Stanford



Eugene Shkolyar, MD

Clinical Assistant Professor, Urology

CLINICAL OFFICE (PRIMARY)

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Bio

BIO

Eugene Shkolyar, MD is a urologic oncologist who specializes in treating patients with bladder, prostate, kidney, and testis cancers. He is a clinical assistant professor in the Department of Urology at the Stanford School of Medicine.

Dr. Shkolyar has expertise in open, endoscopic, and robotic surgery and in caring for patients with complex urologic oncology needs. Dr. Shkolyar is actively engaged in translational research, with a particular interest in integrating artificial intelligence into bladder cancer treatment and the development of novel biomarkers for cancer detection. His commitment to continual innovation ensures that his patients have access to the latest and most effective treatment options.

Dr. Shkolyar was born in Kyiv, Ukraine, and raised in New York. He attended Cornell University for his undergraduate education and went on to UCLA for medical school. Following medical school, Dr. Shkolyar completed a residency in urology at Stanford, where he developed his interest in urologic oncology, translational bladder cancer research and teaching. He went on to complete a two-year fellowship in urologic oncology at Stanford School of Medicine gaining additional skills in management of complex urologic cancers. Dr. Shkolyar is the recipient of numerous honors and awards, including membership in the Alpha Omega Alpha medical honors society and a research scholar award from the Urology Care Foundation. In addition, he has authored and co-authored numerous publications in urology, artificial intelligence, and device development.

Dr. Shkolyar is a member of the Society of Urologic Oncology, the American Society of Clinical Oncology, the American Urological Association, and the European Association of Urology.

CLINICAL FOCUS

- Urology
- Urologic Oncology

ACADEMIC APPOINTMENTS

- Clinical Assistant Professor, Urology

HONORS AND AWARDS

- Research Scholar Award, Urology Care Foundation (07/2022-07/2023)
- Resident Teaching Award, Stanford University Department of Urology (07/2021)
- Member, Alpha Omega Alpha (07/2011)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Associate Member, Society of Urologic Oncology (2023 - present)
- Member, American Society of Clinical Oncology (2021 - present)
- Member, American Urological Association (2015 - present)

PROFESSIONAL EDUCATION

- Board Certification: Urology, American Board of Urology (2025)
- Medical Education: UCLA David Geffen School Of Medicine (2015) CA
- Fellowship, Stanford School of Medicine , Urologic Oncology (2023)
- Residency: Stanford University Dept of Urology (2021) CA
- Internship: Stanford University Dept of General Surgery (2016) CA

PATENTS

- Joseph Liao, Lei Xing, Eugene Shkolyar, Xiao Jia. "United States Methods and systems for cystoscopic imaging incorporating machine learning", Leland Stanford Junior University

Publications

PUBLICATIONS

- **Laying the Groundwork for Optimized Surgical Feedback.** *JAMA network open*
  Shkolyar, E., Pugh, C., Liao, J. C.
  2023; 6 (6): e2320465
- **Bladder cancer risk stratification using a urinary mRNA biomarker panel - A path towards cystoscopy triaging.** *Urologic oncology*
  Shkolyar, E., Zhao, Q., Mach, K. E., Teslovich, N. C., Lee, T. J., Cox, S., Skinner, E. C., Lu, Y., Liao, J. C.
  2021
- **Robotic-Assisted Radical Prostatectomy Associated With Decreased Persistent Postoperative Opioid Use.** *Journal of endourology*
  Shkolyar, E. n., Shih, I. F., Li, Y. n., Wong, J. n., Liao, J. C.
  2020
- **Optical biopsy of penile cancer with in vivo confocal laser endomicroscopy.** *Urologic oncology*
  Shkolyar, E. n., Laurie, M. A., Mach, K. E., Trivedi, D. R., Zlatev, D. V., Chang, T. C., Metzner, T. J., Leppert, J. T., Kao, C. S., Liao, J. C.
  2019
- **Augmented Bladder Tumor Detection Using Deep Learning.** *European urology*
  Shkolyar, E. n., Jia, X. n., Chang, T. C., Trivedi, D. n., Mach, K. E., Meng, M. Q., Xing, L. n., Liao, J. C.
  2019
- **Multifocality and Prostate Cancer Detection by Multiparametric Magnetic Resonance Imaging: Correlation with Whole-mount Histopathology** *EUROPEAN UROLOGY*
  Le, J. D., Tan, N., Shkolyar, E., Lu, D. Y., Kwan, L., Marks, L. S., Huang, J., Margolis, D. J. A., Raman, S. S., Reiter, R. E.
  2015; 67 (3): 569-576

- **Histological and molecular characterization of lateral extension in papillary urothelial carcinoma: implications for classification and management.** *Histopathology*
  Pacheco, R. R., Peterson, D. J., Thong, A., Shkolyar, E., Liao, J. C., Lu, G., Prado, K. B., Dong, F., Chan, E.
  2026
- **Urine cell-free RNA for bladder cancer detection and treatment response prediction.** *Nature medicine*
  Liu, K. J., Shi, W. Y., Nesselbush, M. C., Phillips, N. A., Mach, K. E., Luca, B., Bajpai, R. K., Jabara, I., Cheng, J. C., Sugio, T., Shukla, N., Shen, E. C., Koh, et al
  2026
- **Comparison and interpretability of machine learning algorithms to predict survival of patients with prostate cancer.** *Urologic oncology*
  Kim, I. E., Meier-Scherling, C. P., Zhou, S. R., Soerensen, S. J., Ajjawi, I., Chung, B. I., Shkolyar, E., Sonn, G. A., Liao, J. C., Leapman, M. S.
  2026
- **Performance of Urine Tumor DNA Detection in Patients with High-grade Non-muscle-invasive Bladder Cancer Undergoing Repeat Transurethral Resection.** *European urology focus*
  Ogunkeye, J., Shkolyar, E., Mach, K. E., Prendiville, S., Prado, K., Shah, J. B., Skinner, E. C., Fischer, D. S., Phillips, K. G., Bicocca, V. T., Levin, T. G., Liao, J. C.
  2026
- **Large multicenter validation of urine RNA profile for urothelial carcinoma detection and surveillance.** *The Journal of clinical investigation*
  Mach, K. E., Kornberg, Z., Shkolyar, E., Long, J., Lee, T. J., La, V., Yoo, I., Rodriguez, G., Thong, A. E., Prado, K. B., Shah, J. B., Leppert, J. T., Skinner, et al
  2026
- **CystoDS: a multiclass endoscopy image dataset for artificial intelligence-assisted bladder cancer detection.** *Scientific data*
  Lee, T. J., Qiu, L., Long, J., Mach, K. E., Peterson, D., Yao, Q., Shkolyar, E., Islam, M. T., Xing, L., Liao, J. C.
  2026
- **Field-effect-informed urine liquid biopsy for bladder cancer.** *Cell*
  Shi, W. Y., Liu, K. J., Esfahani, M. S., Mach, K. E., Phillips, N. A., Almanza, D., Bajpai, R. K., Schroers-Martin, J. G., Trabanino, L., Lee, T. J., La, V., Rodriguez, G., Holton, et al
  2026
- **Differences in postoperative communication patterns among patients with limited English proficiency following radical cystectomy for bladder cancer.** *Urologic oncology*
  Chen, A. L., Zhang, C. A., Ogunkeye, J., Ge, T. J., Nguyen, N., Shkolyar, E., Thong, A. E., Leppert, J. T., Gill, H. S., Shah, J. B., Skinner, E., Prado, K. B.
  2025
- **Reality check: The management of small renal masses in 2025 and beyond: Learning from the evolution of prostate cancer care.** *Urologic oncology*
  Soerensen, S. J., Shkolyar, E., Chung, B. I., Leppert, J. T.
  2025
- **Predicting response to intravesical BCG in high-risk non-muscle invasive bladder cancer using an artificial intelligence-powered pathology assay: development and validation in an international 12 center cohort.** *The Journal of urology*
  Lotan, Y., Krishna, V., Abuzeid, W. M., Launer, B., Chang, S. S., Krishna, V., Shingi, S., Gordetsky, J. B., Gerald, T., Woldu, S., Shkolyar, E., Hayne, D., Redfern, et al
  2024: 101097JU0000000000004278
- **Deep learning identifies histopathologic changes in bladder cancers associated with smoke exposure status.** *PloS one*
  Eminaga, O., Lau, H., Shkolyar, E., Wardelmann, E., Abbas, M.
  2024; 19 (7): e0305135
- **Optimizing cystoscopy and TURBT: enhanced imaging and artificial intelligence.** *Nature reviews. Urology*
  Shkolyar, E., Zhou, S. R., Carlson, C. J., Chang, S., Laurie, M. A., Xing, L., Bowden, A. K., Liao, J. C.
  2024
- **A Multicenter Prospective Randomized Controlled Trial Comparing Cxbladder Triage to Cystoscopy in Patients With Microhematuria: The Safe Testing of Risk for Asymptomatic Microhematuria Trial** *JOURNAL OF UROLOGY*

Lotan, Y., Daneshmand, S., Shore, N., Black, P., Scarpato, K. R., Patel, A., Lough, T., Shoskes, D. A., Raman, J. D.
2024; 212 (1): 41-51

- **ULTRASENSITIVE URINARY LIQUID BIOPSY ANALYSIS FOR BCG RESPONSE ASSESSMENT IN HIGH-RISK NON-MUSCLE INVASIVE BLADDER CANCER**
  Shi, W. Y., Liu, K. J., Esfahani, M. S., Schroers-Martin, J. G., Nesselbush, M., Chen, S. B., Alig, S. K., Mullane, P., Mach, K. E., Trabanino, L., Lee, T. J., Yoo, I., Vinh La, et al
  LIPPINCOTT WILLIAMS & WILKINS.2024: E1169

- **Efficient Augmented Intelligence Framework for Bladder Lesion Detection.** *JCO clinical cancer informatics*
  Eminaga, O., Lee, T. J., Laurie, M., Ge, T. J., La, V., Long, J., Semjonow, A., Bogemann, M., Lau, H., Shkolyar, E., Xing, L., Liao, J. C.
  2023; 7: e2300031

- **Tumor detection under cystoscopy with transformer-augmented deep learning algorithm.** *Physics in medicine and biology*
  Jia, X., Shkolyar, E., Laurie, M. A., Eminaga, O., Liao, J. C., Xing, L.
  2023; 68 (16)

- **Real-time Detection of Bladder Cancer Using Augmented Cystoscopy with Deep Learning: a Pilot Study.** *Journal of endourology*
  Chang, T. C., Shkolyar, E., Del Giudice, F., Eminaga, O., Lee, T., Laurie, M., Seufert, C., Jia, X., Mach, K. E., Xing, L., Liao, J. C.
  2023

- **Conceptual Framework and Documentation Standards of Cystoscopic Media Content for Artificial Intelligence.** *Journal of biomedical informatics*
  Eminaga, O., Jiyong Lee, T., Ge, J., Shkolyar, E., Laurie, M., Long, J., Graham Hockman, L., Liao, J. C.
  2023: 104369

- **Conceptual Framework and Documentation Standards of Cystoscopic Media Content for Artificial Intelligence.** *ArXiv*
  Eminaga, O., Lee, T. J., Ge, J., Shkolyar, E., Laurie, M., Long, J., Hockman, L. G., Liao, J. C.
  2023

- **Bladder Cancer and Artificial Intelligence: Emerging Applications** *Urologic Clinics North America*
  Laurie, M., Zhou, S. R., Islam, M., Shkolyar, E., Xing, L., Liao, J. C.
  2023

- **Flat lesion detection of white light cystoscopy with deep learning**
  Jia, X., Shkolyar, E., Eminaga, O., Laurie, M., Zhou, Z., Lee, T., Islam, M., Meng, M. Q., Liao, J. C., Xing, L.
  2023

- **Sequential modeling for cystoscopic image classification**
  Laurie, M., Eminaga, O., Shkolyar, E., Jia, X., Lee, T., Long, J., Islam, M., Lau, H., Xing, L., Liao, J. C.
  2023

- **An Efficient Framework for Video Documentation of Bladder Lesions for Cystoscopy: A Proof-of-Concept Study.** *Journal of medical systems*
  Eminaga, O., Ge, T. J., Shkolyar, E., Laurie, M. A., Lee, T. J., Hockman, L., Jia, X., Xing, L., Liao, J. C.
  2022; 46 (11): 73

- **Artificial Intelligence-Based Prognostic Model for Urologic Cancers: A SEER-Based Study.** *Cancers*
  Eminaga, O., Shkolyar, E., Breil, B., Semjonow, A., Boegemann, M., Xing, L., Tinay, I., Liao, J. C.
  2022; 14 (13)

- **Current Trends in Artificial Intelligence Application for Endourology and Robotic Surgery.** *The Urologic clinics of North America*
  Chang, T. C., Seufert, C., Eminaga, O., Shkolyar, E., Hu, J. C., Liao, J. C.
  2021; 48 (1): 151–60

- **Modeling the contribution of the obesity epidemic to the temporal decline in sperm counts.** *Archivio italiano di urologia, andrologia : organo ufficiale [di] Societa italiana di ecografia urologica e nefrologica*
  Kasman, A., Del Giudice, F., Shkolyar, E., Porreca, A., Busetto, G. M., Lu, Y., Eisenberg, M. L.
  2020; 92 (4)

- **Critical Appraisal of Quality Improvement Publications in the Urological Literature** *UROLOGY PRACTICE*
  Greenberg, D. R., Sohlberg, E. M., Shkolyar, E., Shah, J. B.

2020; 7 (5): 413–17

- **Critical Appraisal of Quality Improvement Publications in the Urological Literature.** *Urology practice*
  Greenberg, D. R., Sohlberg, E. M., Shkolyar, E., Shah, J. B.
  2020; 7 (5): 413-418
- **Development of robust artificial neural networks for prediction of 5-year survival in bladder cancer.** *Urologic oncology*
  Bhambhvani, H. P., Zamora, A., Shkolyar, E., Prado, K., Greenberg, D. R., Kasman, A. M., Liao, J., Shah, S., Srinivas, S., Skinner, E. C., Shah, J. B.
  2020
- **SLIPS-LAB-A bioinspired bioanalysis system for metabolic evaluation of urinary stone disease.** *Science advances*
  Li, H., Shkolyar, E., Wang, J., Conti, S., Pao, A. C., Liao, J. C., Wong, T. S., Wong, P. K.
  2020; 6 (21)
- **Editorial Comment.** *The Journal of urology*
  Shkolyar, E., Mach, K. E., Liao, J. C.
  2020: 101097JU000000000000078601
- **REAL-TIME AUGMENTED BLADDER TUMOR DETECTION WITH DEEP LEARNING**
  Chang, T., Shkolyar, E., Jia, X., Lee, T., Mach, K., Conti, S., Xing, L., Liao, J.
  LIPPINCOTT WILLIAMS & WILKINS.2020: E1110
- **SLIPS-LAB-A bioinspired bioanalysis system for metabolic evaluation of urinary stone disease.** *Science advances*
  Li, H. n., Shkolyar, E. n., Wang, J. n., Conti, S. n., Pao, A. C., Liao, J. C., Wong, T. S., Wong, P. K.
  2020; 6 (21): eaba8535
- **Ultra-low-dose CT: An Effective Follow-up Imaging Modality for Ureterolithiasis.** *Journal of endourology*
  Cheng, R. Z., Shkolyar, E., Chang, T. C., Spradling, K., Ganesan, C., Song, S., Pao, A. C., Leppert, J. T., Elliott, C. S., To'o, K., Conti, S. L.
  2019
- **Risk of Melanoma With Phosphodiesterase Type 5 Inhibitor Use Among Patients With Erectile Dysfunction, Pulmonary Hypertension, and Lower Urinary Tract Symptoms** *JOURNAL OF SEXUAL MEDICINE*
  Shkolyar, E., Li, S., Tang, J., Eisenberg, M. L.
  2018; 15 (7): 982–89
- **Risk of Melanoma With Phosphodiesterase Type 5 Inhibitor Use Among Patients With Erectile Dysfunction, Pulmonary Hypertension, and Lower Urinary Tract Symptoms.** *The journal of sexual medicine*
  Shkolyar, E., Li, S., Tang, J., Eisenberg, M. L.
  2018
- **Teaching mid-urethral sling surgery to residents: Impact on operative time and postoperative outcomes** *NEUROUROLOGY AND URODYNAMICS*
  Sharif-Afshar, A., Wood, L. N., Bresee, C., Souders, C. P., Gross, B. S., Shkolyar, E., Anger, J. T., Eilber, K. S.
  2017; 36 (8): 2148-2152
- **Nontraumatic Clostridium septicum Myonecrosis in Adults Case Report and a 15-Year Systematic Literature Review** *INFECTIOUS DISEASES IN CLINICAL PRACTICE*
  Forrester, J. D., Shkolyar, E., Gregg, D., Spain, D. A., Weiser, T. G.
  2016; 24 (6): 318–23
- **Impact of post prostate biopsy hemorrhage on multiparametric magnetic resonance imaging** *Canadian Journal of Urology*
  Sharif-Afshar, A., Fen, T., Koopman, S., Christopher Nguyen, Li, Q., Shkolyar, E., Saouaf, R., Kim, H. L.
  2015; 22 (2): 7698-7702
- **In Vitro Evaluation of an External Compression Device for Fontan Mechanical Assistance** *ARTIFICIAL ORGANS*
  Valdovinos, J., Shkolyar, E., Carman, G. P., Levi, D. S.
  2014; 38 (3): 199-207