

2025 STUDY GUIDE

Pulmonary and Critical Care Medicine (PCCM) In-service Examination

I. PULMONARY DISEASES AND DISORDERS

A. Asthma

2024 GINA Main Report, Global Strategy for Asthma Management and Prevention. GINA Main Report - Global Initiative for Asthma - GINA <https://ginasthma.org/2024-report/>

2023 GINA Report, Global Strategy for Asthma Management and Prevention 2023. GINA Main Report - Global Initiative for Asthma - GINA (<https://ginasthma.org/pocket-guide-for-asthma-management-and-prevention/>)

2022 GINA Report, Global Strategy for Asthma Management and Prevention 2022. GINA Main Report - Global Initiative for Asthma - GINA (ginasthma.org)

2021 GINA Report, Global Strategy for Asthma Management and Prevention 2021. GINA Main Report - Global Initiative for Asthma - GINA (ginasthma.org)

Agarwal, R., Sehgal, I.S., Muthu, V. et al, Revised ISHAM-ABPA working group clinical practice guidelines for diagnosing, classifying and treating allergic bronchopulmonary aspergillosis/mycoses. *Eur Respir J.* 2024 Apr 4;63(4):2400061. doi: 10.1183/13993003.00061-2024. PMID: 38423624; PMCID: PMC10991853.

Gupta, S.S. Effectiveness and safety of bronchial thermoplasty in the treatment of severe asthma. *Am J Respir Crit Care Med.* 2010 Dec 15;182(12):1565; author reply 1565-1567. doi: 10.1164/ajrccm.182.12.1565. PMID: 21159907.

Hoyte, F.C. Vocal cord dysfunction. *Immunol Allergy Clin North Am.* 2013 Feb;33(1):1-22. doi: 10.1016/j.iac.2012.10.010. Epub 2012 Dec 21.

Lee, R.U., Stevenson, D.D. Aspirin-exacerbated respiratory disease: evaluation and management. *Allergy Asthma Immunol Res.* 2011 Jan;3(1):3-10. doi: 10.4168/aair.2011.3.1.3. Epub 2010 Aug 20. PMID: 21217919; PMCID: PMC3005316.

Metlay, J.P., Waterer, G.W., Whitney, C.G. Diagnosis and Treatment of Adults with Community-acquired Pneumonia. An Official Clinical Practice Guideline of the American Thoracic Society and Infectious Diseases Society of America. *Am J Respir Crit Care Med.* 2019 Oct 1;200(7):e45-e67. doi: 10.1164/rccm.201908-1581ST. PMID: 31573350; PMCID: PMC6812437.

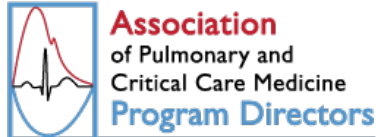
Samter, M., Beers, R.F., Jr. Intolerance to aspirin. Clinical studies and consideration of its pathogenesis. *Ann Intern Med.* 1968 May;68(5):975-983. doi: 10.7326/0003-4819-68-5-975.

Schakman O, Gilson H, Thissen JP. Mechanisms of glucocorticoid-induced myopathy. *J Endocrinol.* 2008 Apr;197(1):1-10. doi: 10.1677/JOE-07-0606.

Watkins, P.B., Dube, L.M., Walton-Bowen, K. et al, Clinical pattern of zileuton-associated liver injury: results of a 12-month study in patients with chronic asthma. *Drug Saf.* 2007;30(9):805-815. doi: 10.2165/00002018-200730090-00006. PMID: 17722971.

B. Bronchiectasis

Choi, H., Han, K., Jung, J.H. et al, Impact of Rheumatoid Arthritis and Seropositivity on the Risk of Non-Cystic Fibrosis Bronchiectasis. *Chest.* 2024 Jun;165(6):1330-1340. doi: 10.1016/j.chest.2024.01.001. Epub 2024 Jan 4. PMID: 38184167.



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Hill, A.T., Sullivan, A.L., Chalmers, J.D. et al, British Thoracic Society Guideline for bronchiectasis in adults. *Thorax*. 2019 Jan;74(Suppl 1):1-69. doi: 10.1136/thoraxjnl-2018-212463. PMID: 30545985.

Hill, A.T., Barker, A.F., Bolser, D.C. et al, Treating Cough Due to Non-CF and CF Bronchiectasis With Nonpharmacological Airway Clearance: CHEST Expert Panel Report. *Chest*. 2018 Apr;153(4):986-993. doi: 10.1016/j.chest.2018.01.014. Epub 2018 Jan 31.

Martínez-García, M.A., Perpiñá-Tordera, M., Román-Sánchez, P., Soler-Cataluña, J.J. Inhaled steroids improve quality of life in patients with steady-state bronchiectasis. *Respir Med*. 2006 Sep;100(9):1623-1632. doi: 10.1016/j.rmed.2005.12.002. Epub 2006 Jan 24. PMID: 16434174.

O'Donnell, A.E. Bronchiectasis - A Clinical Review. *N Engl J Med*. 2022 Aug 11;387(6):533-545. doi: 10.1056/NEJMra2202819. PMID: 35947710.

C. Congenital, Neuromuscular, and Skeletal Abnormalities

Alves Júnior, S.F., Zanetti, G., Alves de Melo, A.S. et al. Neurofibromatosis type 1: State-of-the-art review with emphasis on pulmonary involvement. *Respir Med*. 2019 Mar;149:9-15. doi: 10.1016/j.rmed.2019.01.002. Epub 2019 Jan 17. PMID: 30885426.

Ren, C.L., Morgan, R.L., Oermann, C. et al, Cystic Fibrosis Foundation Pulmonary Guidelines. Use of Cystic Fibrosis Transmembrane Conductance Regulator Modulator Therapy in Patients with Cystic Fibrosis. *Ann Am Thorac Soc*. 2018 Mar;15(3):271-280. doi: 10.1513/AnnalsATS.201707-539OT. PMID: 29342367.

Zamora, A.C., Collard, H.R., Wolters, P.J. et al, Neurofibromatosis-associated lung disease: a case series and literature review. *Eur Respir J*. 2007 Jan;29(1):210-214. doi: 10.1183/09031936.06.00044006. Epub 2006 Jul 26. PMID: 16870664.

<http://radiology.med.sc.edu/azfissurect.jpg>

D. COPD

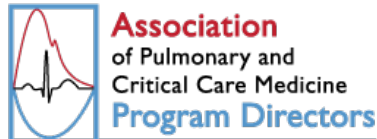
Bauldoff, G.S., Carlin, B.W. (eds). AACVPR Guidelines for Pulmonary Rehabilitation. 5th edition. *Human Kinetics*, Illinois 2018.

Dick, C.R., Liu, Z., Sassoon, C.S. et al, O₂-induced change in ventilation and ventilatory drive in COPD. *Am J Respir Crit Care Med*. 1997 Feb;155(2):609-614. doi: 10.1164/ajrccm.155.2.9032202. PMID: 9032202.

Fishman, A., Martinez, F., Naunheim, K. et al, A randomized trial comparing lung-volume-reduction surgery with medical therapy for severe emphysema. *N Engl J Med*. 2003 May 22;348(21):2059-2073. doi: 10.1056/NEJMoa030287. Epub 2003 May 20.

Global Initiative for Chronic Obstructive Lung Disease - Global Initiative for Chronic Obstructive Lung Disease - GOLD (goldcopd.org)

Global Initiative for Chronic Obstructive Lung Disease. 2019 Report. <https://goldcopd.org/wp-content/uploads/2018/11/GOLD-2019-v1.7-FINAL-14Nov2018-WMS.pdf>



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Hanson, C.W., 3rd, Marshall, B.E., Frasch, H.F., Marshall, C. Causes of hypercarbia with oxygen therapy in patients with chronic obstructive pulmonary disease. *Crit Care Med*. 1996 Jan;24(1):23-28. doi: 10.1097/00003246-199601000-00007. PMID: 8565533.

Robinson, T.D., Freiberg, D.B., Regnis, J.A., Young, I.H. The role of hypoventilation and ventilation-perfusion redistribution in oxygen-induced hypercapnia during acute exacerbations of chronic obstructive pulmonary disease. *Am J Respir Crit Care Med*. 2000 May;161(5):1524-1529. doi: 10.1164/ajrccm.161.5.9904119. PMID: 10806149.

Wedzicha, J.A., Miravittles, M., Hurst, J.R. et al, Management of COPD exacerbations: a European Respiratory Society/American Thoracic Society guideline. *Eur Respir J*. 2017 Mar 15;49(3):1600791. doi: 10.1183/13993003.00791-2016.

E. Infections

Chang, C.C., Harrison, T.S., Bicanic, T.A. et al, Global guideline for the diagnosis and management of cryptococcosis: an initiative of the ECMM and ISHAM in cooperation with the ASM. *Lancet Infect Dis*. 2024 Aug;24(8):e495-e512. doi: 10.1016/S1473-3099(23)00731-4. Epub 2024 Feb 9. Erratum in: *Lancet Infect Dis*. 2024 Aug;24(8):e485. doi: 10.1016/S1473-3099(24)00426-2. PMID: 38346436; PMCID: PMC11526416.

Cornia, P.B., Hersh, A.L., Lipsky, B.A. et al, Does this coughing adolescent or adult patient have pertussis? *JAMA*. 2010 Aug 25;304(8):890-896. doi: 10.1001/jama.2010.1181. PMID: 20736473.

Grohskopf, L.A., Alyanak, E., Ferdinands, J.M. et al, Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices, United States, 2021-22 Influenza Season. *MMWR Recomm Rep* 2021;70(No. RR-5):1-28. DOI: <http://dx.doi.org/10.15585/mmwr.rr.7005a1>

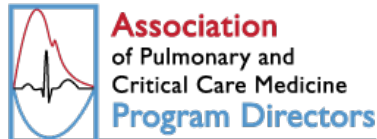
Kallen, A.J., Brunkard, J., Moore, Z. et al, Staphylococcus aureus community-acquired pneumonia during the 2006 to 2007 influenza season. *Ann Emerg Med*. 2009 Mar;53(3):358-365. doi: 10.1016/j.annemergmed.2008.04.027. Epub 2008 Jun 4.

Klein, E.Y., Monteforte, B., Gupta, A. et al, The frequency of influenza and bacterial coinfection: a systematic review and meta-analysis. *Influenza Other Respir Viruses*. 2016 Sep;10(5):394-403. doi: 10.1111/irv.12398. Epub 2016 Jun 24.

Sperling, S., Dahl, V.N., Fløe, A. Lung abscess: an update on the current knowledge and call for future investigations. *Curr Opin Pulm Med*. 2024 May 1;30(3):229-234. doi: 10.1097/MCP.0000000000001058. Epub 2024 Feb 19. PMID: 38411181.

Sterling, T.R., Njie, G., Zenner, D. et al, Guidelines for the Treatment of Latent Tuberculosis Infection: Recommendations from the National Tuberculosis Controllers Association and CDC, 2020. *MMWR Recomm Rep* 2020;69(No. RR-1):1-11. DOI: <http://dx.doi.org/10.15585/mmwr.rr6901a1>

Wheat, L.J., Freifeld, A.G., Kleiman, M.B. et al, Clinical practice guidelines for the management of patients with histoplasmosis: 2007 update by the Infectious Diseases Society of America. *Clin Infect Dis*. 2007 Oct 1;45(7):807-825. doi: 10.1086/521259. Epub 2007 Aug 27. PMID: 17806045.



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F. Interstitial and Inflammatory Lung Diseases

Carbone, R.G., Puppo, F., Mattar, E. et al, Acute and chronic eosinophilic pneumonia: an overview. *Front Med (Lausanne)*. 2024 Apr 22;11:1355247. doi: 10.3389/fmed.2024.1355247. PMID: 38711783; PMCID: PMC11070545.

Crouser, E.D., Maier, L.A., Wilson, K.C. et al, Diagnosis and Detection of Sarcoidosis. An Official American Thoracic Society Clinical Practice Guideline. *Am J Respir Crit Care Med*. 2020 Apr 15;201(8):e26-e51. doi: 10.1164/rccm.202002-0251ST.

Panchabhai, T.S., Farver, C., Highland, K.B. Lymphocytic Interstitial Pneumonia. *Clin Chest Med*. 2016 Sep;37(3):463-474. doi: 10.1016/j.ccm.2016.04.009. Epub 2016 Jun 25. PMID: 27514593.

Radzikowska, E. Pulmonary Langerhans' cell histiocytosis in adults. *Adv Respir Med*. 2017;85(5):277-289. doi: 10.5603/ARM.a2017.0046. Epub 2017 Oct 30. PMID: 29083024.

G. Neoplasms

Aquino, S.L. Imaging of metastatic disease to the thorax. *Radiol Clin North Am*. 2005 May;43(3):481-495, vii. doi: 10.1016/j.rcl.2005.02.006.

de Perrot, M., Fischer, S., Bründler, M.A. et al, Solitary fibrous tumors of the pleura. *Ann Thorac Surg*. 2002 Jul;74(1):285-293. doi: 10.1016/s0003-4975(01)03374-4. PMID: 12118790.

Detterbeck, F.C., Lewis, S.Z., Diekemper, R., et al. Executive Summary: Diagnosis and management of lung cancer, 3rd ed: American College of Chest Physicians evidence-based clinical practice guidelines. *Chest*. 2013 May;143(5 Suppl):7S-37S. doi: 10.1378/chest.12-2377.

Diebold, M., Soltermann, A., Hottinger, S. et al, Prognostic value of MIB-1 proliferation index in solitary fibrous tumors of the pleura implemented in a new score - a multicenter study. *Respir Res*. 2017 Dec 16;18(1):210. doi: 10.1186/s12931-017-0693-8. PMID: 29246159; PMCID: PMC5732426.

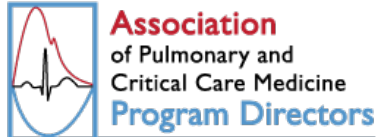
England, D.M., Hochholzer, L., McCarthy, M.J. Localized benign and malignant fibrous tumors of the pleura. A clinicopathologic review of 223 cases. *Am J Surg Pathol*. 1989 Aug;13(8):640-658. doi: 10.1097/0000478-198908000-00003. Erratum in: *Am J Surg Pathol* 1991 Aug;15(8):818. PMID: 2665534.

Hutchings, H.E., Cox, J., Westra, J. et al, Treatment patterns and outcomes in patients with Pancoast tumors: a national cancer database analysis. *J Thorac Dis*. 2023 Jan 31;15(1):33-41. doi: 10.21037/jtd-22-1077. Epub 2022 Dec 27. PMID: 36794135; PMCID: PMC9922605.

Lee, C.K., Brown, C., Gralla, R.J. et al, Impact of EGFR inhibitor in non-small cell lung cancer on progression-free and overall survival: a meta-analysis. *J Natl Cancer Inst*. 2013 May 1;105(9):595-605. doi: 10.1093/jnci/djt072. Epub 2013 Apr 17. PMID: 23594426.

MacMahon, H., Naidich, D.P., Goo, J.M. et al, Guidelines for Management of Incidental Pulmonary Nodules Detected on CT Images: From the Fleischner Society 2017. *Radiology*. 2017 Jul;284(1):228-243. doi: 10.1148/radiol.2017161659. Epub 2017 Feb 23. PMID: 28240562.

Oldenburg, J., Berney, D.M., Bokemeyer, C. et al, Testicular seminoma and non-seminoma: ESMO-EURACAN Clinical Practice Guideline for diagnosis, treatment and follow-up. *Ann Oncol*. 2022 Apr;33(4):362-375. doi: 10.1016/j.annonc.2022.01.002. Epub 2022 Jan 19. PMID: 35065204.



Association
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Program Directors

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Rintoul, R.C., Sethi, T. The lung cancer paradox: time for action. *Thorax*. 2002 Oct;57 Suppl 2(Suppl 2):II57-II63. PMID: 12364713; PMCID: PMC1766005.

Seo, J.B., Im, J.G., Goo, J.M. et al, Atypical pulmonary metastases: spectrum of radiologic findings. *Radiographics*. 2001 Mar-Apr;21(2):403-417. doi: 10.1148/radiographics.21.2.g01mr17403. PMID: 11259704.

Silvestri, G.A., Gonzalez, A.V., Jantz, M.A. et al, Methods for staging non-small cell lung cancer: Diagnosis and management of lung cancer, 3rd ed: American College of Chest Physicians evidence-based clinical practice guidelines. *Chest*. 2013 May;143(5 Suppl):e211S-e250S. doi: 10.1378/chest.12-2355. PMID: 23649440.

Taka, M., Kobayashi, S., Mizutomi, K. et al, Diagnostic approach for mediastinal masses with radiopathological correlation. *Eur J Radiol*. 2023 May;162:110767. doi: 10.1016/j.ejrad.2023.110767. Epub 2023 Mar 11. PMID: 36921376.

Tapias, L.F., Mino-Kenudson, M., Lee, H. et al, Risk factor analysis for the recurrence of resected solitary fibrous tumours of the pleura: a 33-year experience and proposal for a scoring system. *Eur J Cardiothorac Surg*. 2013 Jul;44(1):111-117. doi: 10.1093/ejcts/ezs629. Epub 2012 Dec 11. PMID: 23233072; PMCID: PMC3681536.

H. Occupational and Environmental Diseases

CDC Toxic Substances Portal. <https://wwwn.cdc.gov/TSP/index.aspx>

Gordon, S.B., Bruce, N.G., Grigg, J. et al, Respiratory risks from household air pollution in low and middle income countries. *Lancet Respir Med*. 2014 Oct;2(10):823-860. doi: 10.1016/S2213-2600(14)70168-7. Epub 2014 Sep 2.

OSHA Safety and Health Information Bulletins (SHIBs);
http://www.osha.gov/dts/hib/hib_data/hib020419.html

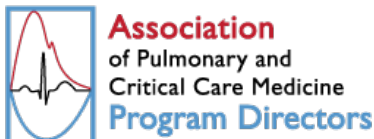
I. Pleural Diseases

Bintcliffe, O.J., Lee, G.Y., Rahman, N.M., Maskell, N.A. The management of benign non-infective pleural effusions. *Eur Respir Rev*. 2016 Sep;25(141):303-316. doi: 10.1183/16000617.0026-2016. PMID: 27581830; PMCID: PMC9487207.

Roberts, M.E., Rahman, N.M., Maskell, N.A. et al, British Thoracic Society Guideline for pleural disease. *Thorax*. 2023 Jul;78(Suppl 3):s1-s42. doi: 10.1136/thorax-2022-219784. PMID: 37433578.

J. Sleep Disorders

Asarnow, L.D., Manber, R.. Cognitive Behavioral Therapy for Insomnia in Depression. *Sleep Med Clin*. 2019 Jun;14(2):177-184. doi: 10.1016/j.jsmc.2019.01.009. Epub 2019 Mar 29.



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Edinger, J.D., Arnedt, J.T., Bertisch, S.M. et al, Behavioral and psychological treatments for chronic insomnia disorder in adults: an American Academy of Sleep Medicine clinical practice guideline. *J Clin Sleep Med*. 2021 Feb 1;17(2):255-262. doi: 10.5664/jcsm.8986.

Haruki, N., Floras, J.S. Sleep-Disordered Breathing in Heart Failure - A Therapeutic Dilemma. *Circ J*. 2017 Jun 23;81(7):903-912. doi: 10.1253/circj.CJ-17-0440. Epub 2017 May 23.

Miller, R.G., Rosenberg, J.A., Gelinas, D.F. et al, Practice parameter: the care of the patient with amyotrophic lateral sclerosis (an evidence-based review): report of the Quality Standards Subcommittee of the American Academy of Neurology: ALS Practice Parameters Task Force. *Neurology*. 1999 Apr 22;52(7):1311-1323. doi: 10.1212/wnl.52.7.1311. PMID: 10227612.

Sands, S.A., Owens, R.L. Congestive Heart Failure and Central Sleep Apnea. *Crit Care Clin*. 2015 Jul; 31(3): 473-495. doi: 10.1016/j.ccc.2015.03.005.

K. Transplantation

Cornely, O.A., Alastruey-Izquierdo, A., Arenz, D. et al, Global guideline for the diagnosis and management of mucormycosis: an initiative of the European Confederation of Medical Mycology in cooperation with the Mycoses Study Group Education and Research Consortium. *Lancet Infect Dis*. 2019 Dec;19(12):e405-e421. doi: 10.1016/S1473-3099(19)30312-3. Epub 2019 Nov 5. PMID: 31699664; PMCID: PMC8559573.

Gossmann, J., Kachel, H.G., Schoeppe, W., Scheuermann, E.H. Anemia in renal transplant recipients caused by concomitant therapy with azathioprine and angiotensin-converting enzyme inhibitors. *Transplantation*. 1993 Sep;56(3):585-589. doi: 10.1097/00007890-199309000-00018. PMID: 8212154.

Halkos, M.E., Miller, J.I., Mann, K.P. et al, Thoracic presentations of posttransplant lymphoproliferative disorders. *Chest*. 2004 Dec;126(6):2013-2020.

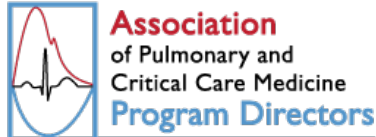
Jeong, W., Keighley, C., Wolfe, R. et al, The epidemiology and clinical manifestations of mucormycosis: a systematic review and meta-analysis of case reports. *Clin Microbiol Infect*. 2019 Jan;25(1):26-34. doi: 10.1016/j.cmi.2018.07.011. Epub 2018 Jul 21. PMID: 30036666.

Rosenheck, J.P., Botros, M.M., Nunley, D.R. Cytomegalovirus in Lung Transplant. *OBM Transplantation* 2021; 5(2): 145; doi:10.21926/obm.transplant.2102145.

L. Vascular Disorders

Beyer-Westendorf, J., Lützner, J., Donath, L et al, Efficacy and safety of rivaroxaban or fondaparinux thromboprophylaxis in major orthopedic surgery: findings from the ORTHO-TEP registry. *J Thromb Haemost*. 2012 Oct;10(10):2045-2052. doi: 10.1111/j.1538-7836.2012.04877.x.

Heinrich, M., Uder, M., Tscholl, D. et al, CT scan findings in chronic thromboembolic pulmonary hypertension: predictors of hemodynamic improvement after pulmonary thromboendarterectomy. *Chest*. 2005 May;127(5):1606-1613. doi: 10.1378/chest.127.5.1606.



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Humbert, M., Kovacs, G., Hoeper, M.M. et al. 2022 ESC/ERS Guidelines for the diagnosis and treatment of pulmonary hypertension. *Eur Heart J*. 2022 Oct 11;43(38):3618-3731. doi: 10.1093/eurheartj/ehac237. Erratum in: *Eur Heart J*. 2023 Apr 17;44(15):1312. PMID: 36017548.

Kovacs, G., Bartolome, S., Denton, C.P. et al, Definition, classification and diagnosis of pulmonary hypertension. *Eur Respir J*. 2024 Oct 31;64(4):2401324. doi: 10.1183/13993003.01324-2024. PMID: 39209475; PMCID: PMC11533989.

McLaughlin, V.V., Shah, S.J., Souza, R. et al, Management of pulmonary arterial hypertension. *J Am Coll Cardiol*. 2015 May 12;65(18):1976-1997. doi: 10.1016/j.jacc.2015.03.540.

Singh, I., Horn, E., Haythe, J. Pulmonary Hypertension in Pregnancy. *Clin Chest Med*. 2021 Mar;42(1):91-99. doi: 10.1016/j.ccm.2020.10.006. Epub 2021 Jan 9.

Turpie, A.G., Bauer, K.A., Eriksson, B.I., Lassen, M.R. Fondaparinux vs enoxaparin for the prevention of venous thromboembolism in major orthopedic surgery: a meta-analysis of 4 randomized double-blind studies. *Arch Intern Med*. 2002 Sep 9;162(16):1833-1840. doi: 10.1001/archinte.162.16.1833. PMID: 12196081.

M. General

Sands, S.A., Owens, R.L. Congestive heart failure and central sleep apnea. *Crit Care Clin*. 2015 Jul;31(3):473-495. doi: 10.1016/j.ccc.2015.03.005. PMID: 26118916; PMCID: PMC4486008.

II. CRITICAL CARE

A. Pulmonary

Bergin, S.P., Rackley, C.R. Managing Respiratory Failure in Obstructive Lung Disease; *Clin Chest Med*. 2016 Dec;37(4):659-667. doi: 10.1016/j.ccm.2016.07.006. Epub 2016 Sep 8.

Brenner, B., Corbridge, T., Kazzi, A. Intubation and mechanical ventilation of the asthmatic patient in respiratory failure. *J Allergy Clin Immunol*. 2009 Aug;124(2 Suppl):S19-28. doi: 10.1016/j.jaci.2009.05.008. PMID: 19647132.

Davidson, K., Shojaee, S. Managing Massive Hemoptysis. *Chest*. 2020 Jan;157(1):77-88. doi: 10.1016/j.chest.2019.07.012. Epub 2019 Jul 30.

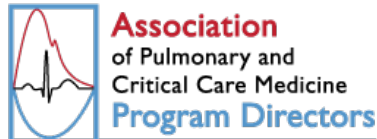
Dweik, R.A., Stoller, J.K. Role of bronchoscopy in massive hemoptysis. *Clin Chest Med*. 1999 Mar;20(1):89-105. doi: 10.1016/s0272-5231(05)70129-5.

Lemyze, M., Mallat, J. Understanding negative pressure pulmonary edema. *Intensive Care Med*. 2014 Aug;40(8):1140-1143. doi: 10.1007/s00134-014-3307-7. Epub 2014 May 6.

Radchenko, C., Alraiyes, A.H., Shojaee, S. A systematic approach to the management of massive hemoptysis. *J Thorac Dis*. 2017 Sep;9(Suppl 10):S1069-S1086. doi: 10.21037/jtd.2017.06.41.

Sakr, L., Dutau, H. Massive hemoptysis: an update on the role of bronchoscopy in diagnosis and management. *Respiration*. 2010;80(1):38-58. doi: 10.1159/000274492. Epub 2010 Jan 8.

Thiagarajan, R.R., Barbaro, R.P., Rycus, P.T. et al, Extracorporeal Life Support Organization Registry International Report 2016. *ASAIO J*. 2017 Jan/Feb;63(1):60-67. doi: 10.1097/MAT.0000000000000475.



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B. Cardiovascular

Cannon, J.W. Hemorrhagic Shock. *N Engl J Med.* 2018 Jan 25;378(4):370-379. doi: 10.1056/NEJMra1705649.

De Backer, D., Biston, P., Devriendt, J. et al, Comparison of dopamine and norepinephrine in the treatment of shock. *N Engl J Med.* 2010 Mar 4;362(9):779-789. doi: 10.1056/NEJMoa0907118.

Hiratzka, L.F., Bakris, G.L., Beckman, J.A. et al, 2010 ACCF/AHA/AATS/ACR/ASA/SCA/SCAI/SIR/STS/SVM guidelines for the diagnosis and management of patients with Thoracic Aortic Disease: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines, American Association for Thoracic Surgery, American College of Radiology, American Stroke Association, Society of Cardiovascular Anesthesiologists, Society for Cardiovascular Angiography and Interventions, Society of Interventional Radiology, Society of Thoracic Surgeons, and Society for Vascular Medicine. *Circulation.* 2010 Apr 6;121(13):e266-369. doi: 10.1161/CIR.0b013e3181d4739e. Epub 2010 Mar 16. Erratum in: *Circulation.* 2010 Jul 27;122(4):e410. PMID: 20233780.

Johnson, W., Nguyen, M.L., Patel, R. Hypertension crisis in the emergency department. *Cardiol Clin.* 2012 Nov;30(4):533-543. doi: 10.1016/j.ccl.2012.07.011. Epub 2012 Oct 2. PMID: 23102030.

Lieberman, P.L. Recognition and first-line treatment of anaphylaxis. *Am J Med.* 2014 Jan;127(1 Suppl):S6-11. doi: 10.1016/j.amjmed.2013.09.008. Epub 2013 Oct 1.

Perman, S.M., Elmer, J., Maciel, C.B. et al, 2023 American Heart Association Focused Update on Adult Advanced Cardiovascular Life Support: An Update to the American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation.* 2024 Jan 30;149(5):e254-e273. doi: 10.1161/CIR.0000000000001194. Epub 2023 Dec 18. PMID: 38108133.

Simons, F.E. Anaphylaxis. *J Allergy Clin Immunol.* 2010 Feb;125(2 Suppl 2):S161-181. doi: 10.1016/j.jaci.2009.12.981. Erratum in: *J Allergy Clin Immunol.* 2010 Oct;126(4):885. PMID: 20176258.

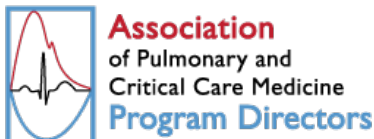
C. Renal, Endocrine, and Metabolic

García Gallo, M.S., Martínez, M.P., Abalovich, M.S. et al, Endocrine manifestations of Langerhans cell histiocytosis diagnosed in adults. *Pituitary.* 2010 Dec;13(4):298-303. doi: 10.1007/s11102-010-0233-8. PMID: 20559737.

Raghavan, R., Eknoyan, G. Acute interstitial nephritis - a reappraisal and update. *Clin Nephrol.* 2014 Sep;82(3):149-162. doi: 10.5414/cn108386. PMID: 25079860; PMCID: PMC4928030.

Ross, J.A., Borek, H.A., Holstege, C.P. Toxic Alcohols. *Crit Care Clin.* 2021 Jul;37(3):643-656. doi: 10.1016/j.ccc.2021.03.009.

Sterns, R.H. Disorders of plasma sodium--causes, consequences, and correction. *N Engl J Med.* 2015 Jan 1;372(1):55-65. doi: 10.1056/NEJMra1404489. PMID: 25551526.



2025 STUDY GUIDE

Pulmonary and Critical Care Medicine (PCCM) In-service Examination

Whittier, W.L., Rutecki, G.W. Primer on clinical acid-base problem solving. *Dis Mon.* 2004 Mar;50(3):122-162. doi: 10.1016/j.disamonth.2004.01.002.

D. Neurologic and Toxicologic Disorders

Baird, T.A., Parsons, M.W., Phan, T. et al, Persistent poststroke hyperglycemia is independently associated with infarct expansion and worse clinical outcome. *Stroke.* 2003 Sep;34(9):2208-14. doi: 10.1161/01.STR.0000085087.41330.FF. Epub 2003 Jul 31.

de Gans, J., van de Beek, D, European Dexamethasone in Adulthood Bacterial Meningitis Study Investigators. Dexamethasone in adults with bacterial meningitis. *N Engl J Med.* 2002 Nov 14;347(20):1549-1556. doi: 10.1056/NEJMoa021334.

Greenberg, S.M., Ziai, W.C., Cordonnier, C. et al, 2022 Guideline for the Management of Patients With Spontaneous Intracerebral Hemorrhage: A Guideline From the American Heart Association/American Stroke Association. *Stroke.* 2022 Jul;53(7):e282-e361. doi: 10.1161/STR.0000000000000407. Epub 2022 May 17. PMID: 35579034.

Lawn, N.D., Fletcher, D.D., Henderson, R.D. et al, Anticipating mechanical ventilation in Guillain-Barré syndrome. *Arch Neurol.* 2001 Jun;58(6):893-898. doi: 10.1001/archneur.58.6.893.

Patel, S., Parikh, A., Okorie, O.N. Subarachnoid hemorrhage in the emergency department. *Int J Emerg Med.* 2021 May 12;14(1):31. doi: 10.1186/s12245-021-00353-w. PMID: 33980142; PMCID: PMC8117305.

Pearlman, B.L., Gambhir, R. Salicylate intoxication: a clinical review. *Postgrad Med.* 2009 Jul;121(4):162-168. doi: 10.3810/pgm.2009.07.2041.

Prabhakaran, S., Ruff, I., Bernstein, R.A. Acute stroke intervention: a systematic review. *JAMA.* 2015 Apr 14;313(14):1451-1462. doi: 10.1001/jama.2015.3058. PMID: 25871671.

E. Gastrointestinal, Hepatologic, Hematologic, and Oncologic Disorders

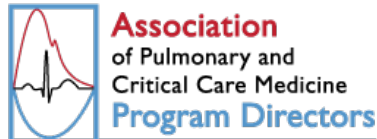
Garcia-Tsao, G., Sanyal, A.J., Grace, N.D. et al, Prevention and management of gastroesophageal varices and variceal hemorrhage in cirrhosis. *Hepatology.* 2007 Sep;46(3):922-938. doi: 10.1002/hep.21907. Erratum in: *Hepatology.* 2007 Dec;46(6):2052.

Mariotte, E., Veyradier, A. Thrombotic thrombocytopenic purpura: from diagnosis to therapy. *Curr Opin Crit Care.* 2015 Dec;21(6):593-601. doi: 10.1097/MCC.0000000000000255. PMID: 26418759.

Moore, S.B. Transfusion-related acute lung injury (TRALI): clinical presentation, treatment, and prognosis. *Crit Care Med.* 2006 May;34(5 Suppl):S114-S117. doi: 10.1097/01.CCM.0000214312.20718.3E.

Rosen's Emergency Medicine: Concepts and Clinical Practice 6th ed 2006, Mosby, Inc.

Schneider, B.J., Naidoo, J., Santomasso, B.D. et al, Management of Immune-Related Adverse Events in Patients Treated With Immune Checkpoint Inhibitor Therapy: ASCO Guideline Update. *J Clin Oncol.* 2021 Dec 20;39(36):4073-4126. doi: 10.1200/JCO.21.01440. Epub 2021 Nov 1. Erratum in: *J Clin Oncol.* 2022 Jan 20;40(3):315. doi: 10.1200/JCO.21.02786. PMID: 34724392.



2025 STUDY GUIDE

Pulmonary and Critical Care Medicine (PCCM) In-service Examination

Stone, M.J., Bogen, S.A.. Evidence-based focused review of management of hyperviscosity syndrome. *Blood* 2012; 119 (10): 2205–2208. doi: <https://doi.org/10.1182/blood-2011-04-347690>.

Toussie, D., Ginocchio, L.A., Cooper, B.T. et al, Radiation Therapy for Lung Cancer: Imaging Appearances and Pitfalls. *Clin Chest Med*. 2024 Jun;45(2):339-356. doi: 10.1016/j.ccm.2024.02.007. Epub 2024 Mar 27. PMID: 38816092.

Vlaar, A.P., Juffermans, N.P. Transfusion-related acute lung injury: a clinical review. *Lancet*. 2013 Sep 14;382(9896):984-994. doi: 10.1016/S0140-6736(12)62197-7.

F. Surgical, Trauma, Neurosurgical, and Obstetrics-Gynecology

Hall, A.H., Rumack, B.H. Hydroxycobalamin/sodium thiosulfate as a cyanide antidote. *J Emerg Med*. 1987;5(2):115-121. doi: 10.1016/0736-4679(87)90074-6.

Han, D., Lee, K.S., Franquet, T. et al, Thrombotic and nonthrombotic pulmonary arterial embolism: spectrum of imaging findings. *Radiographics*. 2003 Nov-Dec;23(6):1521-1539. doi: 10.1148/rg.1103035043. PMID: 14615562.

Hemphill, J.C. 3rd, Greenberg, S.M., Anderson, C.S. et al, Guidelines for the Management of Spontaneous Intracerebral Hemorrhage: A Guideline for Healthcare Professionals From the American Heart Association/American Stroke Association. *Stroke*. 2015 Jul;46(7):2032-2060. doi: 10.1161/STR.0000000000000069.

Kosir, R., Moore, F.A., Selby, J.H. et al, Acute lower extremity compartment syndrome (ALECS) screening protocol in critically ill trauma patients. *The Journal of Trauma: Injury, Infection, and Critical Care*. August 2007 - Volume 63 - Issue 2 - p 268-275. doi: 10.1097/TA.0b013e318074fe15.

Mancini, M.C. Blunt Chest Trauma. 2020. <http://emedicine.medscape.com/article/428723-overview>.

Nazon, D., Abergel, G., Hatem, C.M. Critical care in orthopedic and spine surgery. *Crit Care Clin*. 2003 Jan;19(1):33-53. doi: 10.1016/s0749-0704(02)00052-0.

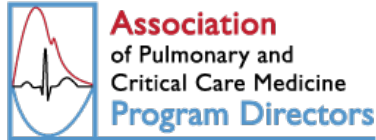
Shaikh, N. Emergency management of fat embolism syndrome. *J Emerg Trauma Shock*. 2009 Jan;2(1):29-33. doi: 10.4103/0974-2700.44680.

G. General

Cook, A.M. Pharmacokinetic Alterations of Antimicrobials in the Critically Ill. *Journal of Pharmacy Practice*. April 2005 vol. 18 no. 2 75-83. doi: 10.1177/0897190004273568.

Pothineni, N.V., Hayes, K., Deshmukh, A., Paydak, H. Propofol-related infusion syndrome: rare and fatal. *Am J Ther*. 2015 Mar-Apr;22(2):e33-e35. doi: 10.1097/MJT.0b013e318296f165.

Taylor, B.E., McClave, S.A., Martindale, R.G. et al, Guidelines for the Provision and Assessment of Nutrition Support Therapy in the Adult Critically Ill Patient: Society of Critical Care Medicine (SCCM) and American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.). *Crit Care Med*. 2016 Feb;44(2):390-438. doi: 10.1097/CCM.0000000000001525.



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III. GENERAL CARE

A. Quality and Safety

Coffin, S.E., Klompas, M., Classen, D. et al, Strategies to prevent ventilator-associated pneumonia in acute care hospitals. *Infect Control Hosp Epidemiol*. 2008 Oct;29 Suppl 1:S31-540. doi: 10.1086/591062.

Dodek, P., Keenan, S., Cook, D. et al, Evidence-based clinical practice guideline for the prevention of ventilator-associated pneumonia. *Ann Intern Med*. 2004 Aug 17;141(4):305-313. doi: 10.7326/0003-4819-141-4-200408170-00011

B. Preventive Care

Ito Fukunaga, M., Wiener, R.S., Slatore, C.G. The 2021 US Preventive Services Task Force Recommendation on Lung Cancer Screening: The More Things Stay the Same.... *JAMA Oncol*. 2021 May 1;7(5):684-686. doi: 10.1001/jamaoncol.2020.8376.

Jonas, D.E., Reuland, D.S., Reddy, S.M., et al. Screening for Lung Cancer With Low-Dose Computed Tomography: Updated Evidence Report and Systematic Review for the US Preventive Services Task Force. *JAMA*. 2021;325(10):971–987. doi:10.1001/jama.2021.0377.

Kobayashi, M., Pilishvili, T., Farrar, J.L. et al, Pneumococcal Vaccine for Adults Aged ≥ 19 Years: Recommendations of the Advisory Committee on Immunization Practices, United States, 2023. *MMWR Recomm Rep*. 2023 Sep 8;72(3):1-39. doi: 10.15585/mmwr.rr7203a1. PMID: 37669242; PMCID: PMC10495181.

C. Palliative, End-of-Life Care, and Ethics

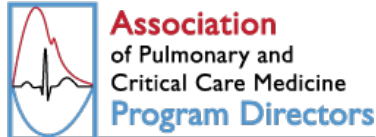
IV. PRACTICE SKILLS

A. Diagnostic Testing

Bennett, J.E., Dolin, R., Blaser, M.J, Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases. 9th ed. Philadelphia, USA: *Elsevier*. 2020. p. 3162-3176.

Collins, J.A., Rudenski, A., Gibson, J. et al, Relating oxygen partial pressure, saturation and content: the haemoglobin-oxygen dissociation curve. *Breathe (Sheff)*. 2015 Sep;11(3):194-201. doi: 10.1183/20734735.001415. PMID: 26632351; PMCID: PMC4666443.

Deepe, G.S., Jr. Modulation of infection with *Histoplasma capsulatum* by inhibition of tumor necrosis factor-alpha activity. *Clin Infect Dis*. 2005 Aug 1;41 Suppl 3:S204-207. doi: 10.1086/429999. PMID: 15983901.



2025 STUDY GUIDE

Pulmonary and Critical Care Medicine (PCCM) In-service Examination

Galiè, N., Humbert, M., Vachieri, J.L. et al, 2015 ESC/ERS Guidelines for the diagnosis and treatment of pulmonary hypertension: The Joint Task Force for the Diagnosis and Treatment of Pulmonary Hypertension of the European Society of Cardiology (ESC) and the European Respiratory Society (ERS): Endorsed by: Association for European Paediatric and Congenital Cardiology (AEPC), International Society for Heart and Lung Transplantation (ISHLT). *Eur Heart J*. 2016 Jan 1;37(1):67-119. doi: 10.1093/eurheartj/ehv317.

Global Initiative for Chronic Obstructive Lung Disease. 2020 Report. <https://goldcopd.org/wp-content/uploads/2019/11/GOLD-2020-POCKET-GUIDE-FINAL-pgsized-wms.pdf>.

Kaplan, A., Mayo, P.H.. Echocardiography performed by the pulmonary/critical care medicine physician. *Chest*. 2009 Feb;135(2):529-535. doi: 10.1378/chest.08-0818.

B. Procedures

Bernasconi, M., Koegelenberg, C.F.N., Koutsokera, A. et al, Iatrogenic bleeding during flexible bronchoscopy: risk factors, prophylactic measures and management. *ERJ Open Res*. 2017 Jun 21;3(2):00084-2016. doi: 10.1183/23120541.00084-2016. PMID: 28656131; PMCID: PMC5478796.

Crouser, E.D., Maier, L.A., Wilson, K.C. et al, Diagnosis and Detection of Sarcoidosis. An Official American Thoracic Society Clinical Practice Guideline. *Am J Respir Crit Care Med*. 2020 Apr 15;201(8):e26-e51. doi: 10.1164/rccm.202002-0251ST.

Du Rand, I.A., Blaikley, J., Booton, R. et al, British Thoracic Society Bronchoscopy Guideline Group. British Thoracic Society guideline for diagnostic flexible bronchoscopy in adults: accredited by NICE. *Thorax*. 2013 Aug;68 Suppl 1:i1-i44. doi: 10.1136/thoraxjnl-2013-203618. PMID: 23860341.

Gibson, F., Bodenham, A. Misplaced central venous catheters: applied anatomy and practical management. *Br J Anaesth*. 2013 Mar;110(3):333-346. doi: 10.1093/bja/aes497. Epub 2013 Feb 5.

Lemyze, M., Mallat, J. Understanding negative pressure pulmonary edema. *Intensive Care Med*. 2014 Aug;40(8):1140-1143. doi: 10.1007/s00134-014-3307-7. Epub 2014 May 6.

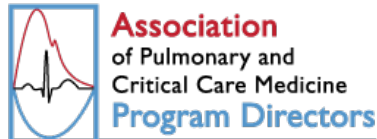
Torke, A.M., Alexander, G.C., Lantos, J. Substituted judgment: the limitations of autonomy in surrogate decision making. *J Gen Intern Med*. 2008 Sep;23(9):1514-517. doi: 10.1007/s11606-008-0688-8. Epub 2008 Jul 10.

V. BIOLOGY

A. Biology of Cells and Molecules

Bhatt, S.P., Rabe, K.F., Hanania, N.A. et al, Dupilumab for COPD with blood eosinophil evidence of type 2 inflammation. *N Engl J Med*.;390(24), 2274-2283.

Chaisson, N.F., Dodson, M.W., Elliott, C.G. Pulmonary Capillary Hemangiomas and Pulmonary Veno-occlusive Disease. *Clin Chest Med*. 2016 Sep;37(3):523-534. doi: 10.1016/j.ccm.2016.04.014. Epub 2016 Jun 30. PMID: 27514598.



2025 STUDY GUIDE

Pulmonary and Critical Care Medicine (PCCM) In-service Examination

David, B., Bafadhel, M., Koenderman, L., De Soyza, A. Eosinophilic inflammation in COPD: from an inflammatory marker to a treatable trait. *Thorax*. 2021 Feb;76(2):188-195. doi: 10.1136/thoraxjnl-2020-215167. Epub 2020 Oct 29. PMID: 33122447; PMCID: PMC7815887.

Hines, M.R., von Bahr Greenwood, T., Beutel, G. et al, Consensus-Based Guidelines for the Recognition, Diagnosis, and Management of Hemophagocytic Lymphohistiocytosis in Critically Ill Children and Adults. *Crit Care Med*. 2022 May 1;50(5):860-872. doi: 10.1097/CCM.0000000000005361. Epub 2021 Oct 5. PMID: 34605776.

Rowe, S.M., Miller, S., Sorscher, E.J. Cystic fibrosis. *N Engl J Med*. 2005 May 12;352(19):1992-2001. doi: 10.1056/NEJMra043184.

Schneider, B.J., Naidoo, J., Santomaso, B.D. et al, Management of Immune-Related Adverse Events in Patients Treated With Immune Checkpoint Inhibitor Therapy: ASCO Guideline Update. *J Clin Oncol*. 2021 Dec 20;39(36):4073-4126. doi: 10.1200/JCO.21.01440. Epub 2021 Nov 1. Erratum in: *J Clin Oncol*. 2022 Jan 20;40(3):315. doi: 10.1200/JCO.21.02786. PMID: 34724392.

B. Physiology and Metabolism

Garcia-Touchard A., Somers V.K., Olson L.J., Caples, S.M. Central sleep apnea: implications for congestive heart failure. *Chest*. 2008 Jun;133(6):1495-1504. doi: 10.1378/chest.07-0871.

West, J.B. Pulmonary physiology and pathophysiology: an integrated, case-based approach. *Lippincott Williams & Wilkins*; 2007.

C. Research

Guyatt, G.H., Oxman, A.D., Vist, G. et al, GRADE guidelines: 4. Rating the quality of evidence--study limitations (risk of bias). *J Clin Epidemiol*. 2011 Apr;64(4):407-415. doi: 10.1016/j.jclinepi.2010.07.017. Epub 2011 Jan 19. PMID: 21247734.

Zhang, J., Yu, K.F.. What's the relative risk? A method of correcting the odds ratio in cohort studies of common outcomes. *JAMA*. 1998 Nov 18;280(19):1690-1691. doi: 10.1001/jama.280.19.1690. PMID: 9832001.