

REFERENCES

- Heidenreich PA, Albert NM, Allen LA, et al: Forecasting the impact of heart failure in the United States: a policy statement from the American Heart Association. *Circ Heart Fail* 6: 606, 2013. [PMID: 23616602]
- McCausland JB, Machi MS, Yealy DM: Emergency physicians' risk attitudes in acute decompensated heart failure patients. *Acad Emerg Med* 17: 108, 2010. [PMID: 20078443]
- Collins S, Storrow A: Moving towards comprehensive acute heart failure risk assessment in the emergency department. *JACC Heart Fail* 1: 273, 2013. [PMID: 24159563]
- Yancy CW, Jessup M, Bozkurt B, et al: 2017 ACC/AHA/HFSA focused update of the 2013 ACCF/AHA guideline for the management of heart failure: a report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Failure Society of America. *Circulation* 136: e137, 2017. [PMID: 28455343]
- Lindenfeld J, Albert NM, Boehmer JP, et al: HFSA 2010 comprehensive heart failure practice guideline. *J Cardiac Fail* 16: e1, 2010. [PMID: 20610207]
- Storrow AB, Jenkins CA, Self WH, et al: The burden of acute heart failure on US emergency departments. *JACC Heart Fail* 2: 269, 2014. [PMID: 24952694]
- Ramirez A, Abelmann WH: Cardiac decompensation. *N Engl J Med* 290: 499, 1974. [PMID: 4589873]
- O'Connor CM, Starling RC, Hernandez AF, et al: Effect of nesiritide in patients with acute decompensated heart failure. *N Engl J Med* 365: 32, 2011. [PMID: 21732835]
- Go AS, Mozaffarian D, Roger VL, et al: Heart disease and stroke statistics—2018 update: a report from the American Heart Association. *Circulation* 137: e1, 2018. [PMID: 29386200]
- Gheorghiadu M, De Luca L, Fonarow GC, Filippatos G, Metra M, Francis GS: Pathophysiologic targets in the early phase of acute heart failure syndromes. *Am J Cardiol* 96: 11G, 2005. [PMID: 16196154]
- Filippatos G, Zannad F: An introduction to acute heart failure syndromes: definition and classification. *Heart Fail Rev* 12: 87, 2007. [PMID: 17508282]
- Collins S, Storrow A, Albert N, et al: Early management of patients with acute heart failure: state of the art and future directions. A consensus document from the Society for Academic Emergency Medicine/Heart Failure Society of America Acute Heart Failure Working Group. *J Card Fail* 21: 27, 2015. [PMID: 25042620]
- Cotter G, Metra M, Milo-Cotter O, Dittrich HC, Gheorghiadu M: Fluid overload in acute heart failure—re-distribution and other mechanisms beyond fluid accumulation. *Eur J Heart Fail* 10: 165, 2008. [PMID: 18279771]
- Gray A, Goodacre S, Newby DE, Masson M, Sampson F, Nicholl J: Noninvasive ventilation in acute cardiogenic pulmonary edema. *N Engl J Med* 359: 142, 2008. [PMID: 18614781]
- Collins SP, Mielniczuk LM, Whittingham HA, Boseley ME, Schramm DR, Storrow AB: The use of noninvasive ventilation in emergency department patients with acute cardiogenic pulmonary edema: a systematic review. *Ann Emerg Med* 48: 260, 2006. [PMID: 16934647]
- Hsieh M, Auble TE, Yealy DM: Validation of the acute heart failure index. *Ann Emerg Med* 51: 37, 2008. [PMID: 18045736]
- Mueller C, Laule-Kilian K, Frana B, et al: Use of B-type natriuretic peptide in the management of acute dyspnea in patients with pulmonary disease. *Am Heart J* 151: 471, 2006. [PMID: 16442916]
- Collins S, Storrow AB, Kirk JD, Pang PS, Diercks DB, Gheorghiadu M: Beyond pulmonary edema: diagnostic, risk stratification, and treatment challenges of acute heart failure management in the emergency department. *Ann Emerg Med* 51: 45, 2008. [PMID: 17868954]
- Martindale J, Wakai A, Collins S, et al: Diagnosing acute heart failure in the emergency department: a systematic review and meta-analysis. *Acad Emerg Med* 23: 223, 2016. [PMID: 26910112]
- Wong GC, Ayas NT: Clinical approaches to the diagnosis of acute heart failure. *Curr Opin Cardiol* 22: 207, 2007. [PMID: 17413277]
- Drazner MH, Rame JE, Stevenson LW, Dries DL: Prognostic importance of elevated jugular venous pressure and a third heart sound in patients with heart failure. *N Engl J Med* 345: 574, 2001. [PMID: 11529211]
- Drazner MH, Hamilton MA, Fonarow G, Creaser J, Flavell C, Stevenson LW: Relationship between right and left-sided filling pressures in 1000 patients with advanced heart failure. *J Heart Lung Transplant* 18: 1126, 1999. [PMID: 10598737]
- Collins SP, Lindsell CJ, Peacock WF, et al: The combined utility of an S3 heart sound and B-type natriuretic peptide levels in emergency department patients with dyspnea. *J Card Fail* 12: 286, 2006. [PMID: 16679262]
- Remes J, Miettinen H, Reunanen A, Pyorala K: Validity of clinical diagnosis of heart failure in primary health care. *Eur Heart J* 12: 315, 1991. [PMID: 2040313]
- Maisel AS, Krishnaswamy P, Nowak RM, et al: Rapid measurement of B-type natriuretic peptide in the emergency diagnosis of heart failure. *N Engl J Med* 347: 161, 2002. [PMID: 12124404]
- Collins SP, Lindsell CJ, Storrow AB, Abraham WT: Prevalence of negative chest radiography results in the emergency department patient with decompensated heart failure. *Ann Emerg Med* 47: 13, 2006. [PMID: 16387212]
- McCullough PA, Nowak RM, McCord J, et al: B-type natriuretic peptide and clinical judgment in emergency diagnosis of heart failure: analysis from Breathing Not Properly (BNP) Multinational Study. *Circulation* 106: 416, 2002. [PMID: 12135939]
- Maeda K, Tsutamoto T, Wada A, Hisanaga T, Kinoshita M: Plasma brain natriuretic peptide as a biochemical marker of high left ventricular end-diastolic pressure in patients with symptomatic left ventricular dysfunction. *Am Heart J* 135: 825, 1998. [PMID: 9588412]
- Maisel AS, Clopton P, Krishnaswamy P, et al: Impact of age, race, and sex on the ability of B-type natriuretic peptide to aid in the emergency diagnosis of heart failure: results from the Breathing Not Properly (BNP) multinational study. *Am Heart J* 147: 1078, 2004. [PMID: 15199359]
- Januzzi JL, Chen-Tournoux AA, Christenson RH, et al: N-terminal pro-B-type natriuretic peptide in the emergency department: the ICON-RELOADED Study. *J Am Coll Cardiol* 20: 1191, 2018. [PMID: 29544601]
- Ferre RM, Chioncel O, Pang PS, et al: Acute heart failure: the role of focused emergency cardiopulmonary ultrasound in identification and early management. *Eur Heart J* 17: 1223, 2015. [PMID: 26467351]
- Russel FM, Rutz R, Pang PS: Focused ultrasound in the emergency department for patients with acute heart failure. *Card Fail Rev* 1: 83, 2015. [PMID: 28785437]
- Volpicelli G, Mussa A, Garofalo G, et al: Bedside lung ultrasound in the assessment of alveolar-interstitial syndrome. *Am J Emerg Med* 24: 689, 2006. [PMID: 16984837]
- Lichtenstein DA: Ultrasound in the management of thoracic disease. *Crit Care Med* 35: S250, 2007. [PMID: 17446785]
- Anderson KL, Jenq KY, Fields JM, Panebianco NL, Dean AJ: Diagnosing heart failure among acutely dyspneic patients with cardiac, inferior vena cava, and lung ultrasonography. *Am J Emerg Med* 31: 1208, 2013. [PMID: 23769272]
- Volpicelli G, Elbarbary M, Blaivas M, et al: International evidence-based recommendations for point-of-care lung ultrasound. *Intensive Care Med* 38: 577, 2012. [PMID: 22392031]
- Jones AE, Tayal VS, Kline JA: Focused training of emergency medicine residents in goal-directed echocardiography: a prospective study. *Acad Emerg Med* 10: 1054, 2003. [PMID: 14525737]
- Labovitz AJ, Noble VE, Bierig M, et al: Focused cardiac ultrasound in the emergent setting: a consensus statement of the American Society of Echocardiography and American College of Emergency Physicians. *J Am Soc Echocardiogr* 23: 1225, 2010. [PMID: 21111923]
- Weekes AJ, Reddy A, Lewis MR, Norton HJ: E-point septal separation compared to fractional shortening measurements of systolic function in emergency department patients: prospective randomized study. *J Ultrasound Med* 31: 1891, 2012. [PMID: 23197541]
- Vital FM, Saconato H, Ladeira MT, et al: Non-invasive positive pressure ventilation (CPAP or bilevel NPPV) for cardiogenic pulmonary edema. *Cochrane Database Syst Rev* 5: CD005351, 2008. [PMID: 23728654]
- Doshi P, Whittle JS, Bublewicz M, et al: High-velocity nasal insufflation in the treatment of respiratory failure: a randomized clinical trial. *Ann Emerg Med* 72: 73, 2018. [PMID: 29310868]
- Peacock W, Fonarow GC, Emerman CL, Mills RM, Wynne J: Impact of early initiation of intravenous therapy for acute decompensated heart failure on outcomes in ADHERE. *Cardiology* 107: 44, 2006. [PMID: 16741357]
- Levy P, Compton S, Welch R, et al: Treatment of severe decompensated heart failure with high-dose intravenous nitroglycerin: a feasibility and outcome analysis. *Ann Emerg Med* 50: 144, 2007. [PMID: 17509731]
- Cotter G, Metzko E, Kaluski E, et al: Randomised trial of high-dose isosorbide dinitrate plus low-dose furosemide versus high-dose furosemide plus low-dose isosorbide dinitrate in severe pulmonary oedema. *Lancet* 351: 389, 1998. [PMID: 9482291]
- Felker GM, Lee KL, Bull DA, et al: Diuretic strategies in patients with acute decompensated heart failure. *N Engl J Med* 364: 797, 2011. [PMID: 21366472]
- Matsue Y, Damman K, Voors AA, et al: Time-to-furosemide treatment and mortality in patients hospitalized with acute heart failure. *J Am Coll Cardiol* 27: 3042, 2017. [PMID: 28641794]
- Park JJ, Kim SH, Oh IY, et al: The effect of door-to-diuretic time on clinical outcomes in patients with acute heart failure. *JACC Heart Fail* 6: 286, 2018. [PMID: 29598933]
- Peacock WF, Hollander JE, Diercks DB, et al: Morphine and outcomes in acute decompensated heart failure: an ADHERE analysis. *Emerg Med J* 25: 205, 2008. [PMID: 18356349]
- Alexander P, Alkhwam L, Curry J, et al: Lack of evidence for intravenous vasodilators in ED patients with acute heart failure: a systematic review. *Am J Emerg Med* 33: 133, 2015. [PMID: 25530194]
- Weintraub NL, Collins SP, Pang PS, et al: Acute heart failure syndromes: emergency department presentation, treatment, and disposition: current approaches and future aims: a scientific statement from the American Heart Association. *Circulation* 122: 1975, 2010. [PMID: 20937981]
- Peacock WF, Fonarow GC, Ander DS, et al: Society of Chest Pain Centers recommendations for the evaluation and management of the observation stay acute heart failure patient: a report from the Society of Chest Pain Centers Acute Heart Failure Committee. *Crit Pathw Cardiol* 7: 83, 2008. [PMID: 18520521]
- Mebazaa A, Pang PS, Tavares M, et al: The impact of early standard therapy on dyspnea in patients with acute heart failure: the URGENT-dyspnoea study. *Eur Heart J* 31: 832, 2010. [PMID: 19906690]

53. Hernandez AF, Greiner MA, Fonarow GC, et al: Relationship between early physician follow-up and 30-day readmission among Medicare beneficiaries hospitalized for heart failure. *JAMA* 303: 1716, 2010. [PMID: 20442387]
54. Storrow AB, Collins SP, Lyons MS, Wagoner LE, Gibler WB, Lindsell CJ: Emergency department observation of heart failure: preliminary analysis of safety and cost. *Congest Heart Fail* 11: 68, 2005. [PMID: 15860971]
55. Peacock WF, Albert NM: Observation unit management of heart failure. *Emerg Med Clin North Am* 19: 209, 2001. [PMID: 11214400]