

4. Lichtenstein D, Axler O: Intensive use of general ultrasound in the intensive care unit. Prospective study of 150 consecutive patients. *Intensive Care Med* 1993; 19:353–355
5. Beagle GL: Bedside diagnostic ultrasound and therapeutic ultrasound-guided procedures in the intensive care setting. *Crit Care Clin* 2000; 16:59–81
6. Neri L, Storti E, Lichtenstein D: Toward an ultrasound curriculum for critical care medicine. *Crit Care Med* 2007; 35:S290–S304
7. Volpicelli G, Elbarbary M, Blaivas M, et al; International Liaison Committee on Lung Ultrasound (ILC-LUS) for International Consensus Conference on Lung Ultrasound (ICC-LUS): International evidence-based recommendations for point-of-care lung ultrasound. *Intensive Care Med* 2012; 38:577–591
8. Troianos CA, Hartman GS, Glas KE, et al; Councils on Intraoperative Echocardiography and Vascular Ultrasound of the American Society of Echocardiography; Society of Cardiovascular Anesthesiologists: Special articles: Guidelines for performing ultrasound guided vascular cannulation: Recommendations of the American Society of Echocardiography and the Society Of Cardiovascular Anesthesiologists. *Anesth Analg* 2012; 114:46–72
9. American College of Emergency Physicians. ACEP emergency ultrasound guidelines-2001. *Ann Emerg Med* 2001;38:470–481
10. Lamperti M, Bodenham AR, Pittiruti M, et al: International evidence-based recommendations on ultrasound-guided vascular access. *Intensive Care Med* 2012; 38:1105–1117
11. Practice Guidelines for Perioperative Transesophageal Echocardiography. A report by the American Society of Anesthesiologists and the Society of Cardiovascular Anesthesiologists Task Force on Transesophageal Echocardiography. *Anesthesiology* 1996;84:986–1006
12. Pustavoitau A, Blaivas M, Brown SM, et al; From the Ultrasound Certification Task Force on behalf of the Society of Critical Care Medicine: Recommendations for achieving and maintaining competence and credentialing in critical care ultrasound with focused cardiac ultrasound and advanced critical care echocardiography. *Crit Care Med* 2014; 42:1021–1324, e319–e390
13. Guyatt G, Gutterman D, Baumann MH, et al: Grading strength of recommendations and quality of evidence in clinical guidelines: Report from an american college of chest physicians task force. *Chest* 2006; 129:174–181
14. Dellinger RP, Levy MM, Carlet JM, et al; International Surviving Sepsis Campaign Guidelines Committee; American Association of Critical-Care Nurses; American College of Chest Physicians; American College of Emergency Physicians; Canadian Critical Care Society; European Society of Clinical Microbiology and Infectious Diseases; European Society of Intensive Care Medicine; European Respiratory Society; International Sepsis Forum; Japanese Association for Acute Medicine; Japanese Society of Intensive Care Medicine; Society of Critical Care Medicine; Society of Hospital Medicine; Surgical Infection Society; World Federation of Societies of Intensive and Critical Care Medicine: Surviving Sepsis Campaign: International guidelines for management of severe sepsis and septic shock: 2008. *Crit Care Med* 2008; 36:296–327
15. Fitch K, Bernstein SJ, Aguilar MD, et al. The RAND/UCLA Appropriateness Method User's Manual. 2001; Arlington, VA, RAND Corporation
16. Rozycki GS, Pennington SD, Feliciano DV: Surgeon-performed ultrasound in the critical care setting: Its use as an extension of the physical examination to detect pleural effusion. *J Trauma* 2001; 50:636–642
17. Xirouchaki N, Magkanas E, Vaporidi K, et al: Lung ultrasound in critically ill patients: Comparison with bedside chest radiography. *Intensive Care Med* 2011; 37:1488–1493
18. Gordon CE, Feller-Kopman D, Balk EM, et al: Pneumothorax following thoracentesis: A systematic review and meta-analysis. *Arch Intern Med* 2010; 170:332–339
19. Grogan DR, Irwin RS, Channick R, et al: Complications associated with thoracentesis. A prospective, randomized study comparing three different methods. *Arch Intern Med* 1990; 150:873–877
20. Liang SJ, Tu CY, Chen HJ, et al: Application of ultrasound-guided pigtail catheter for drainage of pleural effusions in the ICU. *Intensive Care Med* 2009; 35:350–354
21. Remérand F, Dellamonica J, Mao Z, et al: Multiplane ultrasound approach to quantify pleural effusion at the bedside. *Intensive Care Med* 2010; 36:656–664
22. Kohan JM, Poe RH, Israel RH, et al: Value of chest ultrasonography versus decubitus roentgenography for thoracentesis. *Am Rev Respir Dis* 1986; 133:1124–1126
23. Vignon P, Chastagner C, Berkane V, et al: Quantitative assessment of pleural effusion in critically ill patients by means of ultrasonography. *Crit Care Med* 2005; 33:1757–1763
24. Lichtenstein D, Hulot JS, Rabiller A, et al: Feasibility and safety of ultrasound-aided thoracentesis in mechanically ventilated patients. *Intensive Care Med* 1999; 25:955–958
25. Roch A, Bojan M, Michelet P, et al: Usefulness of ultrasonography in predicting pleural effusions > 500 mL in patients receiving mechanical ventilation. *Chest* 2005; 127:224–232
26. Balik M, Plasil P, Waldauf P, et al: Ultrasound estimation of volume of pleural fluid in mechanically ventilated patients. *Intensive Care Med* 2006; 32:318–321
27. Mayo PH, Goltz HR, Tafreshi M, et al: Safety of ultrasound-guided thoracentesis in patients receiving mechanical ventilation. *Chest* 2004; 125:1059–1062
28. Whiting PF, Rutjes AW, Westwood ME, et al. QUADAS-2: A revised tool for the quality assessment of diagnostic accuracy studies. *Ann Intern Med* 2011; 155: 529–536
29. Blaivas M, Lyon M, Duggal S: A prospective comparison of supine chest radiography and bedside ultrasound for the diagnosis of traumatic pneumothorax. *Acad Emerg Med* 2005; 12:844–849
30. Soldati G, Testa A, Sher S, et al: Occult traumatic pneumothorax: Diagnostic accuracy of lung ultrasonography in the emergency department. *Chest* 2008; 133:204–211
31. Volpicelli G: Sonographic diagnosis of pneumothorax. *Intensive Care Med* 2011; 37:224–232
32. Wilkerson RG, Stone MB: Sensitivity of bedside ultrasound and supine anteroposterior chest radiographs for the identification of pneumothorax after blunt trauma. *Acad Emerg Med* 2010; 17:11–17
33. Knudtson JL, Dort JM, Helmer SD, et al: Surgeon-performed ultrasound for pneumothorax in the trauma suite. *J Trauma* 2004; 56:527–530
34. Dulchavsky SA, Schwarz KL, Kirkpatrick AW, et al: Prospective evaluation of thoracic ultrasound in the detection of pneumothorax. *J Trauma* 2001; 50:201–205
35. Ding W, Shen Y, Yang J, et al: Diagnosis of pneumothorax by radiography and ultrasonography: A meta-analysis. *Chest* 2011; 140:859–866
36. Lichtenstein DA, Mezière G, Lascols N, et al: Ultrasound diagnosis of occult pneumothorax. *Crit Care Med* 2005; 33:1231–1238
37. Peris A, Tutino L, Zagli G, et al: The use of point-of-care bedside lung ultrasound significantly reduces the number of radiographs and computed tomography scans in critically ill patients. *Anesth Analg* 2010; 111:687–692
38. Barnes TW, Morgenthaler TI, Olson EJ, et al: Sonographically guided thoracentesis and rate of pneumothorax. *J Clin Ultrasound* 2005; 33:442–446
39. Galbois A, Ait-Oufella H, Baudel JL, et al: Pleural ultrasound compared with chest radiographic detection of pneumothorax resolution after drainage. *Chest* 2010; 138:648–655
40. Lichtenstein DA, Lascols N, Mezière G, et al: Ultrasound diagnosis of alveolar consolidation in the critically ill. *Intensive Care Med* 2004; 30:276–281
41. Lichtenstein D: Lung ultrasound in acute respiratory failure an introduction to the BLUE-protocol. *Minerva Anestesiol* 2009; 75:313–317
42. Bouhemad B, Brisson H, Le-Guen M, et al: Bedside ultrasound assessment of positive end-expiratory pressure-induced lung recruitment. *Am J Respir Crit Care Med* 2011; 183:341–347
43. Lichtenstein DA, Mezière GA: Relevance of lung ultrasound in the diagnosis of acute respiratory failure: The BLUE protocol. *Chest* 2008; 134:117–125
44. Bouhemad B, Liu AZ, Arbelot C, et al: Ultrasound assessment of antibiotic-induced pulmonary reaeration in ventilator-associated pneumonia. *Crit Care Med* 2010; 38:184–192
45. Lichtenstein DA, Mezière GA, Lagoueyte JF, et al: A-lines and B-lines: Lung ultrasound as a bedside tool for predicting pulmonary artery occlusion pressure in the critically ill. *Chest* 2009; 136:1014–1020