

## CURRICULUM VITAE

### **Chi Ryang Chung, MD. PhD**

#### DEMOGRAPHIC AND PERSONAL INFORMATION

##### Current Appointments

##### University

2021-present **Professor, Department of Critical Care Medicine and Medicine, Samsung Medical Center, Sungkyunkwan University School of Medicine**

##### Hospital

2017-2021 Clinical Associate Professor, Department of Critical Care Medicine, Samsung Medical Center, Sungkyunkwan University School of Medicine

2021-present Professor, Department of Critical Care Medicine and Medicine, Samsung Medical Center, Sungkyunkwan University School of Medicine

##### Other

2013-2018 Secretary, Study group of Respiratory Extracorporeal Lung Support, The Korean Academy of Tuberculosis and Respiratory diseases

2016-2018 Secretary, The Korean ICU Early Mobilization Network, Korean Society of Critical Care Medicine

2018-2019 Visiting Scientist, Faculty of Medicine, Johns Hopkins Hospital

2019-present Director of Academic Committee, Korean Society of ICU Rehabilitation

2020-present Member of Academic Committee, Korean Society of Critical Care Medicine

2021-present Member of Academic Committee, Korean Academy of Tuberculosis and Respiratory Diseases

##### Personal Data

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and Medicine

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## Education and Training

### Undergraduate

- 2002 B.A., Chonbuk National University Medical School, Jeonju-si, Jeollabuk-do, Korea  
2006 M.S., Chonbuk National University Medical School, Jeonju-si, Jeollabuk-do, Korea  
2020 Ph.D., Chonbuk National University Medical School, Jeonju-si, Jeollabuk-do, Korea

### Doctoral/graduate

- 2002 M.D., Chonbuk National University Medical School, Jeonju-si, Jeollabuk-do, Korea  
2007 Korean Board of Internal Medicine  
2011 Korean Board of Critical Care Medicine  
2012 Korean Board of Pulmonary Medicine

### Postdoctoral

- 2002-2003 Intern, Chonbuk National University Hospital, Jeonju-si, Jeollabuk-do, Korea  
2003-2006 Resident, Department of Internal Medicine, Chonbuk National University Hospital, Jeonju-si, Jeollabuk-do, Korea  
2009-2011 Fellowship, Division of Pulmonology and Allergy, Department Internal Medicine, Chonbuk National University Hospital, Jeonju-si, Jeollabuk-do, Korea

## Professional Experience

- 2011-2013 Clinical Assistant Professor, Division of Pulmonology and Allergy, Department Internal Medicine, Chonbuk National University Hospital, Jeonju-si, Jeollabuk-do, Korea  
2013-2017 Clinical Assistant Professor, Department of Critical Care Medicine, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea  
2017-present Clinical Associate Professor, Department of Critical Care Medicine, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea  
2021-present Professor, Department of Critical Care Medicine and Medicine, Samsung Medical Center, Sungkyunkwan University School of Medicine

## PUBLICATIONS

### Original Research [OR]

1. Choi KH, Park SJ, Min KH, Kim SR, Lee MH, **Chung CR**, Han HJ, Lee YC. Treatment of asymptomatic pulmonary cryptococcosis in immunocompetent hosts with oral fluconazole. *Scand J Infect Dis.* 2011;43(5):380-5.
2. Kim SR, Han HJ, Park SJ, Min KH, Lee MH, **Chung CR**, Kim MH, Jin GY, Lee YC. Comparison between surgery and radiofrequency ablation for stage I non-small cell lung cancer. *Eur J Radiol.* 2012;81(2):395-9.
3. Yoo KH, Yoo CG, Kim SK, Jung JY, Lee MG, Uh ST, Shim TS, Jeon K, Shim JJ, Lee HB, **Chung CR**, Kang KW, Jung KS. Economic burden and epidemiology of pneumonia in Korean adults aged over 50 years. *J Korean Med Sci.* 2013;28(6):888-95.
4. Park TK, Yang JH, Jeon K, Choi SH, Choi JH, Gwon HC, **Chung CR**, Park CM, Cho YH, Sung K, Suh GY. Extracorporeal membrane oxygenation for refractory septic shock in adults. *Eur J Cardiothorac Surg.* 2015;47(2):e68-74.
5. Park SB, Yang JH, Park TK, Cho YH, Sung K, **Chung CR**, Park CM, Jeon K, Song YB, Hahn JY, Choi JH, Choi SH, Gwon HC, Suh GY. Developing a risk prediction model for survival to discharge in cardiac arrest patients who undergo extracorporeal membrane oxygenation. *Int J Cardiol.* 2014;177(3):1031-5.
6. Jeon K, Chung CR, Yang JH, Park CM, Suh GY. Predictors of response to corticosteroid treatment in patients with early acute respiratory distress syndrome: results of a pilot study. *Yonsei Med J.* 2015;56(1):287-91.
7. Lee DS, Ryu JA, **Chung CR**, Yang J, Jeon K, Suh GY, Lee WY, Park CM. Risk factors for acquisition of multidrug-resistant bacteria in patients with anastomotic leakage after colorectal cancer surgery. *Int J Colorectal Dis.* 2015;30(4):497-504.
8. Lee DS, Suh GY, Ryu JA, **Chung CR**, Yang JH, Park CM, Jeon K. Effect of Early Intervention on Long-Term Outcomes of Critically Ill Cancer Patients Admitted to ICUs. *Crit Care Med.* 2015;43(7):1439-48.
9. Jeong BH, Ko MG, Nam J, Yoo H, **Chung CR**, Suh GY, Jeon K. Differences in clinical outcomes according to weaning classifications in medical intensive care units. *PLoS One.* 2015;10(4):e0122810.
10. Ko Y, Cho YH, Park YH, Lee H, Suh GY, Yang JH, Park CM, Jeon K, **Chung CR**. Feasibility and Safety of Early Physical Therapy and Active Mobilization for Patients on Extracorporeal Membrane Oxygenation. *ASAIO J.* 2015;61(5):564-8; \*corresponding author

11. Lee H, Ko YJ, Suh GY, Yang JH, Park CM, Jeon K, Park YH, **Chung CR**. Safety profile and feasibility of early physical therapy and mobility for critically ill patients in the medical intensive care unit: Beginning experiences in Korea. *J Crit Care*. 2015;30(4):673-7; \*corresponding author
12. Ryu JA, Yang JH, Lee D, Park CM, Suh GY, Jeon K, Cho J, Baek SY, Carriere KC, **Chung CR**. Clinical Usefulness of Procalcitonin and C-Reactive Protein as Outcome Predictors in Critically Ill Patients with Severe Sepsis and Septic Shock. *PLoS One*. 2015;10(9):e0138150; \*corresponding author
13. Lee DS, **Chung CR**, Jeon K, Park CM, Suh GY, Song YB, Hahn JY, Choi SH, Choi JH, Gwon HC, Yang JH. Survival After Extracorporeal Cardiopulmonary Resuscitation on Weekends in Comparison With Weekdays. *Ann Thorac Surg*. 2016;101(1):133-40.
14. Jeon K, Jeong BH, Ko MG, Nam J, Yoo H, **Chung CR**, Suh GY. Impact of delirium on weaning from mechanical ventilation in medical patients. *Respirology*. 2016;21(2):313-20.
15. Park SJ, Yang JH, Park HJ, In YW, Lee YM, Cho YH, **Chung CR**, Park CM, Jeon K, Suh GY. Trough Concentrations of Vancomycin in Patients Undergoing Extracorporeal Membrane Oxygenation. *PLoS One*. 2015;10(11):e0141016.
16. Lee H, Cho YH, Sung K, Yang JH, **Chung CR**, Jeon K, Suh GY. The Use of Extracorporeal Circulation in Suspected Brain Dead Organ Donors with Cardiopulmonary Collapse. *J Korean Med Sci*. 2015;30(12):1911-4.
17. Ryu JA, Bang OY, Suh GY, Yang JH, Lee D, Park J, Cho J, **Chung CR**, Park CM, Jeon K. Ischemic Stroke in Critically Ill Patients with Malignancy. *PLoS One*. 2016;11(1):e0146836.
18. Ryu JA, Lee D, Yang JH, **Chung CR**, Park CM, Suh GY, Jeon K. Spontaneous intracranial haemorrhage in critically ill patients with malignancies. *Support Care Cancer*. 2016;24(7):2971-8.
19. Ha TS, Shin TG, Jo IJ, Hwang SY, **Chung CR**, Suh GY, Jeon K. Lactate clearance and mortality in septic patients with hepatic dysfunction. *Am J Emerg Med*. 2016;34(6):1011-5.
20. Chun S, Chung CR, Ha YE, Han TH, Ki CS, Kang ES, Park JK, Peck KR, Cho D. Possible Transfusion-Related Acute Lung Injury Following Convalescent Plasma Transfusion in a Patient With Middle East Respiratory Syndrome. *Ann Lab Med*. 2016;36(4):393-5.
21. Lee H, Ko YJ, Jung J, Choi AJ, Suh GY, **Chung CR**. Monitoring of Potential Safety Events and Vital Signs during Active Mobilization of Patients Undergoing Continuous Renal Replacement Therapy in a Medical Intensive Care Unit. *Blood Purif*. 2016;42(1):83-90; \*corresponding author
22. Park GE, Ko JH, Peck KR, Lee JY, Lee JY, Cho SY, Ha YE, Kang CI, Kang JM, Kim YJ, Huh HJ, Ki CS, Lee NY, Lee JH, Jo IJ, Jeong BH, Suh GY, Park J, **Chung CR**, Song JH, Chung DR. Control of an Outbreak of Middle East Respiratory Syndrome in a Tertiary Hospital in Korea. *Ann Intern Med*. 2016;165(2):87-93.
23. Ha TS, Yang JH, Cho YH, **Chung CR**, Park CM, Jeon K, Suh GY. Clinical outcomes after rescue extracorporeal cardiopulmonary resuscitation for out-of-hospital cardiac arrest. *Emerg Med J*. 2017;34(2):107-111.
24. Ko JH, Park GE, Lee JY, Lee JY, Cho SY, Ha YE, Kang CI, Kang JM, Kim YJ, Huh HJ, Ki CS, Jeong BH, Park J, **Chung CR**, Chung DR, Song JH, Peck KR. Predictive factors for pneumonia development and progression to respiratory failure in MERS-CoV infected patients. *J Infect*. 2016;73(5):468-475.
25. Ryu JA, Choi K, Yang JH, Lee DS, Suh GY, Jeon K, Cho J, **Chung CR**, Sohn I, Kim K, Park CM. Clinical usefulness of capnographic monitoring when inserting a feeding tube in critically ill patients: retrospective cohort study. *BMC Anesthesiol*. 2016;16(1):122.
26. Na SJ, **Chung CR**, Jeon K, Park CM, Suh GY, Ahn JH, Carriere KC, Song YB, Choi JO, Hahn JY, Choi JH, Choi SH, On YK, Gwon HC, Jeon ES, Kim DK, Yang JH. Association Between Presence of a Cardiac Intensivist and Mortality in an Adult Cardiac Care Unit. *J Am Coll Cardiol*. 2016;68(24):2637-2648.
27. Ryu JA, Park TK, Chung CR, Cho YH, Sung K, Suh GY, Lee TR, Sim MS, Yang JH. Association between Body Temperature Patterns and Neurological Outcomes after Extracorporeal Cardiopulmonary Resuscitation. *PLoS One*. 2017;12(1):e0170711.
28. Ryu JA, **Chung CR**, Cho YH, Sung K, Suh GY, Park TK, Song YB, Hahn JY, Choi JH, Gwon HC, Choi SH, Yang JH. The association of findings on brain computed tomography with neurologic outcomes following extracorporeal cardiopulmonary resuscitation. *Crit Care*. 2017;21(1):15.
29. Gil E, Na SJ, Ryu JA, Lee DS, **Chung CR**, Cho YH, Jeon K, Sung K, Suh GY, Yang JH. Association of body mass index with clinical outcomes for in-hospital cardiac arrest adult patients following extracorporeal cardiopulmonary resuscitation. *PLoS One*. 2017;12(4):e0176143
30. Ryu JA, Yang JH, **Chung CR**, Suh GY, Hong SC. Impact of Neurointensivist Co-management on the Clinical Outcomes of Patients Admitted to a Neurosurgical Intensive Care Unit. *J Korean Med Sci*. 2017;32(6):1024-1030.
31. **Chung CR**, Yoo HJ, Park J, Ryu S. Cognitive Impairment and Psychological Distress at Discharge from Intensive Care Unit. *Psychiatry Investig*. 2017;14(3):376-379.
32. Na SJ, Park TK, Lee GY, Cho YH, **Chung CR**, Jeon K, Suh GY, Ahn JH, Carriere KC, Song YB, Choi JO, Hahn JY, Choi SH, Gwon HC, Yang JH. Impact of a cardiac intensivist on mortality in patients with cardiogenic shock. *Int J Cardiol*. 2017;244:220-225.

33. Ko JH, Müller MA, Seok H, Park GE, Lee JY, Cho SY, Ha YE, Baek JY, Kim SH, Kang JM, Kim YJ, Jo IJ, **Chung CR**, Hahn MJ, Drosten C, Kang CI, Chung DR, Song JH, Kang ES, Peck KR. Serologic responses of 42 MERS-coronavirus-infected patients according to the disease severity. *Diagn Microbiol Infect Dis*. 2017;89(2):106-111.
34. Park J, Jeon K, **Chung CR**, Yang JH, Cho YH, Cho J, Park CM, Park H, Cho J, Guallar E, Suh GY. A nationwide analysis of intensive care unit admissions, 2009-2014 - The Korean ICU National Data (KIND) study. *J Crit Care*. 2017;44:24-30.
35. Park J, Pabon M, Choi AMK, Siempos II, Fredenburgh LE, Baron RM, Jeon K, **Chung CR**, Yang JH, Park CM, Suh GY. Plasma surfactant protein-D as a diagnostic biomarker for acute respiratory distress syndrome: validation in US and Korean cohorts. *BMC Pulm Med*. 2017;17(1):204.

#### Review Articles [RA]

1. **Chung CR**, Lee HB. Hormonal changes in critical condition (in Korean). *Korean Journal of Critical Care Medicine*. 2010;25(3):123-129

#### Case Reports [CR]

1. Kim SR, Lee MH, Lee KA, Park SJ, Min KH, Han HJ, **Chung CR**, Choi KH, Lee HB, Jin GY, Lee YC. A 38-year-old woman with bilateral cystic lesions in both lower lung lobes. *Chest*. 2011 Aug;140(2):544-548.
2. Park SJ, **Chung CR**, Rhee YK, Lee HB, Lee YC, Kweon EY. Chronic pulmonary aspergillosis due to *Aspergillus niger*. *Am J Respir Crit Care Med*. 2012 Nov 15;186(10):e16-7.
3. Moon SM, Hong YS, Lee DS, \***Chung CR**. Purpura fulminans on the nose with septic abortion. *Intensive Care Med*. 2015;41(6):1122; \*corresponding author
4. Moon SM, Lee H, Moon JH, Kim HK, Park JE, Byeon S, Suh GY, **Chung CR**. Prolonged Maintenance of VV ECMO for 104 Days with Native Lung Recovery in Acute Respiratory Failure. *ASAIO J*. 2016;62(2):e15-7; \*corresponding author

#### Book Chapters, Monographs [BC]

1. Text Book of Critical Care Medicine, chapter 28 ICU rehabilitation, 3<sup>rd</sup> edition. KSCCM. 2017

#### Other Publications:

##### Letters, Correspondence [LT]

1. **Chung CR**, Lee YC, Rhee YK, Chung MJ, Hong YK, Kweon EY, Park SJ. Pulmonary coccidioidomycosis with peritoneal involvement mimicking lung cancer with peritoneal carcinomatosis. *Am J Respir Crit Care Med*. 2011;183(1):135-6.
2. Min KH, Park SJ, Kim SR, Lee MH, **Chung CR**, Han HJ, Choi KH, Chung MJ, Lee YC, Jin GY, Kim MH. Coexistence of allergic bronchopulmonary aspergillosis and active pulmonary tuberculosis. *Am J Respir Crit Care Med*. 2011;183(1):137-9.
3. **Chung CR**, Park SJ, Min KH, Kim SR, Lee MH, Han HJ, Choi KH, Jin GY, Chung MJ, Lee YC. An unusual localized progressive fibrotic cavity mimicking lung malignancy in idiopathic pulmonary fibrosis. *Am J Respir Crit Care Med*. 2011;183(1):140.
4. Choi KH, Park SJ, Min KH, Kim SR, Lee MH, **Chung CR**, Han HJ, Lee HB, Rhee YK, Jin GY, Chung MJ, Lee YC. Late endobronchial metastasis from rectal cancer that mimics a primary lung cancer. *Am J Respir Crit Care Med*. 2011;183(1):142-3.
5. Kim SR, Park JK, Park SJ, Min KH, Lee MH, Han HJ, **Chung CR**, Choi KH, Chung MJ, Lee YC. Solitary bronchial squamous papilloma presenting as a plaque-like lesion in a subject with asthma. *Am J Respir Crit Care Med*. 2011;183(4):555-6.
6. Choi KH, Park SJ, Min KH, Kim SR, Lee MH, **Chung CR**, Han HJ, Han YM, Chung MJ, Lee YC. Early-stage lung cancer mimicking pulmonary arteriovenous malformation. *Am J Respir Crit Care Med*. 2011 Jun 1;183(11):1572-3.
7. Han HJ, Park SJ, Min KH, Kim SR, Lee MH, **Chung CR**, Choi KH, Rhee YK, Jin GY, Chung MJ, Lee YC. Whole-body magnetic resonance imaging for staging metastatic thymic carcinoma. *Am J Respir Crit Care Med*. 2011 Jun 1;183(11):1573-4.

#### Media Releases or Interviews [MR]

10/7/15 Documentary TV program on KBS1TV, "The key of survival of critically ill patients", at 10pm

#### CLINICAL ACTIVITIES

##### Clinical Focus

## Certification

Medical, other state/government licensure

2002-present Korean Board of M.D. (#75844)

Boards, other specialty certification

2007-present Board Certified, Korean Board of Internal Medicine #10434

2011-present Board Certified, Korean Board of Critical Care Medicine #1179

2012-present Board Certified, Korean Board of Pulmonary Medicine #3-12-466

Clinical (Service) Responsibilities

2013-2021 Vice-director, Medical ICU, Samsung Medical Center

2021-present Director, Medical ICU, Samsung Medical Center

Membership in or examiner for specialty board

2011-present Board Certified, Korean Board of Critical Care Medicine #1179

2012-present Board Certified, Korean Board of Pulmonary Medicine #3-12-466

Clinical Program Building / Leadership

5/13-present Developed and implemented the ICU rehabilitation program in MICU, Samsung Medical Center

## EDUCATIONAL ACTIVITIES

Educational Focus

My educational focus is on intensive care and how to treat patients with respiratory failure, sepsis and shock.

Teaching

Classroom instruction

2013-present Instructor for basic life support, Bronchoscopy, Samsung Medical Center, Seoul, Korea

2018-present Lecturer, for medical students, "Sepsis pathophysiology and management: and "Introduction of mechanical ventilation", Sungkyunkwan University school of Medicine, Seoul, Korea

*International* Instructor for critical care lung ultrasonography in WFSICCM 2015

## RESEARCH ACTIVITIES

Research Focus

- post intensive care syndrome
- sepsis
- extracorporeal membrane oxygenation

## ORGANIZATIONAL ACTIVITIES

Journal peer review activities

2015-present Journal of Critical Care

2015-present Journal of Korean Journal of Critical Care Medicine