



Rita Popat

Associate Professor (Teaching) of Epidemiology
Epidemiology and Population Health

Bio

ACADEMIC APPOINTMENTS

- Associate Professor-Teaching, Epidemiology and Population Health

ADMINISTRATIVE APPOINTMENTS

- Steering Committee Member, Stanford Medicine Teaching and Mentoring Academy, (2017- present)
- Co-Director, Clinical Research Scholarly Concentration Program, (2017- present)
- Co-Director, Spectrum NIH TL1 Program, (2013-2018)
- Co-Director, MS program in Clinical Research & Epidemiology, (2012- present)

HONORS AND AWARDS

- Marjorie K. Ionta Award for Outstanding Graduate Student in Physical Therapy, MGH - Inst of Health Professions (1990)
- Teaching Award, Division of Epidemiology (HRP) (2006, 2008, 2010, 2011, 2012)
- Honorary Cap and Gown membership, Women's honor society at Stanford (2009)
- The Kaiser Foundation Award for Excellence in Preclinical Teaching, Stanford University School of Medicine (2010)

PROFESSIONAL EDUCATION

- PhD, Stanford University , Epidemiology (2003)
- MS, U Mass (Amherst) , Biostatistics (1998)
- MS, MGH Inst of Health Professions , Physical Therapy (1991)

LINKS

- RLS Expanded Questionnaire (Popat et al): https://drive.google.com/file/d/0B7KSlviRi_NmYTZxWmU3S2FmUTg/view?usp=sharing

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

My research interest focuses on the epidemiology of Parkinson's disease and amyotrophic lateral sclerosis, specifically evaluating the genetic and environmental contributions to these neurodegenerative disorders. I am also interested in studying the relation of cognition, estradiol exposure (endogenous and exogenous), and genetic factors.

Our research group developed an expanded screening questionnaire for diagnosing restless legs syndrome and evaluated the reliability and validity of this instrument. We found that while the sensitivity of the recommended set of three questions for screening RLS is good (86%), the specificity is poor

(45%) when examined in a sample that over-represents subjects with conditions that are commonly misclassified as RLS. We showed that specificity can be improved by including separate questions on cardinal features, as used in our expanded questionnaire, and by including a few questions that identify RLS mimics, thereby reducing false positives.

A copy of the expanded questionnaire can be accessed under "Links" (which can be viewed under the Bio tab). It is a research tool that is being made available "as is" and may be used freely for any purpose under the following terms and conditions:

- No modifications may be made to ensure the validity and reliability of the questionnaire.
- The following acknowledgement should be used in any publication or reproduction:

Popat RA, Van Den Eeden SK, Tanner CM, Kushida C, Rama A, Black J, Bernstein AL, Kasten M, Chade A, Leimpeter A, Cassidy J, McGuire V, Nelson LM. Reliability and validity of two self-administered questionnaires for screening restless legs syndrome in population-based studies. *Sleep Medicine* 2010; 11(2): 154-160.

Teaching

COURSES

2025-26

- Community-Based Global Health in India: OSPGEN 16 (Sum)
- Design and Conduct of Clinical Trials: EPI 251 (Spr)
- Epidemiology Research Seminar: EPI 236 (Spr)
- Genes and Environment in Disease Causation: Implications for Medicine and Public Health: EPI 238, HUMBIO 159 (Win)
- Introduction to Data Management and Analysis in SAS & R: EPI 223 (Aut)
- Introduction to Epidemiologic and Clinical Research Methods: EPI 225 (Aut)

2024-25

- Design and Conduct of Clinical Trials: EPI 251 (Spr)
- Epidemiology Research Seminar: EPI 236 (Spr)
- Genes and Environment in Disease Causation: Implications for Medicine and Public Health: EPI 238, HUMBIO 159 (Win)
- Introduction to Data Management and Analysis in SAS: EPI 223 (Aut)
- Introduction to Epidemiologic and Clinical Research Methods: EPI 225 (Aut)

2023-24

- Design and Conduct of Clinical Trials: EPI 251 (Spr)
- Epidemiology Research Seminar: EPI 236 (Spr)
- Genes and Environment in Disease Causation: Implications for Medicine and Public Health: EPI 238, HUMBIO 159 (Win)
- Introduction to Data Management and Analysis in SAS: EPI 223 (Aut)
- Introduction to Epidemiologic and Clinical Research Methods: EPI 225 (Aut)

2022-23

- Analytical and Practical Issues in the Conduct of Clinical and Epidemiologic Research: EPI 216 (Spr)
- Design and Conduct of Clinical Trials: EPI 251 (Spr)
- Epidemiology Research Seminar: EPI 236 (Spr)
- Genes and Environment in Disease Causation: Implications for Medicine and Public Health: EPI 238, HUMBIO 159 (Win)
- Introduction to Data Management and Analysis in SAS: EPI 223 (Aut)

- Introduction to Epidemiologic and Clinical Research Methods: EPI 225 (Aut)

STANFORD ADVISEES

Med Scholar Project Advisor

Brian Zhang

Doctoral Dissertation Reader (AC)

Aubrey Roberts

Master's Program Advisor

Natalie Mannion, Tiffany McAllister, Katherine Miclau, Anisa Subbiah

Undergraduate Major Advisor

Natalie Mannion

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Epidemiology (Masters Program)

Publications

PUBLICATIONS

- **Air pollution and the risk of second primary lung cancer among lung cancer survivors: the prospective UK Biobank cohort study.** *British journal of cancer*
Choi, E., Luo, S., Ding, V. Y., Graber-Nadich, A., Wu, J. T., Popat, R., Cheng, I., Neal, J. W., Wakelee, H. A., Han, S. S.
2026
- **Plasmapheresis in ANCA-Associated Vasculitis with Active Kidney Involvement in the United States (2016-2020): A Cross-Sectional Study.** *Kidney360*
Tao, J., Yasui, O. W., Kamdar, N. S., Zheng, S., Popat, R. A., Rehkopf, D. H., Chertow, G. M.
2024
- **Racial and Ethnic Disparities in Intensity of Care at the End of Life for Patients With Lung Cancer: A 13-Year Population-Based Study.** *Journal of clinical oncology : official journal of the American Society of Clinical Oncology*
Rodriguez, G. M., Popat, R., Rosas, L. G., Patel, M. I.
2024: JCO2301045
- **Characterization and burden of localized back pain versus back pain with chronic overlapping pain conditions.** *Pain practice : the official journal of World Institute of Pain*
Terkawi, A. S., Popat, R. A., Mackey, S.
2023
- **Implementation and evaluation of an elective quality improvement curriculum for preclinical students: a prospective controlled study.** *BMC medical education*
Aredo, J. V., Ding, J. B., Lai, C. H., Trimble, R., Bromley-Dulfano, R. A., Popat, R. A., Shieh, L.
2023; 23 (1): 66
- **The association of hearing problems with social network strength and depressive symptoms: the cardiovascular health study.** *Age and ageing*
Dobrota, S. D., Biggs, M. L., Pratt, S., Popat, R., Odden, M. C.
2022; 51 (8)
- **Dysgeusia and Dysosmia in Chronic Kidney Disease: NHANES 2011-2014.** *Journal of renal nutrition : the official journal of the Council on Renal Nutrition of the National Kidney Foundation*
Vengalasetti, Y. V., Chertow, G. M., Popat, R.
2021

- **Impact of Low-Dose CT Screening for Primary Lung Cancer on Subsequent Risk of Brain Metastasis.** *Journal of thoracic oncology : official publication of the International Association for the Study of Lung Cancer*
Su, C. C., Wu, J. T., Neal, J. W., Popat, R. A., Kurian, A. W., Backhus, L. M., Nagpal, S., Leung, A. N., Wakelee, H. A., Han, S. S.
2021
- **Prevalence of a Diagnosis of Osteopenia/Osteoporosis Amongst Patients with Systemic Sclerosis and Identification of Associated Clinical Factors**
Wang, G., Mar, D., Wu, J., Simard, J., Popat, R., Chung, L.
WILEY.2020
- **Diagnostic Utility of Reduced Electroencephalography for Seizure Detection: A Systematic Review**
Gururangan, K., Razavi, B., Popat, R.
LIPPINCOTT WILLIAMS & WILKINS.2020
- **What Matters in Parkinson's Disease: Sex, Number of Children, or Birth Cohort?** *Movement disorders : official journal of the Movement Disorder Society*
Popat, R. A., Nelson, L. M.
2020; 35 (7): 1108–10
- **EmPHasis-10 as a Measure of Health-Related Quality of Life in Pulmonary Arterial Hypertension: data from PHAR.** *The European respiratory journal*
Borgese, M. n., Badesch, D. n., Bull, T. n., Chakinala, M. n., DeMarco, T. n., Feldman, J. n., Ford, H. J., Grinnan, D. n., Klinger, J. R., Bolivar, L. n., Shlobin, O. A., Frantz, R. P., Sager, et al
2020
- **Racial and Ethnic Disparities in Hospital-Based Care Associated with Postpartum Depression.** *Journal of racial and ethnic health disparities*
Chan, A. L., Guo, N. n., Popat, R. n., Robakis, T. n., Blumenfeld, Y. Y., Main, E. n., Scott, K. A., Butwick, A. J.
2020
- **Association of Sex With Postoperative Mortality Among Patients With Heart Failure Who Underwent Elective Noncardiac Operations.** *JAMA network open*
Mattingly, A. S., Lerman, B. J., Popat, R., Wren, S. M.
2019; 2 (11): e1914420
- **Association Between Heart Failure and Postoperative Mortality Among Patients Undergoing Ambulatory Noncardiac Surgery.** *JAMA surgery*
Lerman, B. J., Popat, R. A., Assimes, T. L., Heidenreich, P. A., Wren, S. M.
2019
- **Association of Left Ventricular Ejection Fraction and Symptoms With Mortality After Elective Noncardiac Surgery Among Patients With Heart Failure** *JAMA*
Lerman, B. J., Popat, R. A., Assimes, T., Heidenreich, P., Wren, S. M.
2019; 321 (6): 572-579
- **Practice Patterns in Perioperative Nonopioid Analgesic Administration by Anesthesiologists in a Veterans Affairs Hospital.** *Pain medicine (Malden, Mass.)*
Kwong, J. Z., Mudumbai, S. C., Hernandez-Boussard, T. n., Popat, R. A., Mariano, E. R.
2019
- **Quality of surgical randomized controlled trials in hand surgery: a systematic review.** *The Journal of hand surgery, European volume*
Long, C., desJardins-Park, H. E., Popat, R., Fox, P. M.
2018: 1753193418780184
- **Pulmonary function after lung tumor stereotactic ablative radiotherapy depends on regional ventilation within irradiated lung.** *Radiotherapy and oncology*
Binkley, M. S., King, M. T., Shrager, J. B., Bush, K., Chaudhuri, A. A., Popat, R., Gensheimer, M. F., Maxim, P. G., Henry Guo, H., Diehn, M., Nair, V. S., Loo, B. W.
2017; 123 (2): 270-275
- **Diagnostic Utility of Intraoperative Neurophysiological Monitoring for Intramedullary Spinal Cord Tumors: Systematic Review and Meta-Analysis.** *Clinical spine surgery*

- Azad, T. D., Pendharkar, A. V., Nguyen, V. n., Pan, J. n., Connolly, I. D., Veeravagu, A. n., Popat, R. n., Ratliff, J. K., Grant, G. A.
2017
- **First Trimester Hemoglobin A1c Prediction of Gestational Diabetes.** *American journal of perinatology*
Osmundson, S. S., Zhao, B. S., Kunz, L., Wang, E., Popat, R., Nimbal, V. C., Palaniappan, L. P.
2016; 33 (10): 977-982
 - **An Innovative Blended Preclinical Curriculum in Clinical Epidemiology and Biostatistics: Impact on Student Satisfaction and Performance** *ACADEMIC MEDICINE*
Evans, K. H., Thompson, A. C., O'Brien, C., Bryant, M., Basaviah, P., Prober, C., Popat, R. A.
2016; 91 (5): 696-700
 - **Time course and predictive factors for lung volume reduction following stereotactic ablative radiotherapy (SABR) of lung tumors** *RADIATION ONCOLOGY*
Binkley, M. S., Shrager, J. B., Chaudhuri, A., Popat, R., Maxim, P. G., Shultz, D. B., Diehn, M., Loo, B. W.
2016; 11
 - **Factors Associated with Patient Press Ganey Satisfaction Scores for Ophthalmology Patients** *OPHTHALMOLOGY*
Long, C., Tsay, E. L., Jacobo, S. A., Popat, R., Singh, K., Chang, R. T.
2016; 123 (2): 242-247
 - **Craniotomy for Resection of Meningioma: An Age-Stratified Analysis of the MarketScan Longitudinal Database** *WORLD NEUROSURGERY*
Connolly, I. D., Cole, T., Veeravagu, A., Popat, R., Ratliff, J., Li, G.
2015; 84 (6): 1864-1870
 - **Reliability and Validity of the Pediatric Palliative Care Questionnaire for Measuring Self-Efficacy, Knowledge, and Adequacy of Prior Medical Education among Pediatric Fellows** *JOURNAL OF PALLIATIVE MEDICINE*
Brock, K. E., Cohen, H. J., Popat, R. A., Halamek, L. P.
2015; 18 (10): 842-848
 - **Racial/Ethnic Differences in Gestational Diabetes Prevalence and Contribution of Common Risk Factors** *PAEDIATRIC AND PERINATAL EPIDEMIOLOGY*
Pu, J., Zhao, B., Wang, E. J., Nimbal, V., Osmundson, S., Kunz, L., Popat, R. A., Chung, S., Palaniappan, L. P.
2015; 29 (5): 436-443
 - **Factors associated with delays to surgical presentation in North-West Cameroon** *SURGERY*
Long, C., Tagang, E. T., Popat, R. A., Lawong, E. K., Brown, J. A., Wren, S. M.
2015; 158 (3): 756-763
 - **Live Video Diet and Exercise Intervention in Overweight and Obese Youth: Adherence and Cardiovascular Health.** *journal of pediatrics*
Nourse, S. E., Olson, I., Popat, R. A., Stauffer, K. J., Vu, C. N., Berry, S., Kazmucha, J., Ogareva, O., Couch, S. C., Urbina, E. M., Tierney, E. S.
2015; 167 (3): 533-9 e1
 - **Early surgical intervention or watchful waiting for the management of asymptomatic mitral regurgitation: a systematic review and meta-analysis.** *Annals of cardiothoracic surgery*
Goldstone, A. B., Patrick, W. L., Cohen, J. E., Aribana, C. N., Popat, R., Woo, Y. J.
2015; 4 (3): 220-229
 - **Risk of Cardiovascular Disease Associated with a Restless Legs Syndrome Diagnosis in a Retrospective Cohort Study from Kaiser Permanente Northern California.** *Sleep*
Van Den Eeden, S. K., Albers, K. B., Davidson, J. E., Kushida, C. A., Leimpeter, A. D., Nelson, L. M., Popat, R., Tanner, C. M., Bibeau, K., Quesenberry, C. P.
2015; 38 (7): 1009-1015
 - **Lung Volume Reduction After Stereotactic Ablative Radiation Therapy of Lung Tumors: Potential Application to Emphysema** *INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS*
Binkley, M. S., Shrager, J. B., Leung, A. N., Popat, R., Trakul, N., Atwood, T. F., Chaudhuri, A., Maxim, P. G., Diehn, M., Loo, B. W.
2014; 90 (1): 216-223
 - **Arterial Applanation Tonometry: Feasibility and Reproducibility in Children and Adolescents** *AMERICAN JOURNAL OF HYPERTENSION*
Lowenthal, A., Evans, J. M., Pun, R., Nourse, S. E., Vu, C. N., Popat, R. A., Tierney, E. S.

2014; 27 (9): 1218-1224

- **Changes in health status among aging survivors of pediatric upper and lower extremity sarcoma: a report from the childhood cancer survivor study.** *Archives of physical medicine and rehabilitation*
Marina, N., Hudson, M. M., Jones, K. E., Mulrooney, D. A., Avedian, R., Donaldson, S. S., Popat, R., West, D. W., Fisher, P., Leisenring, W., Stovall, M., Robison, L. L., Ness, et al
2013; 94 (6): 1062-1073
- **Common iliac vein stenosis: a risk factor for oral contraceptive-induced deep vein thrombosis** *36th Annual Scientific Meeting of the Society-of-Interventional-Radiology*
Chan, K. T., Tye, G. A., Popat, R. A., Kuo, W. T., Unver, K., Kothary, N., Sze, D. Y., Hofmann, L. V.
MOSBY-ELSEVIER.2011
- **EFFECTS OF ENDOGENOUS AND EXOGENOUS ESTROGEN EXPOSURES IN MIDLIFE AND LATE-LIFE WOMEN ON EPISODIC MEMORY AND EXECUTIVE FUNCTIONS** *NEUROSCIENCE*
Henderson, V. W., Popat, R. A.
2011; 191: 129-138
- **Association of DRD2 and DRD3 polymorphisms with Parkinson's disease in a multiethnic consortium** *JOURNAL OF THE NEUROLOGICAL SCIENCES*
McGuire, V., Van Den Eeden, S. K., Tanner, C. M., Kamel, F., Umbach, D. M., Marder, K., Mayeux, R., Ritz, B., Ross, G. W., Petrovitch, H., Topol, B., Popat, R. A., Costello, et al
2011; 307 (1-2): 22-29
- **Understanding Study Design** *PM&R*
Sainani, K. L., Popat, R. A.
2011; 3 (6): 573-577
- **Coffee, ADORA2A, and CYP1A2: the caffeine connection in Parkinson's disease** *EUROPEAN JOURNAL OF NEUROLOGY*
Popat, R. A., Van Den Eeden, S. K., Tanner, C. M., Kamel, F., Umbach, D. M., Marder, K., Mayeux, R., Ritz, B., Ross, G. W., Petrovitch, H., Topol, B., McGuire, V., Costello, et al
2011; 18 (5): 756-765
- **Common Iliac Vein Stenosis and Risk of Symptomatic Pulmonary Embolism: An Inverse Correlation** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
Chan, K. T., Popat, R. A., Sze, D. Y., Kuo, W. T., Kothary, N., Louie, J. D., Hovsepian, D. M., Hwang, G. L., Hofmann, L. V.
2011; 22 (2): 133-141
- **Familial Aggregation of Parkinson's Disease in a Multiethnic Community-Based Case-Control Study** *MOVEMENT DISORDERS*
Shino, M. Y., McGuire, V., Van Den Eeden, S. K., Tanner, C. M., Popat, R., Leimpeter, A., Bernstein, A. L., Nelson, L. M.
2010; 25 (15): 2587-2594
- **Reliability and validity of two self-administered questionnaires for screening restless legs syndrome in population-based studies** *SLEEP MEDICINE*
Popat, R. A., Van Den Eeden, S. K., Tanner, C. M., Kushida, C. A., Rama, A. N., Black, J. E., Bernstein, A., Kasten, M., Chade, A., Leimpeter, A., Cassidy, J., McGuire, V., Nelson, et al
2010; 11 (2): 154-160
- **Short- and Long-Term Outcomes of Necrotizing Enterocolitis in Infants With Congenital Heart Disease** *PEDIATRICS*
Pickard, S. S., Feinstein, J. A., Popat, R. A., Huang, L., Dutta, S.
2009; 123 (5): E901-E906
- **Effect of non-steroidal anti-inflammatory medications on the risk of amyotrophic lateral sclerosis** *AMYOTROPHIC LATERAL SCLEROSIS*
Popat, R. A., Tanner, C. M., Van Den Eeden, S. K., Bernstein, A. L., Bloch, D. A., Leimpeter, A., McGuire, V., Nelson, L. M.
2007; 8 (3): 157-163
- **Clinical and demographic predictors of long-term disability in patients with relapsing-remitting multiple sclerosis - A systematic review** *ARCHIVES OF NEUROLOGY*
Langer-Gould, A., Popat, R. A., Huang, S. M., Cobb, K., Fontoura, P., Gould, M. K., Nelson, L. M.
2006; 63 (12): 1686-1691

- **Effect of reproductive factors and postmenopausal hormone use on the risk of amyotrophic lateral sclerosis** *NEUROEPIDEMIOLOGY*
Popat, R. A., Van Den Eeden, S. K., Tanner, C. M., Bernstein, A. L., Bloch, D. A., Leimpeter, A., McGuire, V., Nelson, L. M.
2006; 27 (3): 117-121
- **Effect of reproductive factors and postmenopausal hormone use on the risk of amyotrophic lateral sclerosis** *NEUROEPIDEMIOLOGY*
Popat, R. A., Van Den Eeden, S. K., Tanner, C. M., Bernstein, A. L., Bloch, D. A., Leimpeter, A., McGuire, V., Nelson, L. M.
2006; 27 (3): 117-121
- **Effect of reproductive factors and postmenopausal hormone use on the risk of Parkinson disease** *NEUROLOGY*
Popat, R. A., Van Den Eeden, S. K., Tanner, C. M., McGuire, V., Bernstein, A. L., Bloch, D. A., Leimpeter, A., Nelson, L. M.
2005; 65 (3): 383-390
- **Biomechanical analysis of failed sit-to-stand.** *IEEE transactions on rehabilitation engineering*
Riley, P. O., Krebs, D. E., Popat, R. A.
1997; 5 (4): 353-359
- **Rehabilitation of balance in two patients with cerebellar dysfunction** *PHYSICAL THERAPY*
GILLBODY, K. M., Popat, R. A., Parker, S. W., Krebs, D. E.
1997; 77 (5): 534-552
- **QUANTITATIVE ASSESSMENT OF 4 MEN USING ABOVE-ELBOW PROSTHETIC CONTROL** *ARCHIVES OF PHYSICAL MEDICINE AND REHABILITATION*
Popat, R. A., Krebs, D. E., MANSFIELD, J., Russell, D., Clancy, E., GILLBODY, K. M., Hogan, N.
1993; 74 (7): 720-729