Stanford



Rishi Raj

Clinical Professor, Medicine - Pulmonary, Allergy & Critical Care Medicine

CLINICAL OFFICE (PRIMARY)

- **Chest Clinic**

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Bio

BIO

Dr. Rishi Raj is a Clinical Professor of Medicine at Stanford University, where he directs the Interstitial Lung Disease program. He has practiced pulmonary and critical care medicine for over two decades and specializes in the diagnosis and treatment of interstitial lung diseases.

His primary clinical interest encompasses a range of interstitial lung diseases, including idiopathic pulmonary fibrosis, other idiopathic interstitial lung diseases, drug-induced interstitial lung diseases, interstitial lung disease associated with connective tissue diseases such as scleroderma, rheumatoid arthritis, dermatomyositis, sarcoidosis, hypersensitivity pneumonitis, and other various interstitial lung diseases. His other clinical interest is acute respiratory failure associated with interstitial lung diseases, and Dr. Raj attends regularly in the medical intensive care units.

He is a principal investigator and co-investigator in numerous clinical trials, examining new therapies for treating idiopathic pulmonary fibrosis and other interstitial lung diseases.

Dr. Raj's current research focuses on the use of radiologic biomarkers to predict outcomes in various interstitial lung diseases, and leveraging large language models in clinical research.

CLINICAL FOCUS

- Idiopathic Pulmonary Fibrosis
- Familial Pulmonary Fibrosis
- Other Idiopathic Interstitial Lung Diseases
- Connective Tissue Associated Interstitial Lung Disease (RA, Scleroderma, Myosites, others)
- Drug Induced Interstitial Lung Diseases
- Hypersensitivity Pneumonitis
- Sarcoidosis
- Other Interstitial Lung Diseases

- Critical Care Medicine

ACADEMIC APPOINTMENTS

- Clinical Professor, Medicine - Pulmonary, Allergy & Critical Care Medicine

ADMINISTRATIVE APPOINTMENTS

- Director, Interstitial Lung Disease Program, Stanford, (2017- present)

HONORS AND AWARDS

- Member, Alpha Omega Alpha (2019)

PROFESSIONAL EDUCATION

- Medical Education: Christian Medical College Vellore (1995) India
- Board Certification: Pulmonary Disease, American Board of Internal Medicine (2024)
- Fellowship: Baylor College of Medicine (2002) TX
- Board Certification: Critical Care Medicine, American Board of Internal Medicine (2003)
- Residency: Texas Tech University Health Sciences Center (1999) TX

Research & Scholarship

CLINICAL TRIALS

- A Study Measuring the Effectiveness, Safety, and Tolerability of BMS-986278 in Participants With Lung Fibrosis, Not Recruiting
- CleanUP IPF for the Pulmonary Trials Cooperative, Not Recruiting
- Prospective Treatment Efficacy in IPF Using Genotype for Nac Selection (PRECISIONS) Trial, Not Recruiting
- Prospective Validation of Cough, Dyspnea, and Quality of Life Questionnaires in Patients With IPF, Not Recruiting
- Pulmonary Fibrosis Foundation Patient Registry, Not Recruiting
- Safety and Efficacy of a Lysophosphatidic Acid Receptor Antagonist in Idiopathic Pulmonary Fibrosis, Not Recruiting
- Study of Efficacy and Safety of Inhaled Treprostinil in Subjects With Idiopathic Pulmonary Fibrosis, Not Recruiting
- Zephyrus I: Evaluation of Efficacy and Safety of Pamrevlumab in Participants With Idiopathic Pulmonary Fibrosis (IPF), Not Recruiting
- Idiopathic Pulmonary Fibrosis and Interstitial Lung Disease Prospective Outcomes Registry, Not Specified

Publications

PUBLICATIONS

- **Evaluation of Large Language Models for Structured Data Extraction From Interstitial Lung Disease Clinical Notes: Comparative Study.** *Journal of medical Internet research*
  Chen, S. J., Maddali, M. V., Langlotz, C., Bluethgen, C., Chen, J., Raj, R.
  2026; 28: e90547

- **Molecular endotypes predict differential response to immunosuppressant therapy in non-IPF interstitial lung disease.** *American journal of respiratory and critical care medicine*
  Maddali, M. V., Pugashetti, J. V., Pienkos, S. M., Moore, A. R., Konkol, S. B., Kim, J. S., Ma, S. F., Newton, C. A., Garcia, C. K., Adegunsoye, A., Strek, M. E., Chen, C. H., Linderholm, et al
  2026

- **Molecular Endotypes of Idiopathic Pulmonary Fibrosis: A Latent Class Analysis of Two Multicenter Observational Cohorts.** *American journal of respiratory and critical care medicine*
  Maddali, M. V., Moore, A. R., Sinha, P., Newton, C. A., Kim, J. S., Adegunsoye, A., Ma, S. F., Strek, M. E., Chen, C. H., Linderholm, A. L., Zemans, R. L., Moore, B. B., Wolters, et al

2024

- **Lung function trajectories in patients with idiopathic pulmonary fibrosis.** *Respiratory research*
  Neely, M. L., Hellkamp, A. S., Bender, S., Todd, J. L., Liesching, T., Luckhardt, T. R., Oldham, J. M., Raj, R., White, E. S., Palmer, S. M.
  2023; 24 (1): 209

- **A double-blind, placebo-controlled, randomized withdrawal trial of sarilumab for the treatment of glucocorticoid-dependent sarcoidosis.** *Rheumatology (Oxford, England)*
  Baker, M. C., Horomanski, A., Wang, Y., Yuhan, L., Parsafar, S., Fairchild, R., Mooney, J. J., Raj, R., Witteles, R., Genovese, M. C.
  2023

- **Integrative multi-omics analysis reveals novel idiopathic pulmonary fibrosis endotypes associated with disease progression.** *Respiratory research*
  Ruan, P., Todd, J. L., Zhao, H., Liu, Y., Vinisko, R., Soellner, J. F., Schmid, R., Kaner, R. J., Luckhardt, T. R., Neely, M. L., Noth, I., Porteous, M., Raj, et al
  2023; 24 (1): 141

- **Ziritaxestat, a Novel Autotaxin Inhibitor, and Lung Function in Idiopathic Pulmonary Fibrosis: The ISABELA 1 and 2 Randomized Clinical Trials.** *JAMA*
  Maher, T. M., Ford, P., Brown, K. K., Costabel, U., Cottin, V., Danoff, S. K., Groenveld, I., Helmer, E., Jenkins, R. G., Milner, J., Molenberghs, G., Penninckx, B., Randall, et al
  2023; 329 (18): 1567-1578

- **Diffuse Panbronchiolitis in a Patient With Ulcerative Colitis Treated With Ustekinumab.** *ACG case reports journal*
  Marmor, M., Berry, G., Raj, R.
  2023; 10 (5): e01062

- **Exploring the Versatility of Zero-Shot CLIP for Interstitial Lung Disease Classification**
  Uden, C. V., Bluethgen, C., Attis, M., Polacin, M., Guo, H. H., Simha, N., Raj, R., Langlotz, C.
  arXiv. arXiv.
  2023 ; 2306 (01111):

- **COVID-19 mRNA Vaccines and ILD Exacerbation: Causation or Just a Temporal Association?** *American journal of respiratory and critical care medicine*
  Ehteshami-Afshar, S., Raj, R.
  2022

- **The Role of Surgical Lung Biopsy in the Diagnosis of Fibrotic Interstitial Lung Disease: Perspective from the Pulmonary Fibrosis Foundation.** *Annals of the American Thoracic Society*
  Hariri, L. P., Roden, A. C., Chung, J. H., Danoff, S. K., Gomez Manjarres, D. C., Hartwig, M., Kheir, F., King, C., Kreider, M., Lynch, D. A., Mooney, J., Muniappan, A., Myers, et al
  2021

- **Prescription Patterns for Pulmonary Vasodilators in the Treatment of Pulmonary Hypertension Associated With Chronic Lung Diseases: Insights From a Clinician Survey.** *Frontiers in medicine*
  Thomas, C. A., Lee, J., Bernardo, R. J., Anderson, R. J., Glinskii, V., Sung, Y. K., Kudelko, K., Hedlin, H., Sweatt, A., Kawut, S. M., Raj, R., Zamanian, R. T., de Jesus Perez, et al
  1800; 8: 764815

- **Diffuse idiopathic pulmonary neuroendocrine cell hyperplasia (DIPNECH): clinical characteristics and progression to carcinoid tumor.** *The European respiratory journal*
  Yang Sun, T., Hwang, G., Pancirer, D., Hornbacker, K., Codima, A., Lui, N. S., Raj, R., Kunz, P., Padda, S. K.
  2021

- **Disease Severity and Quality of Life in Patients With Idiopathic Pulmonary Fibrosis: A Cross-Sectional Analysis of the IPF-PRO Registry.** *Chest*
  O'Brien, E. C., Hellkamp, A. S., Neely, M. L., Swaminathan, A., Bender, S., Snyder, L. D., Culver, D. A., Conoscenti, C. S., Todd, J. L., Palmer, S. M., Leonard, T. B.
  2020; 157 (5): 1188-1198

- **Sleep Patterns and Health Behaviors in Healthcare Students.** *Southern medical journal*
  Nugent, K., Raj, R., Nugent, R.

2020; 113 (3): 104–10

- **Rituximab Versus Mycophenolate in the Treatment of Recalcitrant Connective Tissue Disease-Associated Interstitial Lung Disease.** *ACR open rheumatology*
  Zhu, L. n., Chung, M. P., Gagne, L. n., Guo, H. H., Guenther, Z. n., Li, S. n., Jacobs, S. n., Morisset, J. n., Mooney, J. J., Raj, R. n., Chung, L. n.
  2020
- **Vaping-related Acute Parenchymal Lung Injury: A Systematic Review.** *Chest*
  Jonas, A. M., Raj, R. n.
  2020
- **Peripheral blood proteomic profiling of idiopathic pulmonary fibrosis biomarkers in the multicentre IPF-PRO Registry** *RESPIRATORY RESEARCH*
  Todd, J. L., Neely, M. L., Overton, R., Durham, K., Gulati, M., Huang, H., Roman, J., Newby, L., Flaherty, K. R., Vinisko, R., Liu, Y., Roy, J., Schmid, et al
  2019; 20 (1): 227
- **Survival implications of pulmonary hypertension in end-stage COPD**
  Kapasi, A., Halloran, K., Hirji, A., Lien, D., Mooney, J., Raj, R., Sweatt, A., Weinkauf, J., Zamanian, R.
  EUROPEAN RESPIRATORY SOC JOURNALS LTD.2019
- **Elevated pulmonary vascular resistance is associated with increased risk of death in IPF**
  Kapasi, A., Halloran, K., Hirji, A., Lien, D., Mooney, J., Raj, R., Sweatt, A., Weinkauf, J., Zamanian, R.
  EUROPEAN RESPIRATORY SOC JOURNALS LTD.2019
- **Predictors of death or lung transplant after a diagnosis of idiopathic pulmonary fibrosis: insights from the IPF-PRO Registry** *RESPIRATORY RESEARCH*
  Snyder, L., Neely, M. L., Hellkamp, A. S., O'Brien, E., de Andrade, J., Conoscenti, C. S., Leonard, T., Bender, S., Gulati, M., Culver, D. A., Kaner, R. J., Palmer, S., Kim, et al
  2019; 20: 105
- **Tissue Continues to Be the Issue: Role of Histopathology in the Context of Recent Updates in the Radiologic Classification of Interstitial Lung Diseases.** *Archives of pathology & laboratory medicine*
  Raparia, K., Raj, R.
  2019; 143 (1): 30-33
- **Tissue Continues to Be the Issue Role of Histopathology in the Context of Recent Updates in the Radiologic Classification of Interstitial Lung Diseases** *ARCHIVES OF PATHOLOGY & LABORATORY MEDICINE*
  Raparia, K., Raj, R.
  2019; 143 (1): 30–33
- **Rituximab Versus Mycophenolate Mofetil in Interstitial Lung Disease Secondary to Connective Tissue Disease**
  Zhu, L., Li, S., Gagne, L., Jacobs, S., Morisset, J., Mooney, J., Raj, R., Chung, L.
  WILEY.2018
- **Surgical Lung Biopsy for Interstitial Lung Diseases.** *Chest*
  Raj, R., Raparia, K., Lynch, D. A., Brown, K. K.
  2017; 151 (5): 1131-1140
- **Mortality Related to Surgical Lung Biopsy in Patients with Interstitial Lung Disease. The Devil Is in the Denominator.** *American journal of respiratory and critical care medicine*
  Raj, R., Brown, K. K.
  2016; 193 (10): 1082-4
- **Hyperacute Methotrexate Pneumonitis in a Patient With Crohn's Disease.** *Clinical gastroenterology and hepatology : the official clinical practice journal of the American Gastroenterological Association*
  Trivedi, I., Raj, R., Hanauer, S.
  2016; 14 (3): A29-30
- **The Frequency of Frailty in Ambulatory Patients With Chronic Lung Diseases.** *Journal of primary care & community health*
  Mittal, N. n., Raj, R. n., Islam, E. A., Nugent, K. n.

2016; 7 (1): 10–15

- **Peripheral lung adenocarcinomas with KRAS mutations are more likely to invade visceral pleura.** *Archives of pathology & laboratory medicine*
  Raparia, K., Villa, C., Raj, R., Cagle, P. T.
  2015; 139 (2): 189-93
- **Bladder Pressure Measurements in Patients Admitted to a Medical Intensive Care Unit.** *The American journal of the medical sciences*
  Anvari, E. n., Nantsupawat, N. n., Gard, R. n., Raj, R. n., Nugent, K. n.
  2015; 350 (3): 181–85
- **Correlation of EGFR mutation status with predominant histologic subtype of adenocarcinoma according to the new lung adenocarcinoma classification of the International Association for the Study of Lung Cancer/American Thoracic Society/European Respiratory Society.** *Archives of pathology & laboratory medicine*
  Villa, C., Cagle, P. T., Johnson, M., Patel, J. D., Yeldandi, A. V., Raj, R., DeCamp, M. M., Raparia, K.
  2014; 138 (10): 1353-7
- **Refractory IgG4-related lung disease with constitutional symptoms and severe inflammation.** *American journal of respiratory and critical care medicine*
  Sun, X., Peng, M., Hou, X., Feng, R., Xu, Z.
  2014; 189 (3): 374-5
- **Reply: Refractory IgG4-related lung disease with constitutional symptoms and severe inflammation.** *American journal of respiratory and critical care medicine*
  Raj, R.
  2014; 189 (3): 375-6
- **The repeatability of gait speed and physiological cost index measurements in working adults.** *Journal of primary care & community health*
  Raj, R. n., Mojazi Amiri, H. n., Wang, H. n., Nugent, K. M.
  2014; 5 (2): 128–33
- **Numerical Simulations of High-Frequency Respiratory Flows in 2D and 3D Lung Bifurcation Models** *INTERNATIONAL JOURNAL FOR COMPUTATIONAL METHODS IN ENGINEERING SCIENCE & MECHANICS*
  Chen, Z., Parameswaran, S., Hu, Y., He, Z., Raj, R., Parameswaran, S.
  2014; 15 (4): 337–44
- **Accelerometer-based devices can be used to monitor sedation/agitation in the intensive care unit.** *Journal of critical care*
  Raj, R. n., Ussavarungsi, K. n., Nugent, K. n.
  2014; 29 (5): 748–52
- **Modeling the relation between obesity and sleep parameters in children referred for dietary weight reduction intervention.** *Southern medical journal*
  Nugent, R. n., Althouse, A. n., Yaqub, Y. n., Nugent, K. n., Raj, R. n.
  2014; 107 (8): 473–80
- **Characterization of sleep patterns and problems in healthcare workers in a tertiary care hospital.** *Southern medical journal*
  Buscemi, D. n., Anvari, R. n., Raj, R. n., Nugent, K. n.
  2014; 107 (1): 11–16
- **Leflunomide-induced interstitial lung disease (a systematic review).** *Sarcoidosis, vasculitis, and diffuse lung diseases : official journal of WASOG*
  Raj, R., Nugent, K.
  2013; 30 (3): 167-76
- **IgG4-related lung disease.** *American journal of respiratory and critical care medicine*
  Raj, R.
  2013; 188 (5): 527-9
- **Oropharyngeal flora in patients admitted to the medical intensive care unit: clinical factors and acid suppressive therapy.** *Journal of medical microbiology*
  Frandah, W. n., Colmer-Hamood, J. n., Mojazi Amiri, H. n., Raj, R. n., Nugent, K. n.
  2013; 62 (Pt 5): 778–84

- **Risk factors of Candida colonization in the oropharynx of patients admitted to an intensive care unit.** *Journal de mycologie medicale*
  Mojazi Amiri, H., Frandah, W., Colmer-Hamood, J., Raj, R., Nugent, K.
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- **Vagus nerve stimulator-induced apneas and hypopneas in a child with refractory seizures** *JOURNAL OF PEDIATRIC NEUROLOGY*
  Parhizgar, F., Rogers, K., Hurst, D., Nugent, K., Raj, R.
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- **Patterns of use of prophylaxis for stress-related mucosal disease in patients admitted to the intensive care unit.** *Journal of intensive care medicine*
  Frandah, W. n., Colmer-Hamood, J. n., Nugent, K. n., Raj, R. n.
  2012; 29 (2): 96–103
- **Sirolimus induced granulomatous interstitial pneumonitis.** *Respiratory medicine case reports*
  Ussavarungsi, K. n., Elsanjak, A. n., Laski, M. n., Raj, R. n., Nugent, K. n.
  2012; 7: 8–11
- **Obstructive sleep apnea and respiratory complications associated with vagus nerve stimulators.** *Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine*
  Parhizgar, F. n., Nugent, K. n., Raj, R. n.
  2011; 7 (4): 401–7
- **Low-dose oral interferon α possibly retards the progression of idiopathic pulmonary fibrosis and alleviates associated cough in some patients.** *Thorax*
  Lutherer, L. O., Nugent, K. M., Schoettle, B. W., Cummins, M. J., Raj, R. n., Birring, S. S., Jumper, C. A.
  2011; 66 (5): 446–47
- **Hyperthyroidism and pulmonary hypertension: an important association.** *The American journal of the medical sciences*
  Vallabhajosula, S. n., Radhi, S. n., Cevik, C. n., Alalawi, R. n., Raj, R. n., Nugent, K. n.
  2011; 342 (6): 507–12
- **Prolonged acute care in a 52-year-old man with respiratory failure: lessons learned from 70-day intensive care unit hospitalization.** *Journal of critical care*
  Mishra, R. K., Alalawi, R. n., Raj, R. n., Nugent, K. M.
  2011; 26 (5): 532.e9–532.e16
- **Abdominal Wall Hematoma Following Paracentesis**
  Islam, S., Islam, E., Nugent, K., Raj, R.
  NATURE PUBLISHING GROUP.2010: S278–S279
- **Amiodarone-induced loculated pleural effusion: case report and review of the literature.** *Pharmacotherapy*
  Uong, V., Nugent, K., Alalawi, R., Raj, R.
  2010; 30 (2): 218
- **Lenalidomide-induced interstitial lung disease.** *Pharmacotherapy*
  Chen, Y. n., Kiatsimkul, P. n., Nugent, K. n., Raj, R. n.
  2010; 30 (3): 325
- **Advanced locally invasive squamous cell carcinoma.** *The American journal of the medical sciences*
  Pankratz, M. M., Chandler, R. n., Otahbachi, M. n., Nugent, K. n., Raj, R. n.
  2009; 338 (1): 68
- **Novel swine-origin (S-OIV) H1N1 influenza A pneumonia in a lung transplant patient: a case report and review of the literature on performance characteristics of rapid screening tests for the S-OIV.** *The American journal of the medical sciences*
  Raj, R. n., Cerdan, M. n., Yepeshurtado, A. n., Kimbrough, R. n., Nugent, K. n.
  2009; 338 (6): 506–8
- **One hundred-foot walk test for functional assessment of clinic patients.** *The American journal of the medical sciences*
  Raj, R. n., Guerra, D. n., Sehli, S. n., Nipp, R. n., Perdue, N. n., Alalawi, R. n., Jager, L. n., Nugent, K. n.
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- **Unusual pulmonary complication from Maloney dilation**
  Hodges, D. S., Raj, R.
  BLACKWELL PUBLISHING.2007: S417
- **Lung retransplantation after posttransplantation lymphoproliferative disorder (PTLD): a single-center experience and review of literature of PTLD in lung transplant recipients.** *The Journal of heart and lung transplantation : the official publication of the International Society for Heart Transplantation*
  Raj, R., Frost, A. E.
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- **Effect of the new Medicare guideline on patient qualification for positive airway pressure therapy.** *Sleep medicine*
  Raj, R., Hirshkowitz, M.
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- **Systemic lupus erythematosus in the intensive care unit.** *Critical care clinics*
  Raj, R., Murin, S., Matthay, R. A., Wiedemann, H. P.
  2002; 18 (4): 781-803
- **Scedosporium apiospermum fungemia in a lung transplant recipient.** *Chest*
  Raj, R., Frost, A. E.
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- **Human immunodeficiency virus infections in adolescents.** *Adolescent medicine (Philadelphia, Pa.)*
  Raj, R., Verghese, A.
  2000; 11 (2): 359-74
- **A piece of my mind. Crossing over.** *JAMA*
  Raj, R.
  1997; 278 (21): 1721