



UNIVERSITA' CAMPUS BIO-MEDICO DI ROMA



68° CONGRESSO NAZIONALE SIGG

Ritorno al futuro

FIRENZE, 13-16 DICEMBRE 2023
PALAZZO DEI CONGRESSI

Corso teorico-pratico in Ecografia del Torace

Introduzione e Razionale del Corso

Simone Scarlata

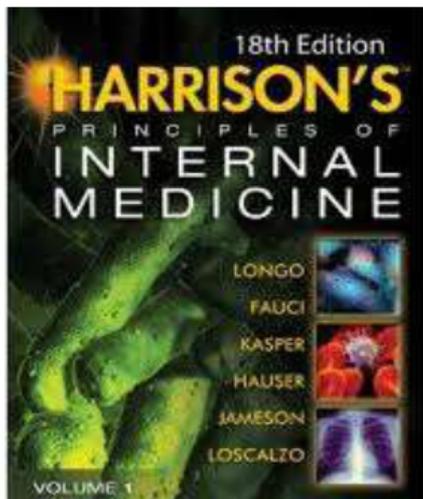
Area di Medicina Interna e Geriatria –

Servizio di fisiopatologia respiratoria

Policlinico Universitario Campus Bio Medico di Roma



Ecografia polmonare: l'aria è nemica degli ultrasuoni



«Because ultrasound energy
is rapidly dissipated in air,
**ultrasound imaging is not useful
for evaluation of the pulmonary parenchyma.»**



L'ecografia toracica negli anni

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PubMed Lung ultrasound Search

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Article types: Clinical Trial, Review, Customize ...

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Best matches for Lung ultrasound:

- [BLUE-protocol and FALLS-protocol: two applications of lung ultrasound in the critically ill.](#) Lichtenstein DA et al. Chest. (2015)
- [Bedside lung ultrasound in the care of the critically ill.](#) Rudas M et al. Crit Care Resusc. (2017)
- [Lung ultrasound in the critically ill.](#) Lichtenstein D et al. Curr Opin Crit Care. (2014)

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Publication dates: 5 years, 10 years, Custom range...

Species: Humans, Other Animals

Best matches for ultrasounds:

- [Spine ultrasounds should not be routinely performed for patients with simple sacral dimples.](#) Albert GW et al. Acta Paediatr. (2016)
- [Where do ultrasounds have to go?](#) Zetlaoui PJ et al. Anaesth Crit Care Pain Med. (2017)
- [Cost Analysis of Following Up Incomplete Low-Risk Fetal Anatomy Ultrasounds.](#) O'Brien K et al. Birth. (2017)

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PMc Images search for ultrasounds

Intensive Care Med
DOI 10.1007/s00134-012-2513-4

CONFERENCE REPORTS AND EXPERT PANEL

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International Liaison Committee on Lung Ultrasound
(ILC-LUS) for the International
Consensus Conference on Lung Ultrasound (ICC-LUS)

International evidence-based recommendations for point-of-care lung ultrasound



Critical care ultrasonography in acute respiratory failure

Philippe Vignon^{1,2,3*}, Xavier Repessé⁴, Antoine Veillard-Baron^{4,5,6} and Eric Maury^{7,8,9}



Vignon et al. *Critical Care* (2016) 20:228

Ultrasonography in the emergency department

Micah R. Whitson* and Paul H. Mayo



Whitson and Mayo *Critical Care* (2016) 20:227

Thoracic ultrasound: A complementary diagnostic tool in cardiology



World J Cardiol 2016 October 26; 8(10): 566-574

Transthoracic Ultrasonography for the Respiratory Physician



Respiration 2012;84:337-350

The Geriatric Patient: The Ideal One for Chest Ultrasonography? A Review From the Chest Ultrasound in the Elderly Study Group (GRETA) of the Italian Society of Gerontology and Geriatrics (SIGG)

Andrea Ticinesi MD, PhD ^{a,b,*}, Simone Scarlata MD ^c, Antonio Nouvenne MD, PhD ^{a,b}, Fulvio Lauretani MD, PhD ^{a,b}, Raffaele Antonelli Incalzi MD ^c, Andrea Ungar MD, PhD ^d, on behalf of the GRETA (Gruppo di Ricerca sull'Ecografia Toracica nell'Anziano) Group of the Italian Society of Gerontology and Geriatrics (SIGG)

Summary of the Results of the Main Studies on Chest Ultrasonography in Which a Population With a Mean Age ≥ 70 Years Old Was Enrolled

First Author, Journal, Year, Reference	Setting and Design	Number of Patients	Mean Age	Main Outcome	Gold Standard	Sensitivity	Specificity	Grade of Evidence	Quality of Evidence	Key Finding
Pivetta, <i>Chest</i> , 2015 ¹⁸	7 EDs, observational	1005	77	Cardiogenic vs other dyspnea	Blind review of medical record	0.97	0.97	C	Adequate	Ultrasonography can improve the diagnostic accuracy of acute dyspnea in the ED. Bedside ultrasonography improves the diagnostic workup of dyspnea in wards. To diagnose acute heart failure, ultrasonography should be integrated with clinical information. Ultrasonography allows quicker and more appropriate treatment of dyspnea, and faster disposition from ED. Ultrasonography has higher diagnostic accuracy for pneumonia than radiography, especially in frail patients. Lung ultrasonography was consistent with CT findings in the diagnosis of ARDS. Persistence of ultrasonographic signs of acute heart failure is associated with mortality. Lung ultrasonography reduced LOS and predicted therapeutic variations in AHF. Diaphragmatic dysfunction, assessed by M-mode ultrasonography, predict mechanical ventilator weaning failure. Change in diaphragm thickness predict NIV weaning failure and mortality.
Perrone, <i>Eur J Intern Med</i> , 2017 ¹⁹	IM ward, observational	150	81	Cardiogenic vs other dyspnea	Discharge diagnosis	0.94	0.86	C	Poor	
Sartini, <i>Intern Emerg Med</i> , 2017 ²⁰	ED, observational	236	80	Cardiogenic vs other dyspnea	Expert review of medical records	0.58	0.88	C	Poor	
Laursen, <i>Lancet Respir Med</i> , 2014 ²¹	ED, prospective parallel-group trial	320	73	Assignment to the right treatment for dyspnea	Masked audit on clinical records	NA	NA	B	Good	
Ticinesi, <i>Medicine</i> , 2016 ⁴	IM/geriatric ward, observational	169	83	Pneumonia vs other respiratory conditions	Blind review of medical record	0.92	0.94	C	Adequate	
Huang, <i>BMC Pulm Med</i> , 2018 ²⁵	ICU, prospective	51	82	ARDS vs no ARDS	Chest CT	0.88	0.89	C	Adequate	
Cogliati, <i>Int J Cardiol</i> , 2016 ³⁵	IM ward, prospective	150	81	Prediction of adverse events in AHF	Echocardiography	NA	NA	C	Adequate	
Mozzini, <i>Intern Emerg Med</i> , 2018 ³⁶	IM ward, prospective parallel-group trial	120	84	Prediction of LOS and therapeutic adjustments in AHF	Echo-cardiography	NA	NA	C	Adequate	
Huang, <i>J Thorac Dis</i> , 2017 ⁵²	ICU, prospective	40	84	Mechanical ventilator weaning in ARF	NA	NA	NA	C	Poor	
Marchioni, <i>Crit Care</i> , 2018 ⁵⁴	ICU, prospective	75	78	NIV weaning in AECOPD	NA	NA	NA	C	Adequate	

AECOPD, acute exacerbation of chronic obstructive pulmonary disease; AHF, acute heart failure; ARDS, acute respiratory distress syndrome; ARF, acute respiratory failure; IM, internal medicine; LOS, length of stay; NA, not assessed; NIV, noninvasive ventilation.

Grading and quality of evidence is also provided using the method proposed by Barth et al.⁵⁵