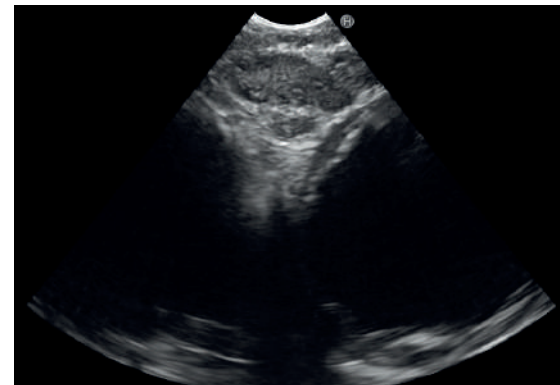


Endobronchial Ultrasound

Discover new facets of vision





An unmatched solution for Endobronchial Ultrasound

Endobronchial Ultrasound (EBUS) and EBUS-guided Transbronchial Needle Aspiration (EBUS-TBNA) has been incorporated into the clinical routine as the gold standard procedure, replacing more invasive methods, for staging lung cancer and evaluating other pulmonary diseases.

The unmatched combination of PENTAX Medical EB19-J10U with Hitachi ultrasound systems provides a unique solution for accurate diagnosis and staging of lung diseases. State-of-the-art technology from both companies, PENTAX Medical and Hitachi, ensures the highest imaging performance with crystal clear image quality for precise visualization of the airway wall, surrounding lymph nodes, and adjacent structures.



Ultrasound image



Ultrasound image



Endoscopic image

PENTAX Medical and Hitachi: leveraging strong synergies for the best clinical outcomes

Together, Hitachi and PENTAX Medical provide a combined clinical solution for physicians to clearly visualize and increase the detection of abnormalities, successfully enabling endosonographical diagnostic and therapeutic procedures to the benefit of patients.

Strong synergies between products, highly-specialized application expertise, professional training and education, as well as expert service combine into a unique solution to meet customers' sophisticated requirements.





EB19-J10U Ultrasound Video Bronchoscope

The PENTAX Medical Ultrasound Video Bronchoscope EB19-J10U is designed to improve diagnostic outcomes. It features crystal clear ultrasound imaging to support diagnostic accuracy, contributes to a smooth facilitation of the EBUS-TBNA, and is ergonomically designed for ease of operation and high working comfort.

Crystal clear imaging for precise visualization

Offers state-of-the-art ultrasound image quality for clear visualization of the airway wall, surrounding lymph nodes, and adjacent structures. It supports orientation and navigation in the airways by the sharpened HD endoscopic view.

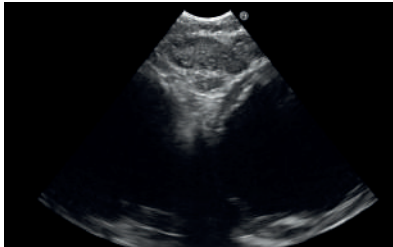
Reliable tissue acquisition

The combination of an outstanding ultrasound imaging and an enlarged working channel contribute to an accurate and easier real-time ultrasound-guided trans-bronchial needle aspiration (EBUS-TBNA) for the diagnosis and staging of lung diseases with the use of a wide range of needles.

Unmatched ergonomic design for ease of operation

Optimal working comfort for users and high patient tolerance provided by the small ultrasound transducer, the slim endoscope outer diameter and the unique ergonomics of the control body.

High precision through optimized design



Crystal clear imaging enhancing diagnosis

- Unmatched ultrasound image quality leading to clear visualization of the airways, surrounding lymph nodes and adjacent anatomies
- Supports diagnosis and staging of lung cancer and other airway diseases



Optimal visualization and orientation

- Clear endoscopic view supporting orientation and navigation in the airways
- Enhancing user confidence with permanent ultrasound transducer visibility for better guidance during examination



High precision for EBUS-TBNA

- Optimal needle visualization aids the targeting of lymph nodes and masses
- Precise navigation of EBUS-TBNA needle thanks to optimal penetration angle
- Effortless, more accurate and reliable sampling through enlarged working channel of 2.2 mm that allows smooth needle delivery



Ease of operation

- Easy handling during the procedure and easy reprocessing due to lightweight control body and redesigned connectors
- Small ultrasound transducer and slim endoscope outer diameter enhancing maneuverability and provide optimal working comfort



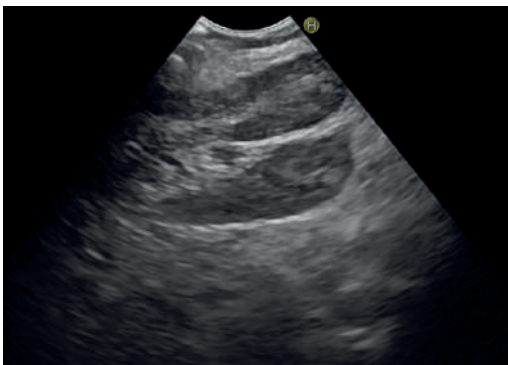
Reliable for increased user and patient safety

- Endoscope design and single use accessories meet strong market requirements for reprocessing and product hygiene
- Single-use suction valve and cleaning brushes to minimize risk of cross-contamination

A unique combination: PENTAX Medical EB19-J10U and Hitachi ultrasound clearly defined solutions

Since Hitachi's incorporation more than 100 years ago, its principles have been based on developing superior, inventive technology and products that contribute to society. Following this credo, Hitachi has been committed to delivering outstanding and pioneering medical imaging solutions, based on the group's expertise and technical know-how.

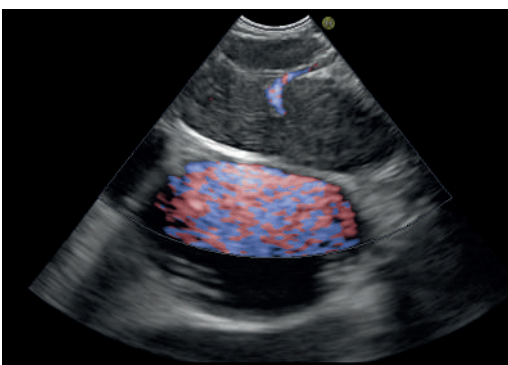
Understanding today's healthcare challenges, Hitachi is dedicated to providing cutting-edge innovations that meet clinician and patient needs.



Broadband Harmonic Imaging

High definition dynamic Tissue Harmonic Imaging (HdTHI) / dynamic Tissue Harmonic Imaging (dTHI)

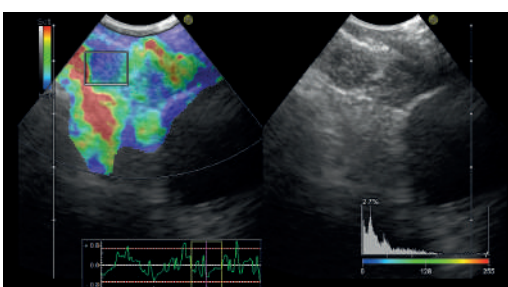
- Improves spatial resolution and achieves excellent deep area penetration
- Clear boundaries delineation, vascular structures clear of noise and good visualisation of needle tip insertion, are easily achieved with high frame rate



Fine Flow/eFlow

(Flow Mapping Technology)

- Allows detailed display of blood flow dynamics
- Accurately depict blood flow dynamics, providing improved spatial resolution and sensitivity at high frame rates



Hitachi Real-Time Tissue Elastography

(RTE)

- Measures and displays tissue strain in real-time for immediate visualization of hard and soft tissue
- Helps targeting tissue sampling during EBUS-TBNA procedures

The Hitachi ultrasound systems range from budget class to high specialization, meeting the needs of each individual customer.

All of these systems benefit from Hitachi's technological thought leadership. Hitachi's extensive range of transducers incorporates a diverse selection of specialist probes, allowing to cover almost every imaging need.

Noblus – Advanced versatile ultrasound system

- Easily adaptable to the workplace
- Performant for a wide variety of clinical applications
- Premium image quality and advanced functions for increased diagnostic confidence



ARIETTA V70 – Next generation ultrasound system

- Compact and light-weight, stand-alone ultrasound system with excellent ergonomics
- Multiple functions dedicated to each diagnostic field, supporting more accurate and efficient diagnoses
- Proven imaging technologies, providing the ultimate in clinical performance



Hitachi ultrasound transducers

Benefit from Hitachi's wide range of complementary ultrasound transducers, allowing for application in different areas of clinical use, such as:

- Ultrasound-guided placement of thoracic drains
- Assessment of pleural fluid movement allowing the depiction of different pathologies



An innovative pairing: the PENTAX Medical EB19-J10U with DEFINA solution

HD image quality and i-scan technology – at a new level

The compact DEFINA EPK-3000 video processor offers state-of-the-art HD imaging for detection of epithelial changes. This is supported by i-scan, which is a digital image enhancement endoscopy technology and a virtual endoscopy tool. Easily operated with just the touch of a button, it offers rapid imaging results and real-time processing. This i-scan technology guides the user to the area that needs to be biopsied and supports the user in determining the area to be treated.

Superior image quality for better orientation

- Brilliant, high-definition images for a clear, fast, and more detailed visualization of the mucosal structures
- Dynamic range expansion for excellent far-field illumination and better visibility of the distal area

Supporting diagnostic outcome

- HD image combined with i-scan technology for faster detection, easier demarcation, and support in characterization

Ease of operation

- Compact design for a better fit in the existing clinical environment



A system that offers a choice

The DEFINA solution gives you the choice of a light version or the full version with i-scan. The light version of DEFINA can be always upgraded with a separate software kit, available to enhance your diagnostic capabilities to ensure optimized diagnosis results. Once you have made the decision to further enhance your optical diagnosis with i-scan, please contact your PENTAX Medical representative for ordering information on the i-scan upgrading kit.

DEFINA EPK-3000

Light version with upgradable capabilities

Full version with i-scan



i-scan UPGRADING KIT

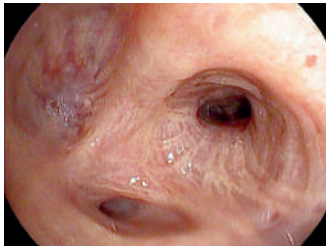
This is available at any time.

With its user-friendly interface, compact size, and ease-of-operation, this is the economically efficient endoscopy diagnostic solution for a smaller budget: the light version of DEFINA.

With its user-friendly interface, compact size, and ease-of-operation, this is the economically efficient endoscopy diagnostic solution for a smaller budget: the light version of DEFINA.

With its excellent price performance ratio, the full version of DEFINA with i-scan is the ideal video processor with which to enter the world of high-definition and i-scan for an enhanced diagnosis.

i-scan image enhancement: for diagnostic support



i-scan 1 (SE) – detection and delineation

- Accentuates epithelial structures in the central airways in natural color tones
- Enhances lesion margins and vessel patterns and supports the detection of epithelial changes



i-scan 2 (SE and TE) – demarcation and characterization

- Enhances the endoscopic outlines and margins of necrotic, non-neoplastic, and neoplastic areas and inflammatory bronchial lesions
- Allows better evaluation of the accentuated vascular pattern, which can support characterization of visible abnormalities



i-scan 3 (SE and TE) – characterization and localization

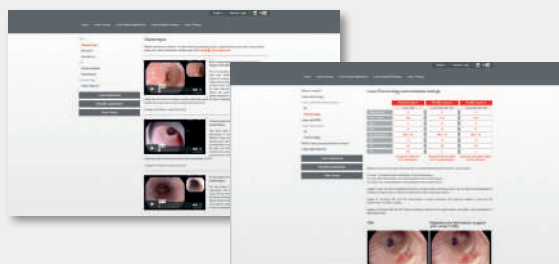
- Supports the characterization and localization of biopsy sites and further highlights vascular patterns
- Supports the learning curve for characterization and localization through image enhancement technology

i-scan website

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www.i-scanimaging.com



Intended use following recommendation of European guideline

The European guideline recommends the combined use of the EBUS endoscope for endobronchial and esophageal endosonography for the diagnosis and staging of lung cancer.*

In line with this guideline, the intended use of the PENTAX Medical EB19-J10U was expanded to endobronchial and esophageal endosonography which allows the user to perform a combined EBUS-TBNA and EUS-(B)-FNA procedure with only one ultrasound endoscope.



EBUS performed with PENTAX Medical EB19-J10U in the airways showing EBUS-TBNA of lymph node station 7 from right main bronchus.



EUS-B esophageal approach using the EBUS endoscope of PENTAX Medical EB19-J10U showing lymph node station 7.



EUS-(B) in the esophagus performed with PENTAX EG-3270UK showing multiple lymph nodes.

For further information about the ESGE, ERS, and ESTS guideline visit:

www.esge.com/combined-endobronchial-and-esophageal-endosonography.html



* "Combined endobronchial and esophageal endosonography for the diagnosis and staging of lung cancer: European Society of Gastrointestinal Endoscopy (ESGE) Guideline, in cooperation with the European Respiratory Society (ERS) and the European Society of Thoracic Surgeons (ESTS)" Peter Vilmann, Paul Frost Clementsen, Sara Colella, Mette Siemsen, Paul De Leyn, Jean-Marc Dumonceau, Felix J. Herth, Alberto Larghi, Enrique Vazquez-Sequeiros, Cesare Hassan, Laurence Crombag, Daniël A. Korevaar, Lars Konge, Jouke T. Annema

Training for Excellence

PENTAX Medical Training for Excellence is a unique platform with the aim of offering professional education and supporting the exchange of best practices. This training platform forms part of PENTAX Medical's drive to improve quality in endoscopy.



www.training-for-excellence.eu



my PENTAX Medical – The exclusive online customer portal



The “my PENTAX Medical” customer portal provides you with 24/7 access to all online services, including manual downloads, repair requests and tracking, as well as training and events registration.

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How to join

www.mypentaxmedical.eu



1

As our customer, you receive your personal set-up credentials together with your personal membership card.

2

You can create a personalized account on 'my PENTAX Medical' using the initial set-up credentials.

3

Please ensure you record your personal password on the membership card or in a safe place.

4

For using your account in the most convenient way, you can organize and set up your departments and equipment as you need.

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The manufacturer of PENTAX Medical EB19-J10U is HOYA Corporation, Tokyo, Japan. It is distributed in assigned geographical areas in Europe by Hitachi Medical Systems Europe Holding AG, Zug, Switzerland, and its subsidiaries.

TÜV Süd CE0123 • Medical device class: IIa • This product must be used only by healthcare professionals. Before usage and for detailed product specifications, please refer to the instructions for use. In the interest of technical process, specifications may change without notice.

PENTAX
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Excellence in Focus