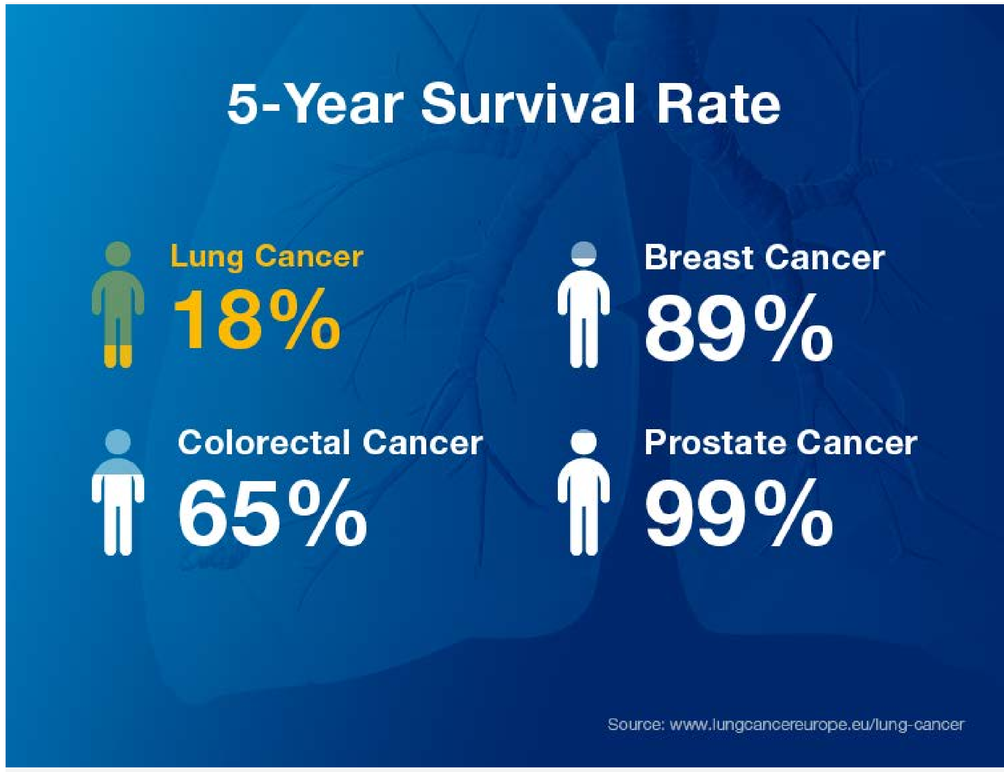


TXI — Texture and color enhancement imaging: detection of mucosal changes



NBI — Narrow Band Imaging: detection of neoplastic vessel formation

[1] Source: www.lungcancereurope.eu/lung-cancer/



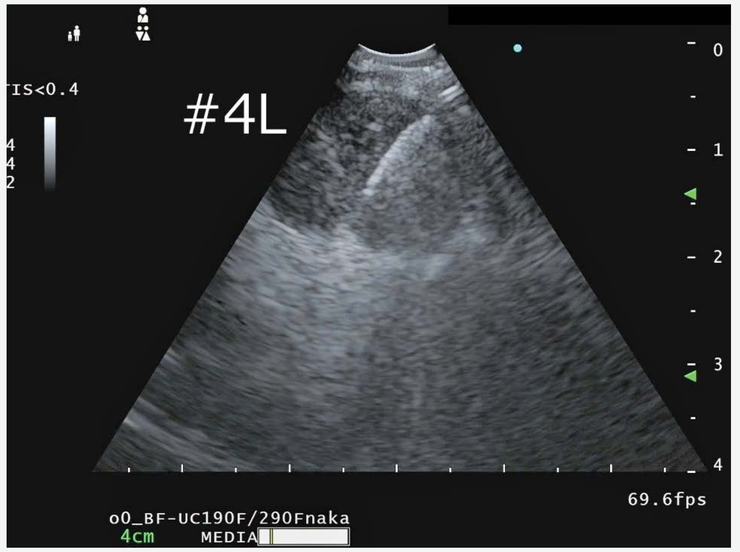
5-Year Survival Rate

The five-year survival rate tells you what percentage of people live at least five years after cancer is found. Unfortunately, lung cancer has the lowest five-year survival rate among most common cancers.[1]

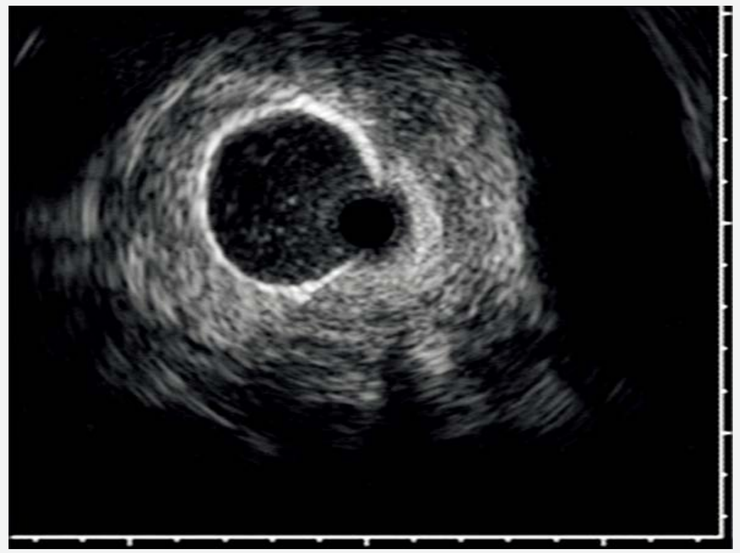
An EBUS Solution for Every Area of the Lung

Olympus offers a range of endobronchial ultrasound solutions, depending upon the target area of the lung.

Be it for solitary pulmonary nodule (SPN) confirmation, T- or N-staging, or for benign disease, radial and linear endobronchial ultrasound technologies are essential to complement your diagnostic toolkit.



Linear EBUS image of a needle aspiration



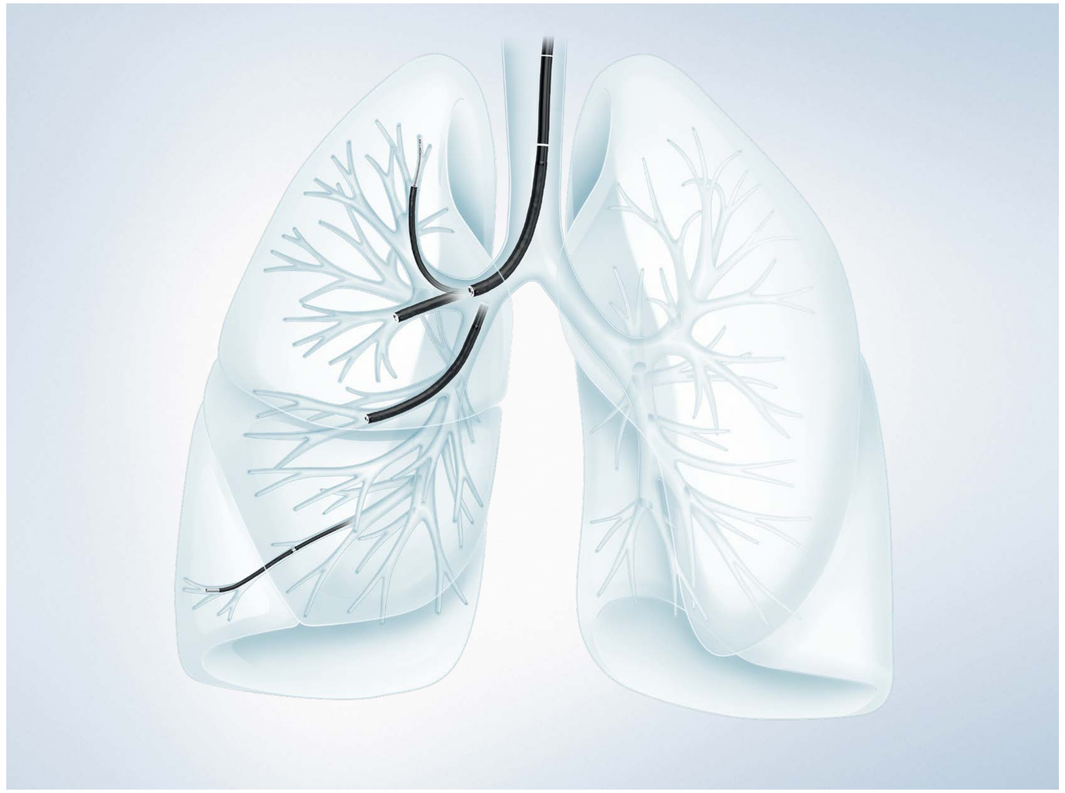
Radial EBUS image of an SPN

Enhance Your Impact – Reach Further

The diagnosis of peripheral pulmonary nodules has been a challenge over the past decades, and there is a wide range of diagnostic procedures. Bronchoscopy, with a reported pneumothorax rate of only 1.5%, is the least invasive approach to peripheral lesions.[1]
Olympus offers a broad portfolio supporting the minimally invasive bronchoscopic approach.

[1] Wang Memoli, J.S., Nietert, P.J., Silvestri, G.A. Meta-Analysis of Guided Bronchoscopy for the Evaluation of the Pulmonary Nodule, Chest. 2012 Aug;142(2):385-393. doi: 10.1378/chest.11-1764; PMID: 21980059; PMCID: PMC3425336.

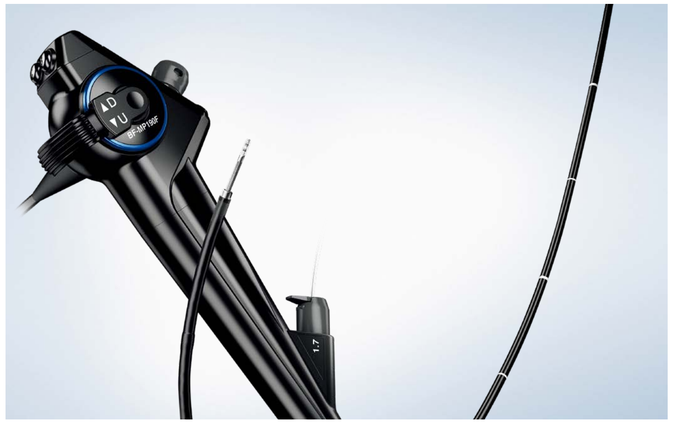
Enhance Your Impact – Reach Further



Access — Localizing the Lesion with Confidence

As the world leader in endoscopy, Olympus offers a choice of two bronchoscopic sampling solutions: the combination of a bronchoscope with a 2.0 mm working channel, such as the slim BF-P190, and GuideSheath Kit 2, or the ultra-thin BF-MP190F (direct method).

Direct Method



Ultrathin 3 mm bronchoscope with 1.7 mm working channel (BF-MP190F) is compatible with the radial EBUS miniature probe

Direct access to the periphery with the ultra-thin BF-MP190F

GuideSheath Method

Thin 4.2 mm bronchoscope with 2.0 mm working channel (BF-P190) is compatible with the GuideSheath

Accessing the periphery with the GuideSheath approach

Precision in the Periphery

Linear EBUS-TBNA in the central airways is a safe and effective procedure resulting in a high diagnostic yield (>90%) for the diagnosis of centrally located lung tumors[1].

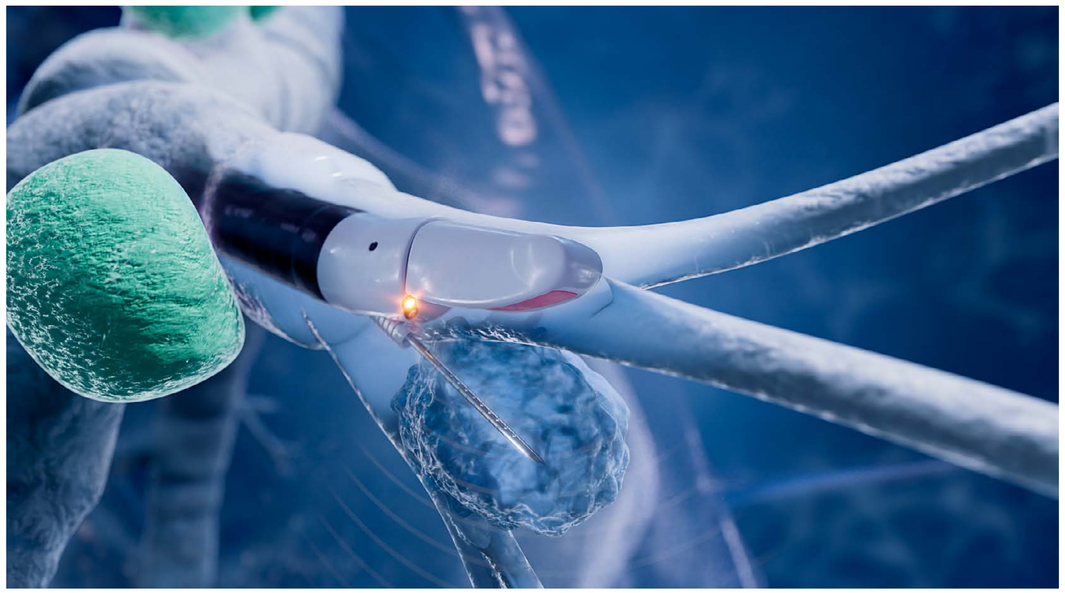
However, there is a current gap. Clinicians face significant barriers in diagnosing lesions in segmental and sub-segmental areas of the lung. Many of these lesions are small, hard to reach, or located without a clear bronchus sign. As a result, diagnostic yield drops as we move away from the central airways.

Olympus has developed a tool **designed to achieve precise sampling with real-time ultrasound visualization in deeper lung regions,** which complements the existing portfolio.

[1] Kuijvenhoven JC, Leoncini F, Crombag LC, et al. Endobronchial Ultrasound for the Diagnosis of Centrally Located Lung Tumors: ASystematic Review and Meta-Analysis. Respiration. 2020;99(5):441-450. doi:10.1159/000500363

Precision in the Periphery

Designed with a thin outer diameter and strong upward angulation, the BF-UCP190F expands and simplifies access to segmental and sub-segmental airways/peripheral zone.[1,2] The BF-UCP190F seamlessly integrates with the latest Olympus imaging and ultrasound platforms, EVIS X1 and EU-ME3, complementing your current EBUS bronchoscopes. The BF-UCP190F supports a comprehensive, solution for efficient lung diagnostics.



Reach and sample deeper lung regions with EBUS-TBNA

Enhanced angulation for expanded access

Designed to reach segmental and subsegmental airways

Compatible with ViziShot 2 25G EBUS-TBNA Needle

[1] Results based on internal testing (Takashima et al). Data on file. (Will be updated once officially published)

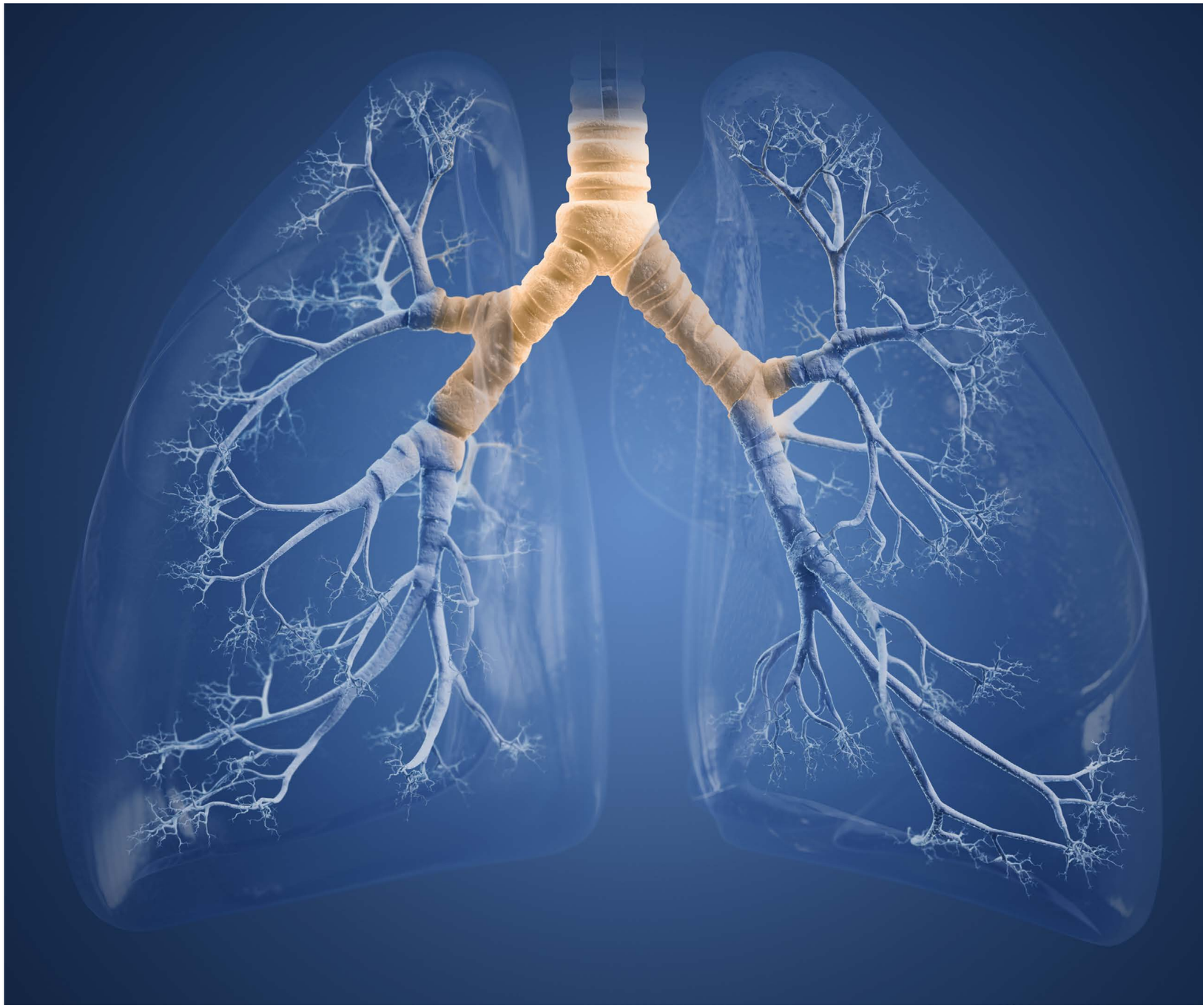
[2] Pastis NJ, Aroumougame VY, Gilbert CR, Fox AH, Tanner NT, Ferguson TL, Silvestri GA. First in Human Evaluation of a Novel Thin Convex Probe Endobronchial Ultrasound System. Respiration. 2024 Dec 10:1-9. doi: 10.1159/000542966. Epub ahead of print. PMID: 39657617.

Lung Cancer Diagnosis and Staging

Expand Your Possibilities in EBUS-TBNA

Endobronchial ultrasound transbronchial needle aspiration (EBUS-TBNA) is a reliable and well-established technique that enables the visualization and sampling of mediastinal, central and hilar lesions and lymph nodes within the tracheobronchial tree. With the EBUS bronchoscope (BF-UC190F) inserted into the trachea or the esophagus, the accessible lymph node stations can be explored and the lesions outlined while offering you the freedom to select from different EBUS needle lineups and sizes depending on your needs.

EBUS-TBNA has proven to be of great value not only for lymph node staging (N-staging) but also for the strategic use of cytology and histology samples for molecular analysis. The acquired specimen can be used to obtain a reliable diagnosis as well as for cell-block preparation, immunochemistry and molecular studies.



Expand Your Possibilities in EBUS-TBNA

ViziShot

The ViziShot portfolio offers a wider field of application with the four available needle sizes 19G, 21G, 22G and 25G. While the entire portfolio offers the already established safety mechanisms and excellent ultrasound visibility, ViziShot 2 provides a green sheath supporting visualization during endoscopic observations, a sharper needle tip design for the smooth penetration of the bronchial wall and an ergonomic handle design for better needle control.

EBUS needles: ViziShot, ViziShot 2 (25G), ViziShot 2 and ViziShot 2 FLEX (19G)

ViziShot 2 FLEX

ViziShot 2 FLEX is outstanding with its large 19G diameter — now with FNA and FNB indication. The improved sample size enables enhanced diagnostic capabilities and targeted lung cancer therapy. It supports histological sampling for suspected sarcoidosis and lymphoma but also helps to procure more tissue for advanced molecular analyses. ViziShot 2 FLEX is an ally for special indications and whenever superior flexibility is needed.

ViziShot 2 EBUS needles

Slim EBUS bronchoscope

Expand Your Possibilities in Endobronchial Ultrasound

EBUS-TBNA with Olympus EU-ME3 — compatible with EBUS radial miniature probes for peripheral bronchoscopy

EBUS-TBNA with Canon Aplio i800 EUS — compatible with extracorporeal ultrasound probes

Lung Cancer Diagnosis and Staging

Expand Your Possibilities in Endobronchial Ultrasound

The EU-ME3 ultrasound processor is unique in its ability to support a wide range of endobronchial ultrasound bronchoscopy (EBUS) procedures, such as EBUS-guided transbronchial needle aspiration (EBUS-TBNA) and radial EBUS bronchoscopy procedures.

A curvilinear array scanning ultrasound bronchoscope can be connected to the EU-ME3 to perform EBUS-TBNA in mediastinal and hilar lymph nodes, or in mediastinal and intrapulmonary targets.

When the EU-ME3 is connected with probe driving units to run Olympus ultrasound miniature probes, it has the ability to provide cross-sectional ultrasound images of the airway wall, lymph nodes or peripheral lung lesions. With the radial EBUS support, peripheral bronchoscopy procedures can be done with real-time confirmation. Radial EBUS can be used with or without GuideSheath.

Sampling — Dedicated Devices for the Periphery

	EU-ME2	EU-ME2 PREMIER*	EU-ME2 PREMIER PLUS	EU-ME3
B-mode	✓	✓	✓	✓
THE (Tissue Harmonic Echo)	–	✓	✓	✓
Flow	✓	✓	✓	✓
PWD (Pulsed Wave Doppler)	✓	✓	✓	✓
Elastography	–	–	✓	✓ (software option)

Expand Your Possibilities in Endobronchial Ultrasound

Simplicity of Use

User-friendly system operation with state-of-the-art keyboard design.

Broad Compatibility

Compatible with an array of EUS and EBUS endoscopes as well as ultrasound miniature probes.

Customizable to Your Needs

Smart and customizable user settings to fulfill your individual needs.

High Image Quality

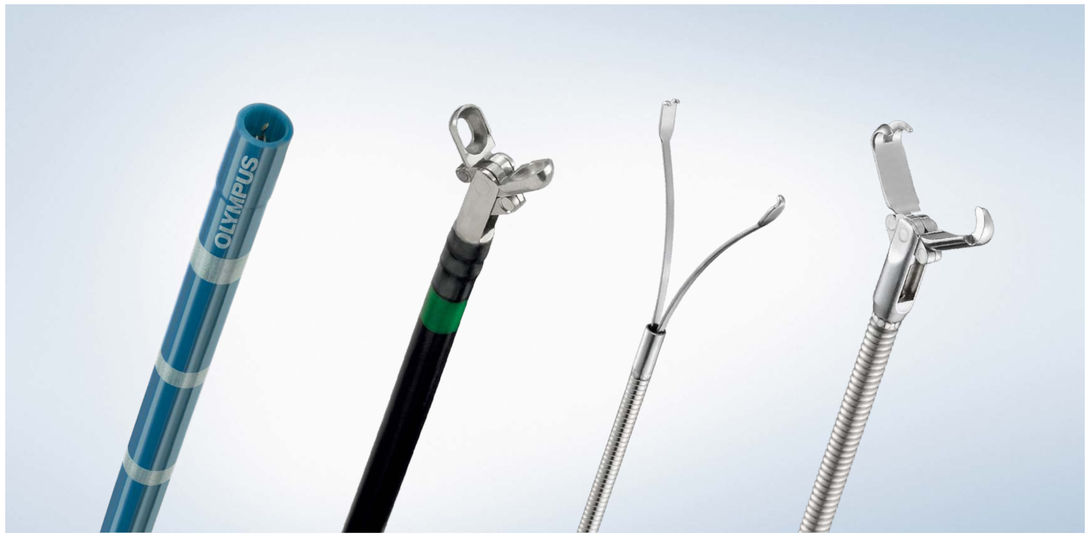
New and improved high-end imaging modalities comparable to a high-end ultrasound center.

Selecting the Right Tools for Therapeutic Interventions

Designed to facilitate therapeutic procedures, Olympus offers a variety of therapeutic video bronchoscopes and a broad selection of therapeutic instruments.

The BF-1TH1100 bronchoscope comes with a smaller outer diameter than its predecessor and offers an enlarged working channel of 3.0 mm to increase suction capabilities and contribute to better visualization in the bronchial airways. This scope also features the rotation function: The distal end of the bronchoscopes can be rotated to the left and right, facilitating easy access to the bronchi. A 3.2 mm diameter working channel can be utilized when working with the BF-XT190. For emergency interventions requiring mobility, the MAF-TM2 mobile scope with its integrated LED light source and adjustable monitor is an option.

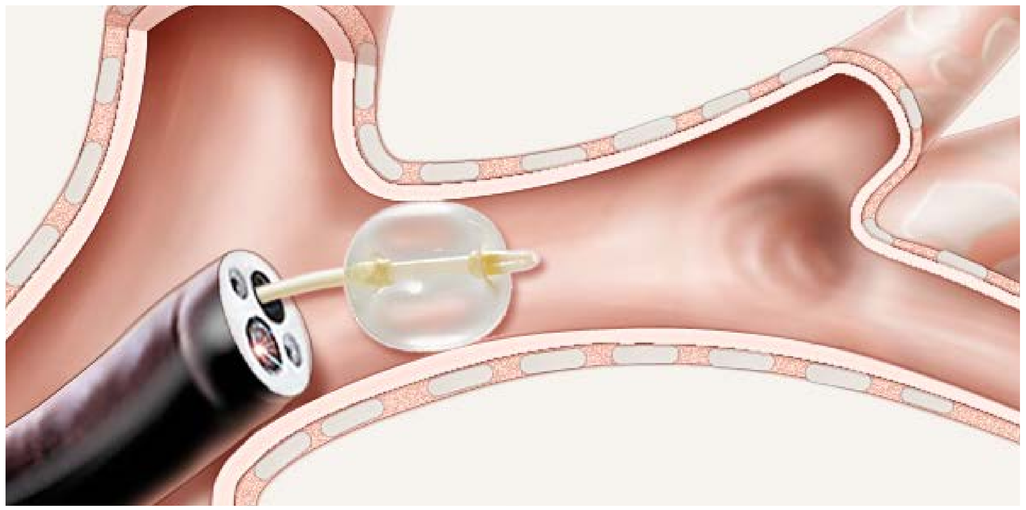
A broad selection of therapeutic devices can be used with these bronchoscopes, including grasping forceps for foreign-body removal, electrosurgical instruments and APC probes for hemostasis and tissue devitalization.



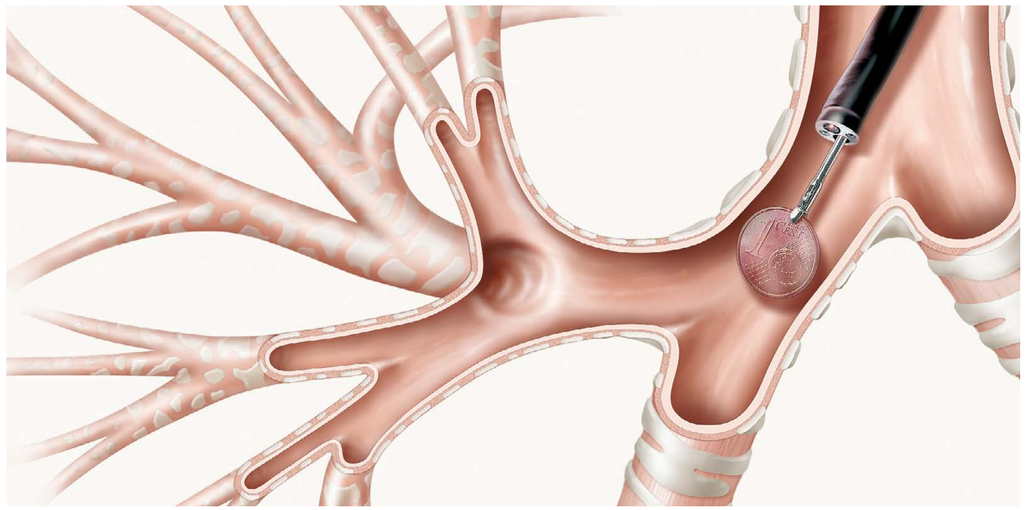
Argon plasma coagulation electrode (PA-210Z), hot biopsy forceps (FD-231C), grasping forceps (FG-804L and FG-232L) (left to right)

Selecting the Right Tools for Therapeutic Interventions

B5-2C balloon catheter



Emergency short-time hemostasis tamponade with the B5-2C balloon catheter



In case of an acute bronchial occlusion, foreign-body retrieval is possible with V-shaped or rat tooth grasping forceps

Grasping forceps

Selecting the Right Tools for Therapeutic Interventions

Electrosurgery Treatment: Coagulate, Resect and Retrieve

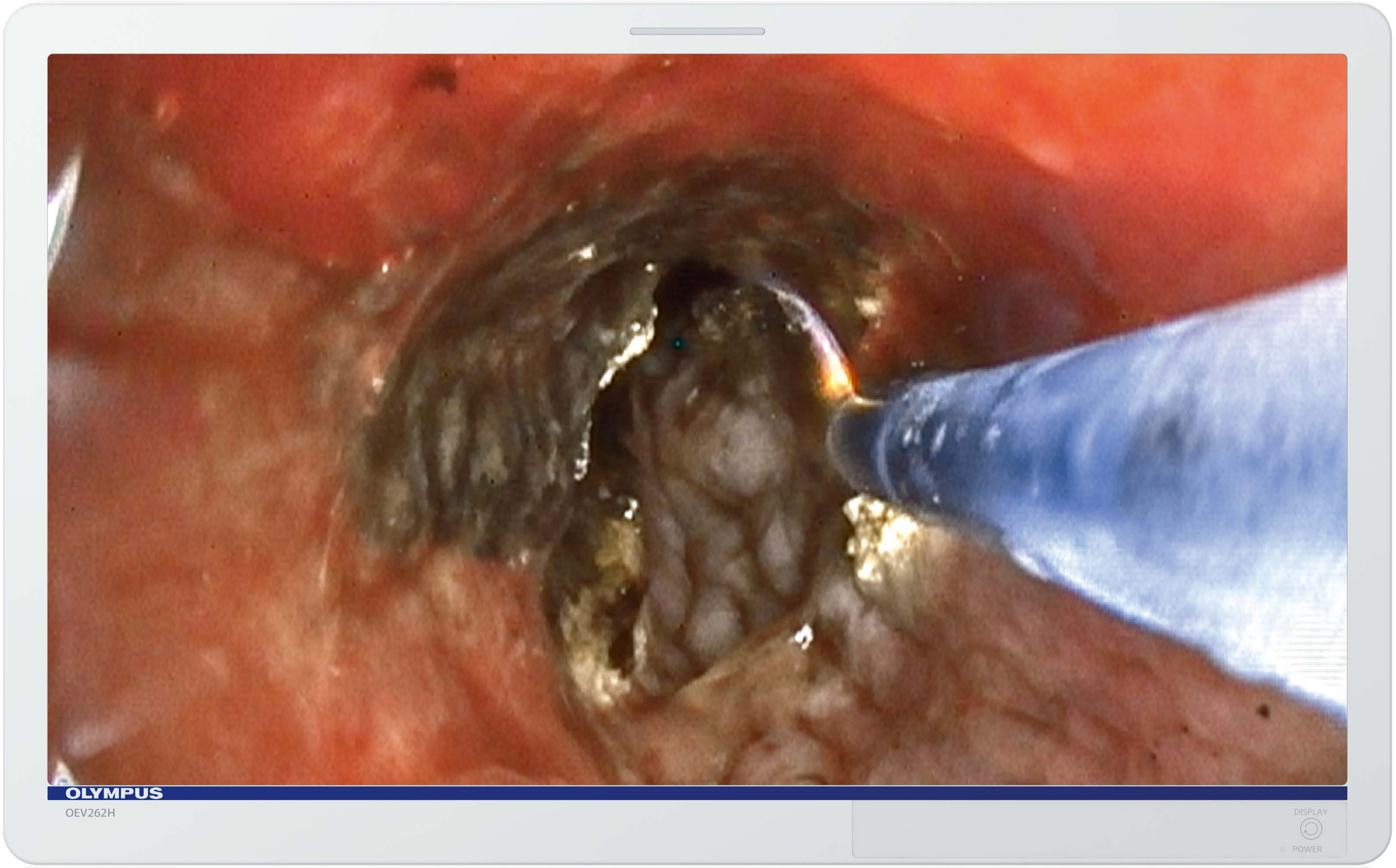
The Olympus portfolio of electrosurgical equipment allows you to cut, coagulate and resect with confidence.
The ESG-300 electrosurgical unit supports the needs of the endoscopist by providing a simple, safe and smart source of energy.
The Argon Plasma Unit (APU-300) can be used in combination with the ESG-300 to provide advanced, superficial hemostasis or tissue devitalization. Different modes to cut or coagulate offer a wide application range.

Olympus has designed versatile devices:
· Argon Plasma Coagulation Probes in axial, lateral, radial design for precise, selective coagulation and tissue devitalization.
· Hot Biopsy Forceps with fenestrated cups for larger biopsies and tissue resection that can also be used as coagulation electrode with closed cups.

PA-210Z - Single-use argon plasma coagulation probes
FD-231C - Single-use hot biopsy forceps

BF-H1100 with hot biopsy forceps FD-231C

Selecting the Right Tools for Therapeutic Interventions



BF-1TH1100 bronchoscope with APC probe for tissue devitalization

Emphysema and Air Leak Treatment

Bronchial valve therapy with the Spiration Valve System (SVS) is a promising approach for treating a diseased lung in emphysematous patients or a damaged lung resulting in air leaks.

The patented one-way SVS valve is a device placed in selected lung airways where it self-expands and limits the airflow to the occluded areas of the lung while still allowing mucus and trapped air to pass by outside of the valve in the proximal direction. SVS valves are available in four different sizes, from 5 mm to 9 mm, to make the perfect fit for every airway. Two catheter sizes for 2 mm and 2.6 mm working channels are available to reach even difficult-to-access airways. The BF-1TH1100 bronchoscope supports an ergonomic and comfortable procedure. The enlarged working channel still allows great suction capabilities even with inserted instruments, and the rotation function facilitates easy access even to very angulated airways. For the treatment of emphysema, the valves enable the total occlusion of single lobes resulting in atelectasis. In a recent RCT trial, statistically significant improvements were seen in target-lobe volume reduction, hyper inflations, health status and dyspnea.[1]

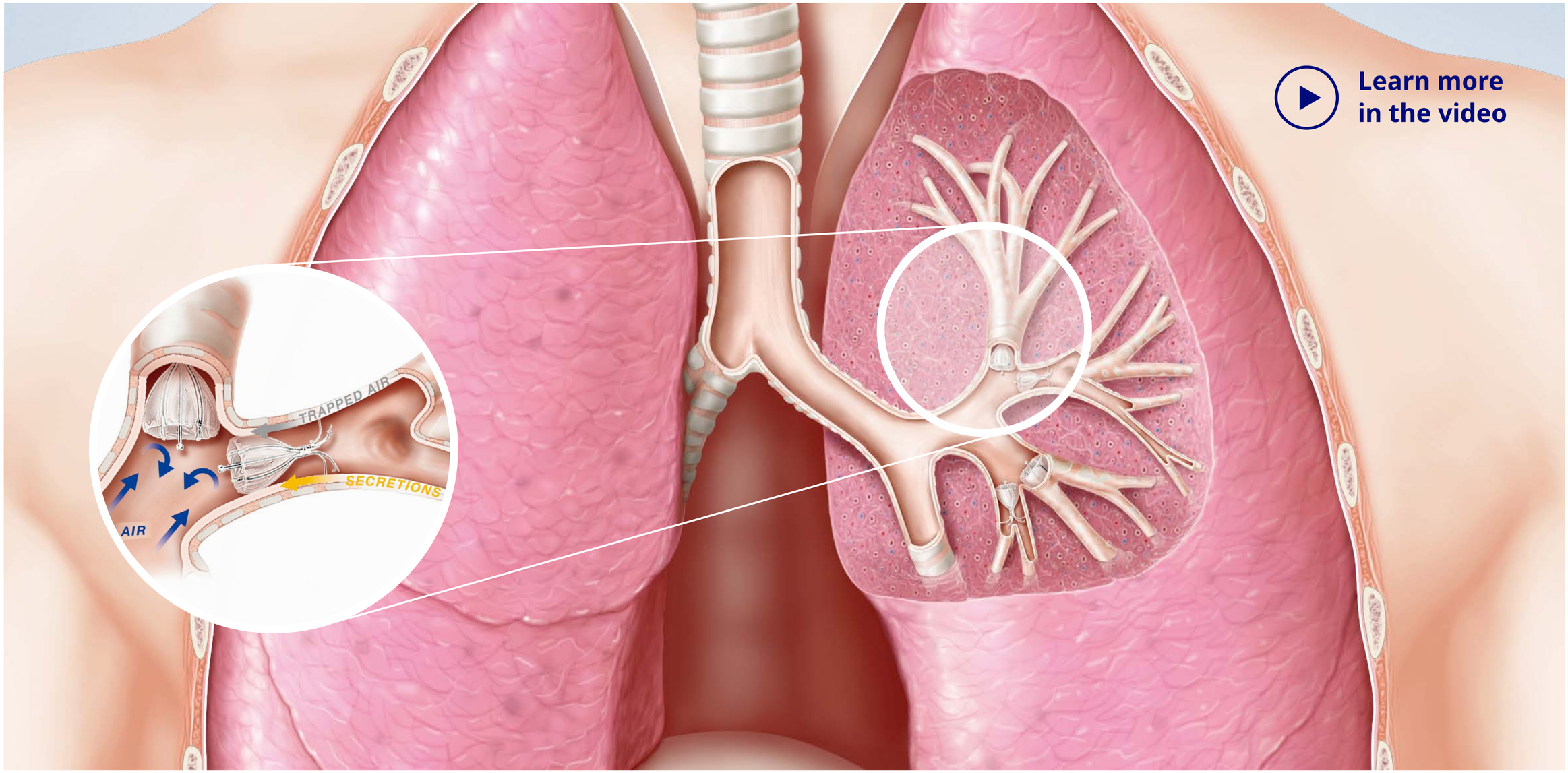
For the treatment of air leaks, the valve limits airflow to injured tissue. Prolonged postsurgical and persistent air leaks as well as spontaneous secondary air leaks have been treated successfully. Published case reports showed a 94% success rate of treatment of prolonged air leaks.[2, 3, 4]

1 Crainer, G.J., et al. AJRCCM 2019;200(11):1354-62. doi:10.1165/rrcm.201902-0383oc.
2 Wood, D., et al. [Abstract] European Respiratory Society Congress. September 2010. Abstract no. P4145.
3 Mahajan, A.K., et al. J Thorac Cardiovasc Surg. 2013 Mar;145(3):626-30. doi: 10.1016/j.jtcvs.2012.12.003.
4 Firlinger, I., et al. Ann Thorac Surg. 2013 Apr;95(4):1243-9. doi: 10.1016/j.athoracsur.2012.12.036.

Spiration Valve System (SVS)

www.olympus-europa.com/svs

Emphysema and Air Leak Treatment



The valve allows mucus and air movement in the proximal direction

Therapeutic Bronchoscopy

Emphysema and Air Leak Treatment

BF-1TH1100 bronchoscope with an SVS valve

Therapeutic Bronchoscopy

Observation of the Thinnest Bronchi

Flexible bronchoscopy is widely used in the diagnosis of respiratory pathologies in children of all ages.

Given its ultra-slim specifications, the BF-XP190 video bronchoscope can be used in pediatric bronchoscopy with ease. The chip-on-the-tip design produces stunning image quality, while maintaining an ultra-slim 3.1 mm distal end outer diameter and a 1.2 mm instrument channel.

Biopsies, bronchial brushing and foreign-body removal present common challenges that can be met by the selection of the appropriate techniques and instruments. Olympus offers a full lineup of instruments for flexible pediatric bronchoscopy that is compatible with the 1.2 mm working channel. This range covers grasping forceps and baskets for foreign bodies of different shapes and surfaces and biopsy forceps and cytology brushes for diagnoses even of the small bronchi.

The single-use mini biopsy forceps FB-456D allows for successful sampling even with the slimmest-channel bronchoscopes.
Their elongated rat tooth cups enable a reliable biopsy. An optimized cytological yield can be obtained with the single-use mini cytology brush BC-203D-2006 with a brush diameter of 2.0 mm.

For the retrieval of inhaled foreign objects in children, Olympus offers different removal baskets for safe and easy retraction.

Observation of the Thinnest Bronchi

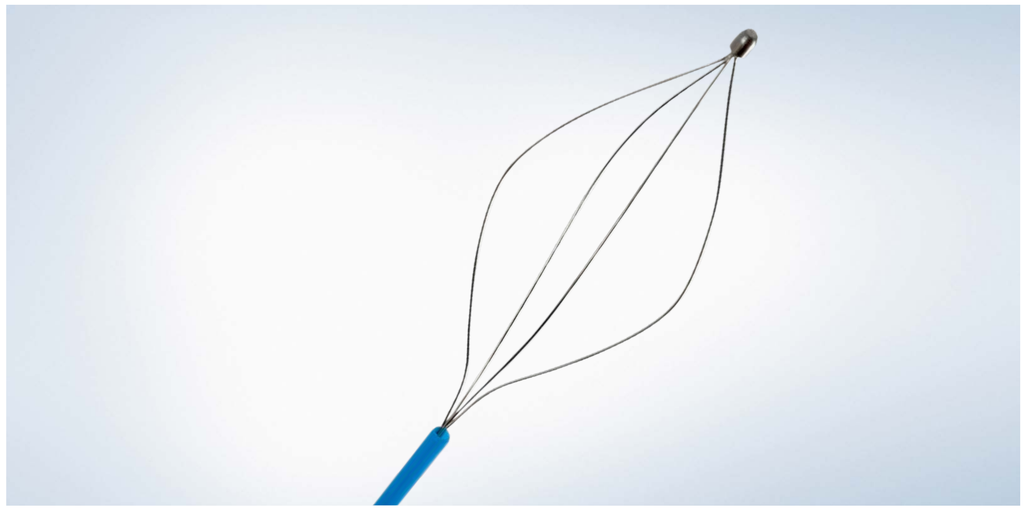
BF-XP190 video bronchoscope

Pediatric Bronchoscopy

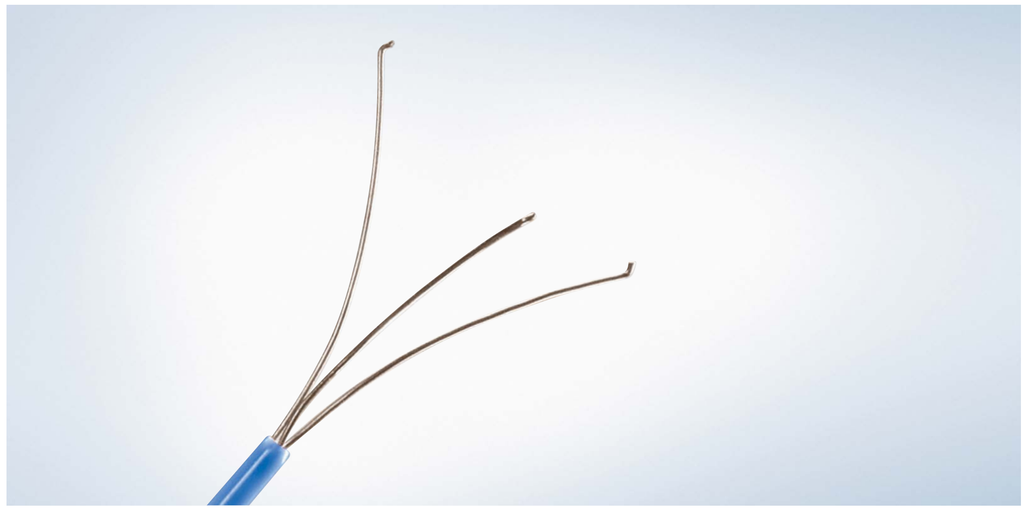
Observation of the Thinnest Bronchi

FB-456D
Single-use mini oval rat tooth biopsy forceps

BC-203D-2006
Single-use mini cytology brushes



FG-55D
Single-use mini grasping baskets



FG-54D
Single-use mini three-prong grasping forceps

Portable and Flexible Bronchoscopy Anytime, Anywhere

Respond to requests from the ward, the ICU or emergency room with ease and flexibility for local anesthesia, sputum removal, foreign-body removal, emergency hemostasis and intubation.

The complete stand-alone design incorporates a 3.5-inch monitor, an LED light source, battery and storage capability of still images and video sequences in a single unit. This family of versatile endoscopes enables observation without peripherals or cables, providing an unprecedented level of mobility.

The 3.5-inch monitor can be tilted to adjust the orientation — this enables observation and control operations in a single view

Portable and Flexible Bronchoscopy Anytime, Anywhere

MAF-TM2 — the mobile bronchoscope
MAF-GM2/MAF-DM2 — the mobile intubation scopes

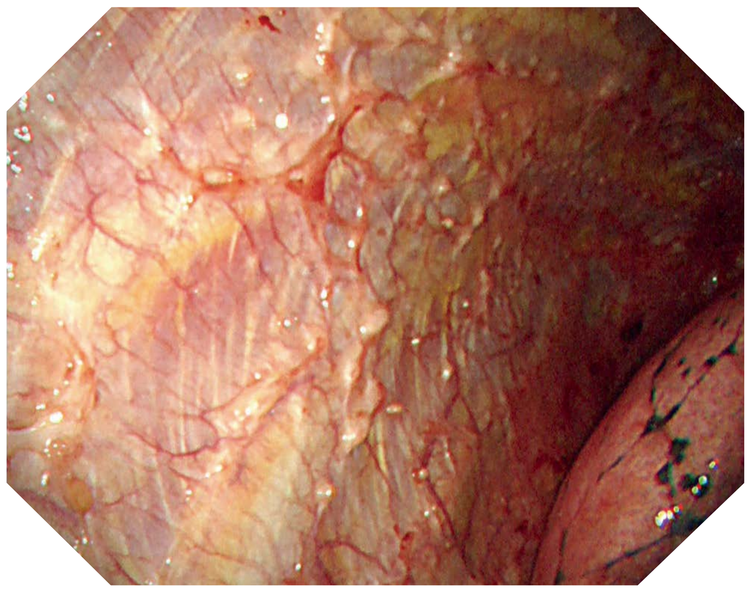
Mobile Bronchoscopy and Intubation

Exploring the Thoracic Cavity

Medical thoracoscopy is a minimally invasive procedure that allows access to the pleural space using a combination of viewing and working instruments. It also allows for diagnostic and therapeutic procedures to be performed safely.

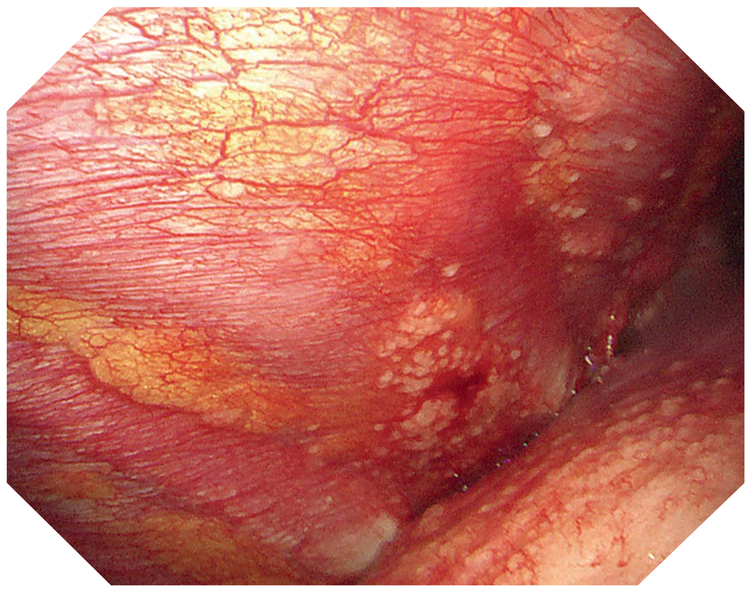
The main indications for medical thoracoscopy are: diagnosis of pleural effusions of indeterminate origin, staging of lung cancer with pleural effusion, diffusion of malignant mesothelioma and talc poudrage.

With a high-quality HDTV video chip, the new semi-flexible LTF-H290 pleuroscope delivers clearer, brighter images, contributing to more reliable observation, diagnosis and treatment in the thoracic cavity. In addition, the LTF-H290 is equipped with a large 3.0 mm diameter working channel that helps maintain a clearer view when suctioning pleural fluid or blood after biopsy. In contrast to rigid thoracoscopes, the LTF-H290 has a large angulation range of 180 degrees at the flexible distal end. Thanks to this, inspection of the thoracic cavity is possible with an excellent all-round view right up to the entry point of the endoscope.



Posterior parietal pleural surface

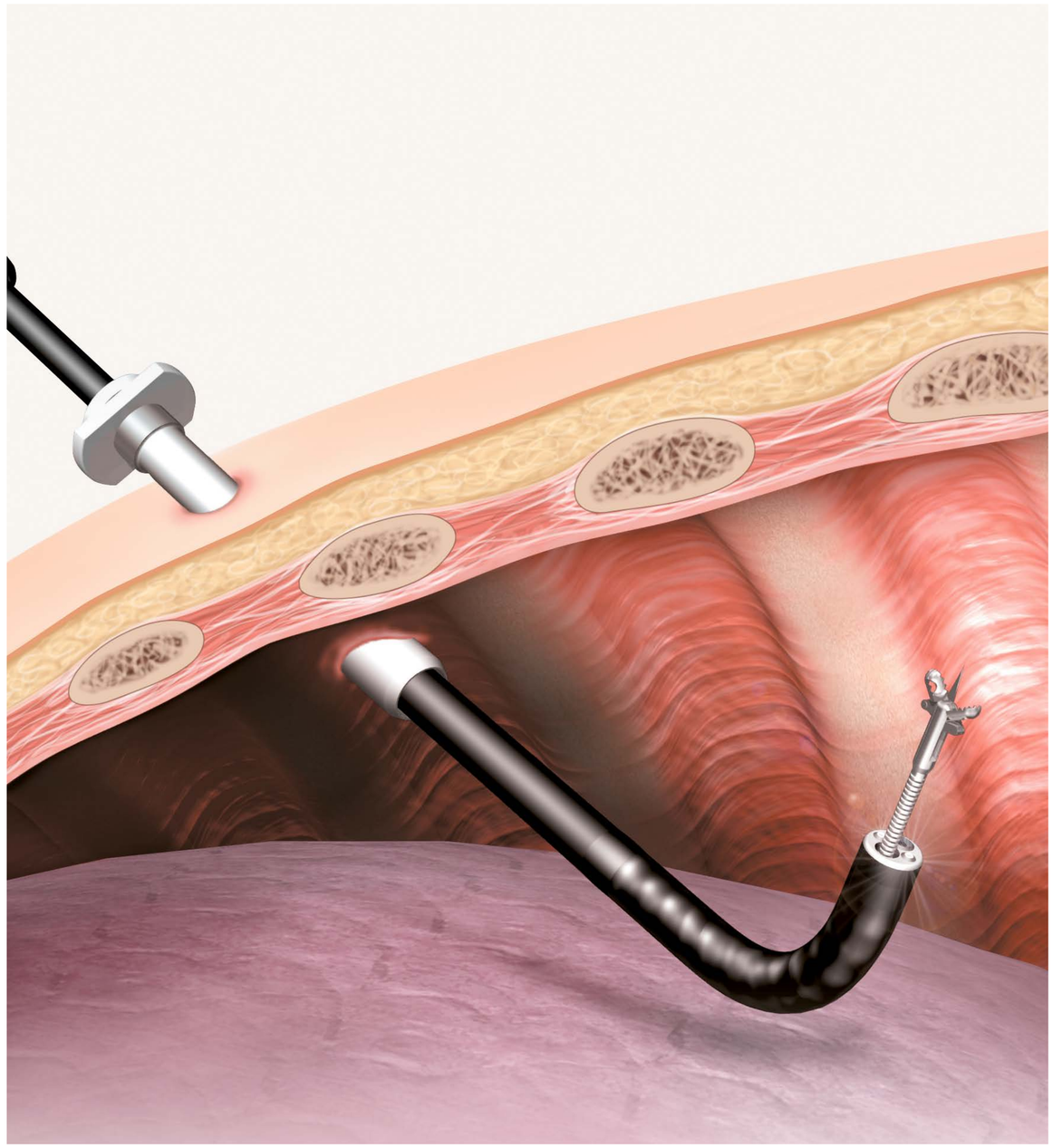
Lateral chest wall



Costophrenic angle

Exploring the Thoracic Cavity

LTF-H290 pleura videoscope



Medical Thoracoscopy

Excellent Devices for a Wide Range of Applications

Product	Insertion Tube OD (mm)	Distal End OD (mm)	Channel ID (mm)	Bending (up/down)	Rotation Function (left/right)	IEE[1]	Comments
Video bronchoscopes							
BF-XT190*	6.3	6.1	3.2	180°/130°	120°/120°	NBI, TXI**, RDI**	OT
BF-1TH1100*	6.1	5.8	3.0	180°/130°	120°/120°	NBI, TXI**, RDI**	HDTV, OT, FULL SCREEN**
BF-1TH190*	6.0	6.2	2.8	180°/130°	120°/120°	NBI, TXI**, RDI**	HDTV, OT
BF-H1100*	4.9	4.9	2.2	210°/130°	120°/120°	NBI, TXI**, RDI**	HDTV, OT, FULL SCREEN**
BF-H190*	5.1	5.5	2.0	210°/130°	120°/120°	NBI, TXI**, RDI**	HDTV, OT
BF-Q190*	4.9	4.8	2.0	210°/130°	120°/120°	NBI, TXI**, RDI**	OT
BF-P190*	4.1	4.2	2.0	210°/130°	120°/120°	NBI, TXI**, RDI**	OT
BF-MP190F*	3.7	3.0	1.7	210°/130°	120°/120°	TXI**	OT
BF-XP190*	2.8	3.1	1.2	210°/130°	120°/120°	NBI, TXI**	OT
Mobile airway scopes							
MAF-TM2	5.2	5.1	2.6	180°/130°	-	-	Fibervideoscope
MAF-GM2	4.1	3.9	1.5	120°/120°	-	-	Fibervideoscope
MAF-DM2	3.1	3.1	1.2	120°/120°	-	-	Fibervideoscope
Pleura videoscope							
LTF-H290**	7.0	7.3	3.0	180°/130°	-	NBI, TXI**, RDI**	OT

* with CV-190 (PLUS) and CV-1500
** with CV-1500
[1] Image-Enhanced Endoscopy
OT = One-touch connector
HDTV = HDTV resolution native
FULL SCREEN = electronic zoom to 16:9 display size

Portfolio Overview

Excellent Devices for a Wide Range of Applications

Product	Insertion Tube OD (mm)	Distal End OD (mm)	Channel ID (mm)	Bending (up/down)
Endobronchial ultrasound endoscopes				
BF-UC190F	6.3	6.6	2.2	160°/70°
BF-UCP190F	5.7	5.9	1.7	170°/70°
	Frequency (MHz)	**Working Length (mm)**	**OD (mm)**	**Min. Working Channel (Ø)**
Ultrasonic probes for EBUS				
UM-S20-17S*	520	2,150	max. 1.7	1.7 mm
UM-S20-20R	20	2,050	max. 2.0	2.2 mm
	Insertion Tube OD (mm)	**Distal End OD (mm)**	**Channel ID (mm)**	**Bending (up/down)**
Fiber bronchoscopes				
BF-1T60	6.0	5.9	3.0	180°/130°
BF-P60	5.0	4.9	2.2	180°/130°
BF-XP60	2.8	2.8	1.2	180°/130°
BF-TE2	6.0	5.9	2.8	180°/130°
BF-PE2	5.0	4.9	2.2	180°/130°

Pediatric Instruments

Product	Model	Article No.	Min. Working Channel Ø	Specifications
Biopsy forceps	FB-456D	N6008330	1.2 mm	rat tooth cups, reusable
Cytology brush	BC-203D-2006	N1077030	1.2 mm	brush: 2 mm diameter, 6 mm length, single-use
	BC-201C-1006	026103	1.2 mm	brush: 1 mm diameter, 6 mm length, single-use
Grasping forceps	FG-51D	N5402630	1.2 mm	four-wire basket, single-use
	FG-52D	N5402730	1.2 mm	three-wire basket, single-use
	FG-54D	026742	1.2 mm	three-prong grasper, single-use
	FG-55D	026746	1.2 mm	four-wire basket, single-use

* Compatible with GuideSheathKit

Portfolio Overview

Excellent Devices for a Wide Range of Applications

Diagnostic Instruments

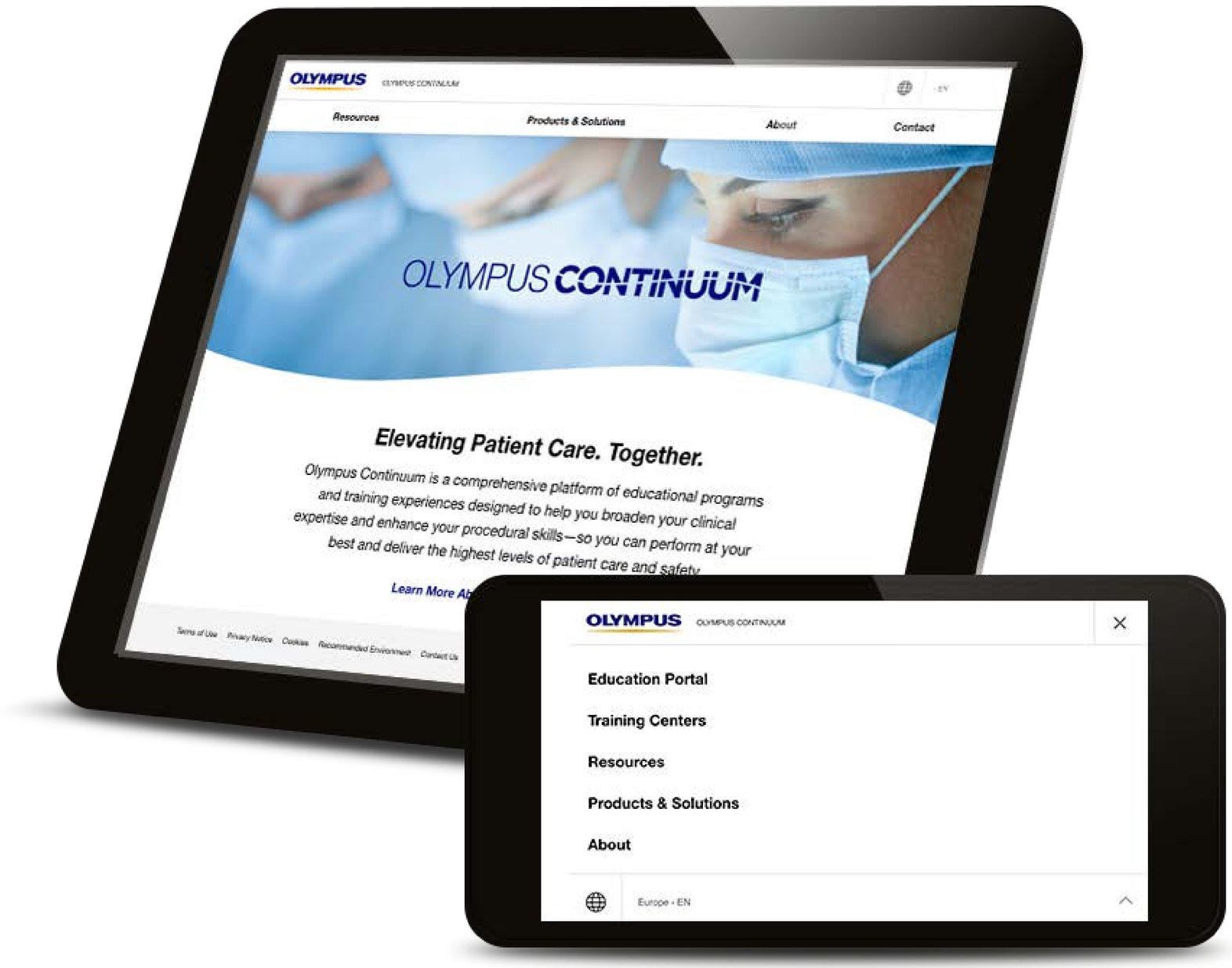
Product	Model	Article No.	Min. Working Channel Ø	Specifications
Biopsy forceps	FB-211D	N5431830	2.0 mm	swinging alligator cups, fenestrated, single-use
	FB-221D	N5431930	2.0 mm	swinging alligator cups, fenestrated, with needle, single-use
	FB-231D	N5355230	2.0 mm	swinging alligator cups, fenestrated, single-use
	FB-241D	N5432130	2.0 mm	swinging oval cups, fenestrated, with needle, single-use
Biopsy forceps for medical thoracoscopy	FB-420K	N6154850	2.8 mm	swinging alligator cups, fenestrated, with needle, single-use
Cytology brushes	BC-202D-2010	026049	2.0 mm	brush: 2 mm diameter, 10 mm length, single-use
	BC-202D-3010	026050	2.0 mm	brush: 3 mm diameter, 10 mm length, single-use
SmoothShot TBNA needles	NA-401D-1321	N1880630	2.0 mm	21G, 13 mm length, single-use
	NA-401D-1521	N1880730	2.0 mm	21G, 15 mm length, single-use
	NA-411D-1321	N1880830	2.0 mm	21G, 13 mm length, side hole, single-use
	NA-411D-1521	N1880930	2.0 mm	21G, 15 mm length, side hole, single-use
	NA-601D-1519	N2369930	2.0 mm	19G, 18 mm length, trocar type, single-use
SmoothShot Plus	NA-421C-1321	N6012030	2.0 mm	21G, TBNA needle, single-use
Metal sheath TBNA needles	NA-431C-1321	N6012130	2.0 mm	21G, TBNA needle, single-use
EBUS-TBNA needles	NA-201SX-4021	N5432630	2.0 mm	21G, 40 mm length, single-use
	NA-201SX-4022	N5432330	2.0 mm	22G, 40 mm length, single-use
	NA-U401SX-4021	EGNA-U401SX4021	2.0 mm	21G, 40 mm length, single-use
	NA-U401SX-4022	EGNA-U401SX4022	2.0 mm	22G, 40 mm length, single-use
	NA-U403SX-4019	EGNA-U403SX4019	2.2 mm	19G, 40 mm length, single-use
	NA-U401SX-4025N	N5782331	1.7 mm	25G, 40 mm length, single-use
Instruments for diagnosing SPN	CC-220DR	N5767130	2.0 mm	bendable and rotatable guiding device, single-use
	K-401	N6000630	2.0 mm	GuideSheathKit 2: sheath, forceps, brush, single-use
	K-402	N6000730	2.0 mm	GuideSheathKit 2: sheath, forceps, brush, single-use
	K-403	N6000830	2.8 mm	GuideSheathKit 2: sheath, forceps, brush, single-use
	K-404	N6000930	2.8 mm	GuideSheathKit 2: sheath, forceps, brush, single-use
	NA-403D-2021	EGNA-403D-2021	1.7 mm	flexible TBNA needle, 21G, single-use
	FB-433D	N5767330	1.7 mm	oval-cup biopsy forceps, single-use
	BC-205D-2010	N5767430	1.7 mm	brush: 2 mm diameter, 10 mm length, single-use

Excellent Devices for a Wide Range of Applications

Therapeutic Instruments

Product	Model	Article No.	Min. Working Channel Ø	Specifications
Foreign-body removal	FG-214P	N6008530	2.0 mm	rat tooth grasping forceps, single-use
	FG-232L	N6008730	2.8 mm	rat tooth grasping forceps, single-use
	FG-220P	N6009930	2.0 mm	rubber-tipped grasping forceps, single-use
	FG-804L	N6008430	2.0 mm	V-shaped grasping forceps, single-use
Electrosurgery/APC	FD-231C	N5780730	2.0 mm	hot biopsy forceps/coagulation electrode, single-use
	PA-210Z	WA94004A	2.0 mm	Argon plasma coagulation probe, axial, single-use
	PA-211U	WA94002A	2.8 mm	Argon plasma coagulation probe, axial, single-use
	PA-221U	WA94006A	2.8 mm	Argon plasma coagulation probe, lateral, single-use
	PA-231U	WA94007A	2.8 mm	Argon plasma coagulation probe, radial, single-use
Injection needles	NM-4L-1	026536	2.8 mm	23G, 4 mm length, single-use
	MAJ-67	026991	2.8 mm	sheath, for use with NM-4L-1, reusable
Balloon catheters	B5-2C	N3530530	2.0 mm	for lavage, blocking, tamponade and sizing, single-use
	B7-2C	026921	2.8 mm	for lavage, blocking, tamponade, single-use
Spiration valve system	IBV-V5	N3495330	-	bronchial valve, 5 mm, single-use
	IBV-V6	N3495430	-	bronchial valve, 6 mm, single-use
	IBV-V7	N3495530	-	bronchial valve, 7 mm, single-use
	IBV-V9	N5381200	-	bronchial valve, 9 mm, single-use
	IBV-C20	N3521830	2.0 mm	deployment catheter for bronchial valve, single-use
	IBV-C26N	N5381300	2.6 mm	deployment catheter for bronchial valve, single-use
	IBV-VSK	N5534500	-	airway sizing kit for bronchial valve, single-use
Trocar for medical thoracoscopy	MAJ-1058	N1002130	-	compatible to LTF-160, LTF-260 and LTF-H290 pleura videoscopes

MEDICAL EXPERT TRAINING



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Olympus organizes training courses with health care experts and leading hospitals. These courses will enable you to improve your medical skills and professional excellence in a comprehensible manner in order to improve patient care.

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