

ICM7078 Diagnostic Tools in Critical Illness

Diagnostic Tools in Critical Illness

View Online



[1]

P. Theerawit, C. Na Petvicharn, V. Tangsujaritvijit, and Y. Sutherasan, 'The Correlation Between Arterial Lactate and Venous Lactate in Patients With Sepsis and Septic Shock', *Journal of Intensive Care Medicine*, vol. 33, no. 2, pp. 116–120, Feb. 2018, doi: 10.1177/0885066616663169.

[2]

A.-M. Kelly, S. Klim, and S. E. Rees, 'Agreement between mathematically arterialised venous versus arterial blood gas values in patients undergoing non-invasive ventilation: a cohort study', *Emergency Medicine Journal*, vol. 31, no. e1, pp. e46–e49, Oct. 2014, doi: 10.1136/emered-2013-202879.

[3]

R. Browning, D. Datta, A. J. Gray, and C. Graham, 'Peripheral venous and arterial lactate agreement in septic patients in the Emergency Department', *European Journal of Emergency Medicine*, vol. 21, no. 2, pp. 139–141, Apr. 2014, doi: 10.1097/MEJ.0b013e328361321c.

[4]

'2-E5: Critical Care Medicine 2', *Respirology*, vol. 18, pp. 195–197, Nov. 2013, doi: 10.1111/resp.12184_44.

[5]

'Arteriovenous blood gas agreement in intensive care patients with varying levels of circulatory compromise: a pilot study.' [Online]. Available:

https://www.cicm.org.au/CICM_Media/CICMSite/CICM-Website/Resources/Publications/CCR%20Journal/Previous%20Editions/December%202015/ccr_17_4_011215-253.pdf

[6]

P. Theerawit, C. Na Petvicharn, V. Tangsujaritvijit, and Y. Sutherasan, 'The Correlation Between Arterial Lactate and Venous Lactate in Patients With Sepsis and Septic Shock', *Journal of Intensive Care Medicine*, vol. 33, no. 2, pp. 116–120, Feb. 2018, doi: 10.1177/0885066616663169.

[7]

A.-L. Paquet et al., 'Agreement between arterial and venous lactate in emergency department patients', *European Journal of Emergency Medicine*, Nov. 2016, doi: 10.1016/j.ajem.2019.01.034.

[8]

T. M. McKeever et al., 'Using venous blood gas analysis in the assessment of COPD exacerbations: a prospective cohort study', *Thorax*, vol. 71, no. 3, pp. 210–215, Mar. 2016, doi: 10.1136/thoraxjnl-2015-207573.

[9]

M. I. Langdorf et al., 'Prevalence and Clinical Import of Thoracic Injury Identified by Chest Computed Tomography but Not Chest Radiography in Blunt Trauma: Multicenter Prospective Cohort Study', *Annals of Emergency Medicine*, vol. 66, no. 6, pp. 589–600, Dec. 2015, doi: 10.1016/j.annemergmed.2015.06.003.

[10]

A. N. Kanani and S. Hartshorn, 'NICE clinical guideline NG39: Major trauma: assessment and initial management', *Archives of disease in childhood - Education & practice edition*, vol. 102, no. 1, pp. 20–23, Feb. 2017, doi: 10.1136/archdischild-2016-310869.

[11]

'Standard of Practice and Guidance for Trauma Radiology in Severely Injured Patients'. [Online]. Available:

https://www.rcr.ac.uk/system/files/publication/field_publication_files/bfcr155_traumaradiol.pdf

[12]

K. Gunnerson, M. Saul, S. He, and J. Kellum, 'Lactate versus non-lactate metabolic acidosis: a retrospective outcome evaluation of critically ill patients', *Critical Care*, vol. 10, no. 1, 2006, doi: 10.1186/cc3987.

[13]

N. M. Yunos, R. Bellomo, C. Hegarty, D. Story, L. Ho, and M. Bailey, 'Association Between a Chloride-Liberal vs Chloride-Restrictive Intravenous Fluid Administration Strategy and Kidney Injury in Critically Ill Adults', *JAMA*, vol. 308, no. 15, Oct. 2012, doi: 10.1001/jama.2012.13356.

[14]

L. J. Kaplan and J. A. Kellum, 'COMPARISON OF ACID BASE MODELS FOR PREDICTION OF HOSPITAL MORTALITY FOLLOWING TRAUMA', *Shock*, Dec. 2007, doi: 10.1097/shk.0b013e3181618946.

[15]

R. Rossaint et al., 'Management of bleeding following major trauma: an updated European guideline', *Critical Care*, vol. 14, no. 2, 2010, doi: 10.1186/cc8943.

[16]

B. M. Bloom, J. Grundlingh, J. P. Bestwick, and T. Harris, 'The role of venous blood gas in the Emergency Department', *European Journal of Emergency Medicine*, vol. 21, no. 2, pp. 81-88, Apr. 2014, doi: 10.1097/MEJ.0b013e32836437cf.

[17]

E. B. SGARBOSSA, 'Recent Advances in the Electrocardiographic Diagnosis of Myocardial Infarction: Left Bundle Branch Block and Pacing', *Pacing and Clinical Electrophysiology*, vol. 19, no. 9, pp. 1370-1379, Sep. 1996, doi: 10.1111/j.1540-8159.1996.tb04217.x.

[18]

E. B. Sgarbossa, S. L. Pinski, K. B. Gates, and G. S. Wagner, 'Early electrocardiographic diagnosis of acute myocardial infarction in the presence of ventricular paced rhythm', *The American Journal of Cardiology*, vol. 77, no. 5, pp. 423–424, Feb. 1996, doi: 10.1016/S0002-9149(97)89377-0.

[19]

'Sgarbossa Criteria are Highly Specific for Acute Myocardial Infarction with Pacemakers', *Western Journal of Emergency Medicine*, vol. 11, no. 4, 2010 [Online]. Available: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2967688/>

[20]

P. Libby, 'Mechanisms of Acute Coronary Syndromes and Their Implications for Therapy', *New England Journal of Medicine*, vol. 368, no. 21, pp. 2004–2013, May 2013, doi: 10.1056/NEJMra1216063.

[21]

'Coronary Disease in Emergency Department Chest Pain Patients with Recent Negative Stress Testing', *Western Journal of Emergency Medicine*, vol. 11, no. 4, 2010 [Online]. Available: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2967694/>

[22]

Q. Cai et al., 'The left bundle-branch block puzzle in the 2013 ST-elevation myocardial infarction guideline: From falsely declaring emergency to denying reperfusion in a high-risk population. Are the Sgarbossa Criteria ready for prime time?', *American Heart Journal*, vol. 166, no. 3, pp. 409–413, Sep. 2013, doi: 10.1016/j.ahj.2013.03.032.

[23]

I. J. Neeland, M. C. Kontos, and J. A. de Lemos, 'Evolving Considerations in the Management of Patients With Left Bundle Branch Block and Suspected Myocardial Infarction', *Journal of the American College of Cardiology*, vol. 60, no. 2, pp. 96–105, Jul. 2012, doi: 10.1016/j.jacc.2012.02.054.

[24]

H. P. Meyers et al., 'Validation of the modified Sgarbossa criteria for acute coronary occlusion in the setting of left bundle branch block: A retrospective case-control study', *American Heart Journal*, vol. 170, no. 6, pp. 1255–1264, Dec. 2015, doi: 10.1016/j.ahj.2015.09.005.

[25]

S. W. Smith, K. W. Dodd, T. D. Henry, D. M. Dvorak, and L. A. Pearce, 'Diagnosis of ST-Elevation Myocardial Infarction in the Presence of Left Bundle Branch Block With the ST-Elevation to S-Wave Ratio in a Modified Sgarbossa Rule', *Annals of Emergency Medicine*, vol. 60, no. 6, pp. 766–776, Dec. 2012, doi: 10.1016/j.annemergmed.2012.07.119.

[26]

E. B. Sgarbossa et al., 'Electrocardiographic Diagnosis of Evolving Acute Myocardial Infarction in the Presence of Left Bundle-Branch Block', *New England Journal of Medicine*, vol. 334, no. 8, pp. 481–487, Feb. 1996, doi: 10.1056/NEJM199602223340801.

[27]

S. Kaddoura, *Echo made easy*, 2nd ed. Edinburgh: Churchill Livingstone, 2009 [Online]. Available: <http://ezproxy.library.qmul.ac.uk/login?url=http://www.vlebooks.com/vleweb/product/openreader?id=QMUL&isbn=9780702050602&uid=^u>

[28]

Bonita Anderson, *Echocardiography: The Normal Examination and Echocardiographic Measurements*. Echotext Pty Ltd; 3rd Revised edition edition, 31AD [Online]. Available: https://www.amazon.co.uk/Echocardiography-Normal-Examination-Echocardiographic-Measurements/dp/0992322219/ref=sr_1_1?s=books&ie=UTF8&qid=1527070994&sr=1-1&keywords=Echocardiography%3A+The+Normal+Examination+of+Echocardiographic+Measurements

[29]

A. R. Houghton, *Making sense of echocardiography: a hands-on guide*. London, [England]:

Hodder Arnold, 2009 [Online]. Available:
<https://ebookcentral.proquest.com/lib/gmul-ebooks/detail.action?docID=564813>

[30]

'Abdominal x-ray review: ABDO X (summary) | Radiology Reference Article | Radiopaedia.org'. [Online]. Available:
<https://radiopaedia.org/articles/abdominal-x-ray-review-abdo-x-summary>

[31]

'Focussed Assessment with Sonography for Trauma (FAST) scan | Radiology Reference Article | Radiopaedia.org'. [Online]. Available:
<https://radiopaedia.org/articles/focussed-assessment-with-sonography-for-trauma-fast-scan>

[32]

'Lower gastrointestinal bleeding | Radiology Reference Article | Radiopaedia.org'. [Online]. Available: <https://radiopaedia.org/articles/lower-gastrointestinal-bleeding>

[33]

'Intestinal ischaemia | Radiology Reference Article | Radiopaedia.org'. [Online]. Available: <https://radiopaedia.org/articles/intestinal-ischaemia>

[34]

'Acute pancreatitis | Radiology Reference Article | Radiopaedia.org'. [Online]. Available: <https://radiopaedia.org/articles/acute-pancreatitis>

[35]

'Bowel obstruction | Radiology Reference Article | Radiopaedia.org'. [Online]. Available: <https://radiopaedia.org/articles/bowel-obstruction>

[36]

'Haemoperitoneum | Radiology Reference Article | Radiopaedia.org'. [Online]. Available: <https://radiopaedia.org/articles/haemoperitoneum>

[37]

'Abdominal trauma | Radiology Reference Article | Radiopaedia.org'. [Online]. Available: <https://radiopaedia.org/articles/abdominal-trauma>

[38]

'Surgical haemostatic material | Radiology Reference Article | Radiopaedia.org'. [Online]. Available: <https://radiopaedia.org/articles/surgical-haemostatic-material>

[39]

'Is Contrast Induced Nephropathy (CIN) Really Not a Thing? - REBEL EM - Emergency Medicine Blog'. [Online]. Available: <http://rebelem.com/contrast-induced-nephropathy-cin-really-not-thing/>

[40]

'Does contrast cause kidney injury? The evidence - First10EM'. [Online]. Available: <https://first10em.com/cin/>

[41]

'Contrast Manual | American College of Radiology'. [Online]. Available: <https://www.acr.org/Clinical-Resources/Contrast-Manual>

[42]

'MR Safety | American College of Radiology'. [Online]. Available: <https://www.acr.org/Clinical-Resources/Radiology-Safety/MR-Safety>

[43]

'The Radiology Assistant : Welcome to the Radiology Assistant'. [Online]. Available:

<http://radiologyassistant.nl/>

[44]

'HeadNeckBrainSpine'. [Online]. Available: <http://headneckbrainspine.com/>

[45]

P. Atkinson et al., 'International Federation for Emergency Medicine Consensus Statement: Sonography in hypotension and cardiac arrest (SHoC): An international consensus on the use of point of care ultrasound for undifferentiated hypotension and during cardiac arrest', *CJEM*, vol. 19, no. 06, pp. 459-470, Nov. 2017, doi: 10.1017/cem.2016.394.

[46]

P. R. Atkinson et al., 'Does Point-of-Care Ultrasonography Improve Clinical Outcomes in Emergency Department Patients With Undifferentiated Hypotension? An International Randomized Controlled Trial From the SHoC-ED Investigators', *Annals of Emergency Medicine*, Jun. 2018, doi: 10.1016/j.annemergmed.2018.04.002.

[47]

A. J. Labovitz et al., 'Focused Cardiac Ultrasound in the Emergent Setting: A Consensus Statement of the American Society of Echocardiography and American College of Emergency Physicians', *Journal of the American Society of Echocardiography*, vol. 23, no. 12, pp. 1225-1230, Dec. 2010, doi: 10.1016/j.echo.2010.10.005.

[48]

R. Breitzkreutz, F. Walcher, and F. H. Seeger, 'Focused echocardiographic evaluation in resuscitation management: Concept of an advanced life support-conformed algorithm', *Critical Care Medicine*, vol. 35, no. Suppl, pp. S150-S161, May 2007, doi: 10.1097/01.CCM.0000260626.23848.FC.

[49]

S. Price et al., 'Echocardiography practice, training and accreditation in the intensive care: document for the World Interactive Network Focused on Critical Ultrasound (WINFOCUS)',

Cardiovascular Ultrasound, vol. 6, no. 1, Dec. 2008, doi: 10.1186/1476-7120-6-49.

[50]

G. Via et al., 'International Evidence-Based Recommendations for Focused Cardiac Ultrasound', *Journal of the American Society of Echocardiography*, vol. 27, no. 7, p. 683.e1-683.e33, Jul. 2014, doi: 10.1016/j.echo.2014.05.001.

[51]

'Sonography in Hypotension and Cardiac Arrest (SHoC) Protocol Consensus Statement IFEM'. [Online]. Available: <https://www.ifem.cc/wp-content/uploads/2016/02/PS-7-Sonography-in-Hypotension-and-Cardiac-Arrest-Consensus-Statement.pdf>

[52]

R. M. Lyon, G. Egan, P. Gowens, P. Andrews, and G. Clegg, 'Issues around conducting prehospital research on out-of-hospital cardiac arrest: lessons from the TOPCAT study', *Emergency Medicine Journal*, vol. 27, no. 8, pp. 637-638, Aug. 2010, doi: 10.1136/emj.2009.087395.

[53]

J. Fair et al., 'Transesophageal Echocardiography During Cardiopulmonary Resuscitation Is Associated With Shorter Compression Pauses Compared With Transthoracic Echocardiography', *Annals of Emergency Medicine*, Feb. 2019, doi: 10.1016/j.annemergmed.2019.01.018.

[54]

R. M. Rodriguez, M. Lum-Lung, K. Dixon, and A. Nothmann, 'A prospective study on esophageal Doppler hemodynamic assessment in the ED', *The American Journal of Emergency Medicine*, vol. 24, no. 6, pp. 658-663, Oct. 2006, doi: 10.1016/j.ajem.2006.02.006.

[55]

K. K. Kadappu and L. Thomas, 'Tissue Doppler Imaging in Echocardiography: Value and

Limitations', *Heart, Lung and Circulation*, vol. 24, no. 3, pp. 224–233, Mar. 2015, doi: 10.1016/j.hlc.2014.10.003.

[56]

V. K. Gulati, W. E. Katz, W. P. Follansbee, and J. Gorcsan, 'Mitral annular descent velocity by tissue Doppler echocardiography as an index of global left ventricular function', *The American Journal of Cardiology*, vol. 77, no. 11, pp. 979–984, May 1996, doi: 10.1016/S0002-9149(96)00033-1.

[57]

F. Michard and J.-L. Teboul, 'Using heart-lung interactions to assess fluid responsiveness during mechanical ventilation', *Critical Care*, vol. 4, no. 5, 2000, doi: 10.1186/cc710.

[58]

R. Claire-Del Granado and R. L. Mehta, 'Fluid overload in the ICU: evaluation and management', *BMC Nephrology*, vol. 17, no. 1, Dec. 2016, doi: 10.1186/s12882-016-0323-6.

[59]

A. Acheampong and J.-L. Vincent, 'A positive fluid balance is an independent prognostic factor in patients with sepsis', *Critical Care*, vol. 19, no. 1, Dec. 2015, doi: 10.1186/s13054-015-0970-1.

[60]

'(423) Pinterest'. [Online]. Available: <https://www.pinterest.co.uk/pin/7459155609437074/?!p=true>

[61]

H. Baumgartner et al., 'Echocardiographic assessment of valve stenosis: EAE/ASE recommendations for clinical practice', *European Journal of Echocardiography*, vol. 10, no. 1, pp. 1–25, Jan. 2009, doi: 10.1093/ejechocard/jen303.

[62]

'Percutaneous balloon dilatation of the mitral valve: An analysis of echocardiographic variables related to outcome and the mechanism of dilatation' [Online]. Available: <https://heart.bmj.com/content/heartjnl/60/4/299.full.pdf>

[63]

P. Ponikowski et al., '2016 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure', *European Heart Journal*, vol. 37, no. 27, pp. 2129–2200, Jul. 2016, doi: 10.1093/eurheartj/ehw128.

[64]

A. Seraphim, S. A. Paschou, J. Grapsa, and P. Nihoyannopoulos, 'Pocket-Sized Echocardiography Devices: One Stop Shop Service?', *Journal of Cardiovascular Ultrasound*, vol. 24, no. 1, 2016, doi: 10.4250/jcu.2016.24.1.1.

[65]

D. Antonakaki, S. A. Mirza, S. Sundar, and J. Grapsa, 'Epstein-Barr futile myocarditis requiring urgent orthotopic heart transplantation', *Perfusion*, vol. 31, no. 5, pp. 431–432, Jul. 2016, doi: 10.1177/0267659115618460.

[66]

'Ultrasound in the evaluation of penetrating thoraco-abdominal trauma: a review of the literature'. [Online]. Available: <http://www.medultrason.ro/ultrasound-in-the-evaluation-of-penetrating-thoraco-abdominal-trauma-a-review-of-the-literature/>

[67]

A. C. Quinn and R. Sinert, 'What is the utility of the Focused Assessment with Sonography in Trauma (FAST) exam in penetrating torso trauma?', *Injury*, vol. 42, no. 5, pp. 482–487, May 2011, doi: 10.1016/j.injury.2010.07.249.

[68]

T. C. Sauter, S. Hoess, B. Lehmann, A. K. Exadaktylos, and D. G. Haider, 'Detection of pneumothoraces in patients with multiple blunt trauma: use and limitations of eFAST', *Emergency Medicine Journal*, vol. 34, no. 9, pp. 568–572, Sep. 2017, doi: 10.1136/emmermed-2016-205980.

[69]

M. Al Deeb, S. Barbic, R. Featherstone, J. Dankoff, and D. Barbic, 'Point-of-care Ultrasonography for the Diagnosis of Acute Cardiogenic Pulmonary Edema in Patients Presenting With Acute Dyspnea: A Systematic Review and Meta-analysis', *Academic Emergency Medicine*, vol. 21, no. 8, pp. 843–852, Aug. 2014, doi: 10.1111/acem.12435.

[70]

K. McGivery et al., 'Emergency department ultrasound for the detection of B-lines in the early diagnosis of acute decompensated heart failure: a systematic review and meta-analysis', *CJEM*, vol. 20, no. 03, pp. 343–352, May 2018, doi: 10.1017/cem.2018.27.

[71]

E. Pivetta et al., 'Lung Ultrasound-Implemented Diagnosis of Acute Decompensated Heart Failure in the ED', *Chest*, vol. 148, no. 1, pp. 202–210, Jul. 2015, doi: 10.1378/chest.14-2608.

[72]

C. B. Laursen et al., 'Point-of-care ultrasonography in patients admitted with respiratory symptoms: a single-blind, randomised controlled trial', *The Lancet Respiratory Medicine*, vol. 2, no. 8, pp. 638–646, Aug. 2014, doi: 10.1016/S2213-2600(14)70135-3.

[73]

F. M. Russell et al., 'Diagnosing Acute Heart Failure in Patients With Undifferentiated Dyspnea: A Lung and Cardiac Ultrasound (LuCUS) Protocol', *Academic Emergency Medicine*, vol. 22, no. 2, pp. 182–191, Feb. 2015, doi: 10.1111/acem.12570.

[74]

G. Volpicelli, V. Caramello, L. Cardinale, A. Mussa, F. Bar, and M. F. Frascisco, 'Bedside ultrasound of the lung for the monitoring of acute decompensated heart failure', *The American Journal of Emergency Medicine*, vol. 26, no. 5, pp. 585-591, Jun. 2008, doi: 10.1016/j.ajem.2007.09.014.

[75]

E. Agricola et al., '"Ultrasound Comet-Tail Images": A Marker Of Pulmonary Edema', *Chest*, vol. 127, no. 5, pp. 1690-1695, May 2005, doi: 10.1378/chest.127.5.1690.

[76]

A. T. Chiem, C. H. Chan, D. S. Ander, A. N. Kobylivker, and W. C. Manson, 'Comparison of Expert and Novice Sonographers' Performance in Focused Lung Ultrasonography in Dyspnea (FLUID) to Diagnose Patients With Acute Heart Failure Syndrome', *Academic Emergency Medicine*, vol. 22, no. 5, pp. 564-573, May 2015, doi: 10.1111/acem.12651.

[77]

G. Volpicelli et al., 'International evidence-based recommendations for point-of-care lung ultrasound', *Intensive Care Medicine*, vol. 38, no. 4, pp. 577-591, Apr. 2012, doi: 10.1007/s00134-012-2513-4.

[78]

N. P. Oveland, H. M. Lossius, K. Wemmelund, P. J. Stokkeland, L. Knudsen, and E. Sloth, 'Using Thoracic Ultrasonography to Accurately Assess Pneumothorax Progression During Positive Pressure Ventilation', *Chest*, vol. 143, no. 2, pp. 415-422, Feb. 2013, doi: 10.1378/chest.12-1445.

[79]

J. L. Martindale et al., 'Diagnosing Acute Heart Failure in the Emergency Department: A Systematic Review and Meta-analysis', *Academic Emergency Medicine*, vol. 23, no. 3, pp. 223-242, Mar. 2016, doi: 10.1111/acem.12878.

[80]

F. Frassi, L. Gargani, P. Tesorio, M. Raciti, G. Mottola, and E. Picano, 'Prognostic Value of Extravascular Lung Water Assessed With Ultrasound Lung Comets by Chest Sonography in Patients With Dyspnea and/or Chest Pain', *Journal of Cardiac Failure*, vol. 13, no. 10, pp. 830–835, Dec. 2007, doi: 10.1016/j.cardfail.2007.07.003.

[81]

L. Gargani et al., 'Persistent pulmonary congestion before discharge predicts rehospitalization in heart failure: a lung ultrasound study', *Cardiovascular Ultrasound*, vol. 13, no. 1, Dec. 2015, doi: 10.1186/s12947-015-0033-4.

[82]

F. Cortellaro, S. Colombo, D. Coen, and P. G. Duca, 'Lung ultrasound is an accurate diagnostic tool for the diagnosis of pneumonia in the emergency department', *Emergency Medicine Journal*, vol. 29, no. 1, pp. 19–23, Jan. 2012, doi: 10.1136/emj.2010.101584.

[83]

'American Journal of Respiratory and Critical Care Medicine' [Online]. Available: <https://www.atsjournals.org/doi/abs/10.1164/rccm.201003-0369OC>

[84]

V. A. Caiulo et al., 'Lung ultrasound in bronchiolitis: comparison with chest X-ray', *European Journal of Pediatrics*, vol. 170, no. 11, pp. 1427–1433, Nov. 2011, doi: 10.1007/s00431-011-1461-2.

[85]

B. Muslu et al., 'Use of Sonography for Rapid Identification of Esophageal and Tracheal Intubations in Adult Patients', *Journal of Ultrasound in Medicine*, vol. 30, no. 5, pp. 671–676, May 2011, doi: 10.7863/jum.2011.30.5.671.

[86]

N. Xirouchaki et al., 'Lung ultrasound in critically ill patients: comparison with bedside chest radiography', *Intensive Care Medicine*, vol. 37, no. 9, pp. 1488–1493, Sep. 2011, doi: 10.1007/s00134-011-2317-y.

[87]

M. Zanobetti, C. Poggioni, and R. Pini, 'Can Chest Ultrasonography Replace Standard Chest Radiography for Evaluation of Acute Dyspnea in the ED?', *Chest*, vol. 139, no. 5, pp. 1140–1147, May 2011, doi: 10.1378/chest.10-0435.

[88]

W. Ding, Y. Shen, J. Yang, X. He, and M. Zhang, 'Diagnosis of Pneumothorax by Radiography and Ultrasonography', *Chest*, vol. 140, no. 4, pp. 859–866, Oct. 2011, doi: 10.1378/chest.10-2946.

[89]

R. Copetti, G. Soldati, and P. Copetti, 'Chest sonography: a useful tool to differentiate acute cardiogenic pulmonary edema from acute respiratory distress syndrome', *Cardiovascular Ultrasound*, vol. 6, no. 1, Apr. 2008, doi: 10.1186/1476-7120-6-16.

[90]

E. L. Chaikof et al., 'The care of patients with an abdominal aortic aneurysm: The Society for Vascular Surgery practice guidelines', *Journal of Vascular Surgery*, vol. 50, no. 4, pp. S2–S49, Oct. 2009, doi: 10.1016/j.jvs.2009.07.002.

[91]

F. A. Lederle, 'Does This Patient Have Abdominal Aortic Aneurysm?', *JAMA*, vol. 281, no. 1, Jan. 1999, doi: 10.1001/jama.281.1.77.

[92]

'Towards evidence-based emergency medicine: best BETs from the Manchester Royal Infirmary'. [Online]. Available: <https://emj.bmj.com/content/emj/25/4/222.1.full.pdf>

[93]

'Overview of abdominal aortic aneurysm - UpToDate'. [Online]. Available:
<https://www.uptodate.com/contents/overview-of-abdominal-aortic-aneurysm>

[94]

B. Long and M. D. April, 'What Is the Diagnostic Accuracy of Point-of-Care Ultrasonography in Patients With Suspected Blunt Thoracoabdominal Trauma?', *Annals of Emergency Medicine*, Feb. 2019, doi: 10.1016/j.annemergmed.2019.01.016.

[95]

'Coursebook transgit ch08 by EFSUMB - Issuu'. [Online]. Available:
https://issuu.com/efsumb/docs/coursebook-transgit_ch08?e=3336122/6603975

[96]

N. S. S. Atkinson et al., 'How to perform gastrointestinal ultrasound: Anatomy and normal findings', *World Journal of Gastroenterology*, vol. 23, no. 38, pp. 6931-6941, Oct. 2017, doi: 10.3748/wjg.v23.i38.6931.

[97]

B. Hoffmann, D. Nürnberg, and M. C. Westergaard, 'Focus on abnormal air', *European Journal of Emergency Medicine*, vol. 19, no. 5, pp. 284-291, Oct. 2012, doi: 10.1097/MEJ.0b013e3283543cd3.

[98]

Y. Moriwaki, 'Ultrasonography for the Diagnosis of Intraperitoneal Free Air in Chest-Abdominal-Pelvic Blunt Trauma and Critical Acute Abdominal Pain', *Archives of Surgery*, vol. 144, no. 2, Feb. 2009, doi: 10.1001/archsurg.2008.553.

[99]

'Ultrasound-assisted cannulation of the internal jugular vein: A prospective comparison to the external landmark-guided technique' [Online]. Available:
<https://www.ahajournals.org/doi/pdf/10.1161/01.CIR.87.5.1557>

[100]

'Best practice recommendations for cleaning and disinfection of ultrasound transducers whilst maintaining transducer integrity'. [Online]. Available: http://efsumb.org/safety/resources/2017-probe_cleaning.pdf

[101]

B. A. Leidel, C. Kirchhoff, V. Bogner, V. Braunstein, P. Biberthaler, and K.-G. Kanz, 'Comparison of intraosseous versus central venous vascular access in adults under resuscitation in the emergency department with inaccessible peripheral veins', *Resuscitation*, vol. 83, no. 1, pp. 40–45, Jan. 2012, doi: 10.1016/j.resuscitation.2011.08.017.

[102]

M. Gottlieb and F. M. Russell, 'How Safe Is the Ultrasonographically Guided Peripheral Internal Jugular Line?', *Annals of Emergency Medicine*, vol. 71, no. 1, pp. 132–137, Jan. 2018, doi: 10.1016/j.annemergmed.2017.08.047.

[103]

S. J. Millington and S. Koenig, 'Better With Ultrasound', *Chest*, vol. 153, no. 1, pp. 224–232, Jan. 2018, doi: 10.1016/j.chest.2017.06.043.

[104]

A. Nagdev and D. Mantuani, 'A novel in-plane technique for ultrasound-guided pericardiocentesis', *The American Journal of Emergency Medicine*, vol. 31, no. 9, p. 1424.e5-1424.e9, Sep. 2013, doi: 10.1016/j.ajem.2013.05.021.

[105]

J. Stewart and National Confidential Enquiry into Patient Outcome and Death, *Adding insult to injury: a review of the care of patients who died in hospital with a primary diagnosis of acute kidney injury (acute renal failure)*. London: National Confidential Enquiry into Patient Outcome and Death, 2009 [Online]. Available: <http://www.ncepod.org.uk/2009sc.htm>

[106]

'Kidney Disease: Improving Global Outcomes (KDIGO) Acute Kidney Injury Work Group. KDIGO Clinical Practice Guideline for Acute Kidney Injury'. [Online]. Available: <https://kdigo.org/wp-content/uploads/2016/10/KDIGO-2012-AKI-Guideline-English.pdf>

[107]

S. G. Coca, J. T. King, R. A. Rosenthal, M. F. Perkal, and C. R. Parikh, 'The duration of postoperative acute kidney injury is an additional parameter predicting long-term survival in diabetic veterans', *Kidney International*, vol. 78, no. 9, pp. 926–933, Nov. 2010, doi: 10.1038/ki.2010.259.

[108]

P. Atkinson et al., 'International Federation for Emergency Medicine Consensus Statement: Sonography in hypotension and cardiac arrest (SHoC): An international consensus on the use of point of care ultrasound for undifferentiated hypotension and during cardiac arrest', *CJEM*, vol. 19, no. 06, pp. 459–470, Nov. 2017, doi: 10.1017/cem.2016.394.

[109]

'The RUSH Exam: Rapid Ultrasound in Shock in the Evaluation of the Critically Ill'. [Online]. Available: <https://pdfs.semanticscholar.org/86a1/b3319b1f30266c99e378720af7a298973572.pdf>

[110]

'The Role of Ultrasound in Renal Insufficiency: The Essentials', *Ultrasound Quarterly*, vol. 21, no. 4, pp. 227–244 [Online]. Available: <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&AN=00013644-200512000-00003&LSLINK=80&D=ovft>

[111]

'Soft Tissue Ultrasound'. [Online]. Available: <https://www.acep.org/sonoguide/basic/soft-tissue-ultrasound/>

[112]

P. Perera, T. Mailhot, D. Riley, and D. Mandavia, 'The RUSH Exam: Rapid Ultrasound in SHock in the Evaluation of the Critically Ill', *Emergency Medicine Clinics of North America*, vol. 28, no. 1, pp. 29-56, Feb. 2010, doi: 10.1016/j.emc.2009.09.010.