Stanford

Leon S. Moskatel, MD

Clinical Assistant Professor, Adult Neurology

CLINICAL OFFICE (PRIMARY)

- **Stanford Headache Clinic at Hoover Pavilion**
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Bio

BIO

Dr. Moskatel is internist with fellowship training in headache medicine and board certification in internal medicine. He is a clinical assistant professor in the Stanford University School of Medicine Department of Neurology, Division of Headache.

His practice at the Stanford Health Care Headache Clinic focuses on the diagnosis and treatment of all forms of headache. Patients come to him seeking relief from migraine, cluster, and tension headaches.

Dr. Moskatel teaches headache medicine to medical students and supervises resident physicians in the Stanford Health Care Headache Clinic.

He conducts research into migraine and diet, medication overuse headache, and long-lasting headache after COVID-19. He has written articles on these and other topics. They have appeared in peer-reviewed journals such as Headache, Current Neurology and Neuroscience Reports, Annals of Headache Medicine, and Pain Medicine.

Dr. Moskatel has reviewed the content of articles written by other doctors for the journals Headache and Pain Medicine. The publication Annals of Internal Medicine awarded him a letter of commendation as outstanding reviewer.

He has co-authored textbook chapters on migraine and diet and on headache treatments. He has presented his research discoveries to his peers at meetings of the World Headache Society and other organizations.

Dr. Moskatel volunteers his time to serve both professional and community organizations. He speaks English and Hebrew fluently and reads French.

CLINICAL FOCUS

- Pain Medicine

ACADEMIC APPOINTMENTS

- Clinical Assistant Professor, Adult Neurology

PROFESSIONAL EDUCATION

- Board Certification: Headache Medicine, United Council for Neurologic Subspecialties (2022)
- Board Certification: Internal Medicine, American Board of Internal Medicine (2020)
- Fellowship: Stanford School of Medicine (2021) CA
- Residency: Mercy Hospital and Medical Ctr (2020) CA
- Medical Education: University of Southern California Keck School of Medicine (2017) CA

Publications

PUBLICATIONS

- **Meaningful Measurable Quality Outcomes in Headache Management.** *Current pain and headache reports*
  Moskatel, L. S., Smirnoff, L.
  2026; 30 (1)
- **The Impact of migraine on fertility and family planning in the Nationwide Swedish Health Care Registry** *HEADACHE*
  Moskatel, L. S., Smirnoff, L., Muhlrad, H., Yan, J., Bohm-Starke, N.
  2026
- **Health Care Utilization in Refractory Migraine A Cross-Sectional Analysis of a Cross-Institutional Electronic Health Care Records Database** *NEUROLOGY-CLINICAL PRACTICE*
  Moskatel, L. S., Smirnoff, L., O'Brien, H., Striegel, H., Ney, J., Marmura, M. J., Dua, D., Robblee, J.
  2026; 16 (3)
- **Health Care Utilization in Refractory Migraine: A Cross-Sectional Analysis of a Cross-Institutional Electronic Health Care Records Database.** *Neurology. Clinical practice*
  Moskatel, L. S., Smirnoff, L., O'Brien, H., Striegel, H., Ney, J., Marmura, M. J., Dua, D., Robblee, J.
  2026; 16 (3): e200615
- **Substance Related Disorders in Patients with Chronic Migraine: an Exploratory, Observational Study.** *Pain medicine (Malden, Mass.)*
  Linfield, L. H., Moskatel, L. S.
  2026
- **The Association of Mpox Incidence and Vaccination with Bacterial Sexually Transmitted Infections Incidence in Men.** *Sexually transmitted diseases*
  Moskatel, L. S., Linfield, R. Y., Slusky, D. J.
  2025
- **Socioeconomic Factors Associated With Migraine Medication Prescription at a Tertiary Headache Center: A Retrospective Cohort Analysis.** *Neurology. Clinical practice*
  Nandyala, A. S., Tan, K., Africk, B., Graber-Naidich, A., Zhang, N., He, Z., Moskatel, L. S.
  2025; 15 (5): e200517
- **Increased occurrence of migraine aura and susceptibility to spreading depolarizations at altitude.** *medRxiv : the preprint server for health sciences*
  Reinhart, K. M., Cortez, M. M., Martindale, C., Moskatel, L. S., Urry, J. G., Ahmed, Z. A., Newman, A., Pham, K., Bartell, J., Schwedt, T., Aurora, S., Digre, K. B., Baggaley, et al
  2025
- **The state of insurance coverage of calcitonin gene-related peptide-targeted medications and its impact on the implementation of the American Headache Society's 2024 consensus statement: An interrupted time-series analysis.** *Headache*
  Moskatel, L. S., Slusky, D. J.
  2025
- **Prevalence, demographics, comorbidities, and treatment patterns of patients with the trigeminal autonomic cephalalgias: a retrospective analysis of United States electronic health records.** *BMC neurology*
  Moskatel, L. S., Ogunlaja, O., Zhang, N.

2025; 25 (1): 299

- **The impact of a best practice advisory for shifting to oral medications: A quality improvement project.** *Journal of hospital medicine*
  Linfield, R. Y., Moskatel, L. S., Carlton, S., Amrollahi, F., Epstein, D., Chang, A., Svec, D., Chen, J. H., Shieh, L.
  2025
- **A retrospective cohort study to evaluate the effectiveness and safety profile of occipital nerve blocks in the treatment of migraine during pregnancy.** *Headache*
  Smirnoff, L., Moskatel, L., Shaw, B., He, Z., Peretz, A.
  2025
- **Changes in the Diagnosis and Treatment of Headache Disorders in the Transition From Pediatric to Adult Care: A Descriptive Case Series of 80 Patients.** *Journal of child neurology*
  Africk, B., Moskatel, L. S.
  2025: 8830738251346611
- **Postpartum Depression in Patients with Chronic Migraine: A Retrospective, Observational Analysis.** *Journal of women's health (2002)*
  Linfield, R. H., Peretz, A. M., Moskatel, L. S.
  2025
- **Concordance of International Classification of Diseases, 10th Edition Diagnostic Codes for Chronic Migraine without Aura with International Classification of Headache Disorders, 3rd Edition Diagnoses at a Tertiary Headache Center: a retrospective analysis.** *Pain medicine (Malden, Mass.)*
  Patlolla, R., Moskatel, L. S.
  2025
- **The Gut Microbiome and Migraine: Updates in Understanding.** *Current neurology and neuroscience reports*
  Zhang, N., Tran, S., Moskatel, L. S.
  2025; 25 (1): 20
- **The impact of headache specialist density and the introduction of gepants and lasmitidan on prescriptions for acute migraine treatments: a regression and interrupted time series analysis.** *Frontiers in neurology*
  Moskatel, L. S., Linfield, R. Y., Zhang, N.
  2025; 16: 1530499
- **Dyspareunia and pelvic pain in women with chronic migraine: A retrospective, observational analysis.** *Headache*
  Smirnoff, L., Moskatel, L. S.
  2025
- **Red-Tape Roadblocks: How Prior Authorization Intermediaries Delay Optimal Patient Care.** *Annals of internal medicine*
  Linfield, R. Y., Moskatel, L. S.
  2025; 178 (1): 136-137
- **Assessing traditional medicine in the treatment of neurological disorders in Mali: prelude to efficient collaboration.** *BMC complementary medicine and therapies*
  Maiga, Y., Moskatel, L. S., Diallo, S. H., Sangho, O., Dolo, H., Konipo, F., Diallo, S., Coulibaly, A., Daou, M., Sangaré, M., Coulibaly, T., Sissoko, A., Landouré, et al
  2024; 24 (1): 352
- **The impact of Mpox virus incidence and Mpox virus first-dose vaccination on recent HIV testing** *AIDS*
  Linfield, R. Y., Slusky, D. J. G., Moskatel, L. S.
  2024; 38 (10): 1595-1597
- **The impact of Mpox virus incidence and Mpox virus first-dose vaccination on recent HIV testing.** *AIDS (London, England)*
  Linfield, R. Y., Slusky, D. J., Moskatel, L. S.
  2024; 38 (10): 1595-1597
- **The burden of headache and a health-care needs assessment in the adult population of Mali: a cross-sectional population-based study.** *The journal of headache and pain*
  Maiga, Y., Diallo, S. H., Sangho, O., Moskatel, L. S., Konipo, F., Bocoum, A., Diallo, S., Coulibaly, A., Daou, M., Dolo, H., Sangaré, M., Albakaye, M., Traoré, et al

2024; 25 (1): 107

- **Long-Term Epidural Patching Outcomes and Predictors of Benefit in Patients With Suspected CSF Leak Nonconforming to ICHD-3 Criteria.** *Neurology*
  Carroll, I., Han, L., Zhang, N., Cowan, R. P., Lanzman, B., Hashmi, S., Barad, M. J., Peretz, A., Moskatel, L., Ogunlaja, O., Hah, J. M., Hindiyeh, N., Barch, et al
  2024; 102 (12): e209449
- **Long-term persistence to OnabotulinumtoxinA to prevent chronic migraine: Results from 11 years of patient data from a tertiary headache center.** *Pain medicine (Malden, Mass.)*
  Moskatel, L. S., Graber-Naidich, A., He, Z., Zhang, N.
  2024
- **Alcohol Use Disorder in Patients with Chronic Migraine: A Retrospective, Observational Study.** *The Canadian journal of neurological sciences. Le journal canadien des sciences neurologiques*
  Moskatel, L. S., Zhang, N.
  2024: 1-11
- **The introduction of the CGRP monoclonal antibodies and their effect on the prescription patterns of chronic migraine preventive medications in a tertiary headache center: A retrospective, observational analysis.** *Headache*
  Moskatel, L. S., Graber-Naidich, A., He, Z., Zhang, N.
  2023
- **Comparative prevalence and characteristics of fabricated citations in large language models in headache medicine.** *Headache*
  Moskatel, L. S., Zhang, N.
  2023
- **An exploratory, comparative case series of calcitonin gene-related peptide monoclonal antibodies in migraine patients with rosacea.** *The British journal of dermatology*
  Sia, T., Webb, T., Li, S., Moskatel, L. S., Chang, A. L.
  2023
- **The utility of ChatGPT in the assessment of literature on the prevention of migraine: an observational, qualitative study.** *Frontiers in neurology*
  Moskatel, L. S., Zhang, N.
  2023; 14: 1225223
- **The Role of Step Therapy in the Treatment of Migraine.** *Current pain and headache reports*
  Moskatel, L. S., Zhang, N.
  2023
- **Real world evidence of changes in CGRP monoclonal antibody and onabotulinumtoxinA prescription practices at the start of the COVID-19 pandemic: An observational, retrospective study.** *Headache*
  Moskatel, L. S., Graber-Naidich, A., He, Z., Zhang, N.
  2023
- **"The Impact of COVID-19 on Alcohol Sales and Consumption in the United States: a Retrospective, Observational Analysis".** *Alcohol (Fayetteville, N.Y.)*
  Moskatel, L. S., Slusky, D. J.
  2023
- **The Impact of COVID-19 Incidence on Emergency Medical Services Utilization.** *The Journal of emergency medicine*
  Moskatel, L. S., Slusky, D. J.
  2023
- **Headache and Dizziness after Roller Coaster Rides: A Case Series of 31 Patients** *CANADIAN JOURNAL OF NEUROLOGICAL SCIENCES*
  Moskatel, L. S., Smirnoff, L.
  2022: 1-4
- **Protracted headache after COVID-19: A case series of 31 patients from a tertiary headache center.** *Headache*
  Moskatel, L. S., Smirnoff, L.

2022

- **Migraine and Diet: Updates in Understanding.** *Current neurology and neuroscience reports*
  Moskatel, L. S., Zhang, N.
  2022

- **Headache Made SIMPAL: A Simple Mnemonic for the Approach to Headache Evaluation and Migraine Treatment.** *Pain medicine (Malden, Mass.)*
  Migdal, C. W., Moskatel, L. S., Schuster, N. M.
  2021; 22 (3): 754–58

- **Staphylococcus intermedius Brain Abscess as a Complication of Pulmonary Arteriovenous Malformation in a Patient With Hereditary Hemorrhagic Telangiectasia** *OPEN FORUM INFECTIOUS DISEASES*
  Moskatel, L. S., Vo, J. N., Nayak, K. R., Crum-Cianflone, N. F.
  2020; 7 (11): ofaa467