

In the last two decades, EBUS - TBNA has emerged as an extremely efficient and minimally invasive technique for sampling peribronchial, mediastinal and pulmonary masses for histopathological examination. EBUS - TBNA can provide quick results on the spot, with relatively little expertise and has a very safe profile. It has proven to be significantly cost-effective compared to the previously considered "gold-standard" techniques. The main indications of EBUS-TBNA are: Diagnosis, staging and restaging of lung cancer; Diagnosis of mediastinal and hilar lymphadenopathy; Diagnosis of lymphomas; Bronchial lesions.

Limitations of EBUS-TBNA - EBUS is limited to the anterosuperior mediastinum, and EUS is often used to sample the posteroinferior mediastinum. EBUS and EUS can often be performed in the same session consecutively. EBUS is technically difficult to perform in certain anatomical locations, such as the upper lobes, because extreme angulation of the echo-bronchoscope is required. For patients undergoing bronchoscopy under conscious sedation, a significant cough can limit the success of the procedure.

Contraindications for EBUS are similar to those of bronchoscopy in general. The specific contraindications of EBUS-TBNA are related to coagulopathy (drug-induced or inherent). Endonodal / endotumoral bleeding is generally reduced, being limited by the extrinsic resistance of the nodal capsule or intrinsic endotumoral.

Practical and imaging locations of mediastinal adenopathies.

## ABORDAREA BRONHOSCOPIA A LEZIUNILOR PULMONARE PERIFERICE



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Diagnosticul leziunilor pulmonare periferice PPL reprezintă o provocare pentru bronhologi. PPL este un nodul pulmonar (tipic sub 3 cm) care este localizat în periferia plămânului. Poate fi solid, subsolid, benign sau malign. 60-80 % din cancerul pulmonar găsit la screeningul cu *low dose* computer tomograf sunt localizate periferic și sunt sub 2 cm. Bronhoscopia convențională are un rol limitat în evaluarea PPL.

Tehnicile avansate de bronhoscopie intervențională sunt: radial probe EBUS, navigația electromagnetică, navigația virtuală bronhoscopică, abordarea transparenchimală a nodulului pulmonar și bronhoscopia asistată robotic.

Voi prezenta un *overview* al acestor tehnici și unele cazuri din experiența personală.

Alegerea metodei depinde de caracteristicile pacientului, expertiza echipei și tehnica disponibilă.

## A BRONCHOSCOPIST'S APPROACH FOR PERIPHERAL PULMONARY LESIONS

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The diagnosis of peripheral lesions remain challenging for bronchoscopic biopsy

Peripheral pulmonary lesion [PPL] is a pulmonary nodule (typically <3 cm) that is located in the lung periphery. It can be solid or subsolid, benign or malignant. 60-80% of the lung cancers found on the baseline screening low-dose computed tomography are ≤2 cm and are without endoscopic vision. Conventional flexible bronchoscopy techniques have a limited role in the evaluation of lung peripheral lesions.

The advanced bronchoscopy-guided techniques for PPLs : radial probe-endobronchial ultrasonography (RPEBUS), virtual bronchoscopy navigation (VBN), electromagnetic navigation bronchoscopy (ENB), bronchoscopic transparenchymal nodule access (BTPNA) and robotic-assisted bronchoscopy.

I will present an overview of these techniques and some cases from my experience . Choosing the endoscopic techniques that will be used depend on the PPL and patient characteristics, expertise of the team and on the available facilities.

## CRIOBIOPSIA SI CRIOTERAPIA IN PNEUMOLOGIE



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Criotehnologia este un nouă metodă pentru diagnosticul și tratamentul bolilor pulmonare.

Criobiopsia este utilă în diagnosticul tumorilor pulmonare cu un randament diagnostic crescut 95%. Are avantajele: biopsie tangentială în tumorile infiltrative, calitate bună a țesutului pentru teste moleculare, fără creșterea complicațiilor.

Criobiopsia este o metoda sigură, cu un înalt randament diagnostic, cu complicații și o rată de mortalitate mai mică decât SBL. Criobiopsia ar trebui să fie prima abordare diagnostică pentru obținerea de țesut în IPF.

Crioterapia și criorecanalizarea au efect în tumorile maligne și benigne cu sau fără obstrucție critică, în extracția corpurilor străini și a cheagurilor.

Voi prezenta unele cazuri interesante din experiența mea.

Criotehnologiile sunt folosite la diagnosticul bolilor interstitală și alte boli pulmonare și pentru terapie endobronșică în pneumologia intervențională.

## CRYOBIOPSY AND CRYOTHERAPY IN PNEUMOLOGY

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Cryotechnology is a new method for diagnosis and treatment in pneumology.

CRYOBIOPSY has value in the diagnosis of endobronchial tumors with high diagnostic yield. The advantages are: tangential biopsy in infiltrative tumoral forms, higher quality of the samples and higher diagnostic yield and no increase in complications. Cryotherapy and cryorecanalisation/cryoextraction are effective in the treatment of malignant endobronchial obstruction both with and without critical airway narrowing, in foreign bodies, blood clots extraction. I will present some interesting cases from my experience. Cryotechnology is being used to diagnose interstitial and other parenchymal lung diseases and for therapy in interventional pneumology.