



Christopher W. Seder, MD

The Arthur E. Diggs, MD, and L. Penfield Faber, MD, Professor of Surgical Sciences



Advancement of Medicine

At its core, the Arthur E. Diggs, MD, and L. Penfield Faber, MD Professorship has allowed me to build the Rush Lung Center Clinical Research Team. On August 1, 2023, I hired **Arsalan Khan, MD**, for a two-year appointment as our first clinical research scholar. Under our guidance, he has been quite productive and is now applying to general surgery training programs. On August 1, 2024, **Wara Naeem, MD**, was hired for a two-year position as our second Rush Lung Center clinical research scholar. In addition, we recently expanded our team further by hiring Minha Ansari, a student who graduated from University of Notre Dame and is going to medical school next year.

The overarching goal of our work is to use clinical characteristics, genomic data and radiology imaging to preoperatively predict which patients have aggressive forms of lung cancer that are likely to recur. Since I was appointed to the Arthur E. Diggs, MD, and L. Penfield Faber, MD Endowed Professorship in February 2022, the Rush Lung Center Clinical Research Team has produced nine peer-reviewed manuscripts in prestigious journals including *Journal of the American College of Surgeons*, *Annals of Thoracic Surgery* and *Annals of Surgical Oncology*. In addition, our scholars have given 12 presentations at national meetings and published eight peer reviewed abstracts. At the moment, we have five more manuscripts under review and six abstracts being considered for presentation and publication.

Clinical Research

The Rush Lung Center Clinical Research Team has organized clinical and genomic data from approximately 1,400 lung cancer patients. These data were analyzed by our bioinformatics team, work made possible by the endowment. Patients were carefully selected based on criteria specific to the goal of isolating a unique genomic signature for recurrence. We currently possess differential gene expression profiles, specific pathway analyses, and principal component analysis results, which

we plan to validate using data from a cohort of patients included in the TracerX trial that closely resembles ours.

Conference Presentations

- Increased Systemic Inflammatory Index is Associated with Occult Nodal Disease in Non-Small Cell Lung Cancer. Shah SK*, Khan AA*, Basu S, **Seder CW**. American College of Surgeons (ACS) Clinical Congress 2024. October 2024. San Francisco, CA.
- Reduced Thoracic Adipose Volume is Associated with Occult Nodal Disease in Females with Non-Small Cell Lung Cancer. Shah SK*, Khan AA*, Karush JM, Alex GC, Liptay MJ, **Seder CW**, Geissen NM. Oral Presentation. 2nd Annual Rush University Medical Center Department of Surgery Research Day. May 2024. Chicago, IL.

Publication Highlights — Abbreviated

- Shah SK, Krishnan V, Khan AA, Fass L, Chaudhry T, **Seder CW**, Geissen NM, Liptay MJ, Alex GC. Women are Underrepresented in Non-small Cell Lung Cancer Clinical Trials: A Systematic Review. *Ann Surg Oncol*. 2024 Jul 10. doi: 10.1245/s10434-024-15720-z. Epub ahead of print. PMID: 38987373.
- Shah SK, Kim S, Khan AA, Krishnan V, Lally AM, Shah PN, Alex GC, **Seder CW**, Liptay MJ, Geissen NM. Examination of Firefighting as an Occupational Exposure Criteria for Lung Cancer Screening. *Lung*. 2024 Oct;202(5):649-655. doi: 10.1007/s00408-024-00736-9. Epub 2024 Aug 20. Erratum in: *Lung*. 2024 Oct;202(5):657. doi: 10.1007/s00408-024-00747-6. PMID: 39164595.
- Khan AA*, Shah SK*, Naeem W, Basu S, Alex GC, Geissen NM, Liptay MJ, **Seder CW**. Postoperative Sarcopenia and Association with Recurrence in Resected Early-Stage Non-Small Cell Cancer. *Journal of the American College of Surgeons* O:10.1097/XCS.0000000000001360, February 18, 2025. | DOI: 10.1097/XCS.0000000000001360



The Year Ahead: 2025 and Beyond

Over the next year, funds from the endowment will be used for the bioinformatic analysis of the validation cohort, employing a similar methodology for consistency and stronger evidence. This will be followed with laboratory work aimed at understanding if our findings translate into tissue protein biomarkers specific to disease recurrence. The high potential for this line of study is reflected in the Rush Lung Center Clinical Research Team being supported by a grant from Swim Across America. All the preliminary data supporting the grant was made possible through your generosity and the Arthur E. Diggs, MD, and L. Penfield Faber, MD Endowed Professorship of Surgical Science.

With Gratitude

As always, I want to thank you for your generosity in establishing the Arthur E. Diggs, MD, and L. Penfield Faber, MD Endowed Professorship of Surgical Science. Your generosity is not only facilitating important research, but also providing talented young physicians learning opportunities they may not have otherwise had.