

RESIDENT RESEARCH

IN THE DEPARTMENT OF SURGERY

Dear Prospective Residents,

We are excited that you're considering the University of Washington for your residency. This is a dynamic department that offers comprehensive training in the clinical practice of surgery, as well as all of the components of professional development that will help you be successful in the years ahead. For many of you that involves research. The Department of Surgery's research mission is to be the premier home for surgical research and we are proud to be consistently ranked as one of the top programs in the nation for NIH and extramurally funded research. We strive to do research that is innovative, collaborative, and impactful and we look forward to you being a part of that.

As the Associate Chair for Research in the Department of Surgery, I am pleased that we have so many research training and practice opportunities for you to participate in. The Department has two NIH-sponsored T32 research training programs: one in basic science (led by **Grant O'Keefe, MD**) and one in clinical and health services led by faculty at the **Surgical Outcomes Research Center**. Beyond these training programs, the Department includes a group of investigators eager to work with you in their labs and many other faculty around the School of Medicine who enjoy collaborating with surgical research fellows. No matter what path you choose for research, we are committed to helping you develop as a researcher and supporting you in your career development as surgeon-scientists.

Research in the Department of Surgery is organized into 10 cores: Injury, Burn, and Inflammation; Cancer; Reperfusion; Transplant; Device and Pharmaceutical Clinical Trials; Vascular Biology; Gastrointestinal Physiology and Metabolism; Simulation and Education; Global Health; and Health Services. Each of these cores includes faculty with substantial experience who are enthusiastic about working with you in short-term research projects and longer research fellowships.

This publication highlights the work of residents currently undertaking two-year research fellowships. You can learn more about all resident research opportunities by visiting the research section of the Department of Surgery website (<http://www.uwsurgery.org/researchintroduction>). There you will find investigator profiles, information about our many research labs and centers, abstracts from the 2019 Schilling Research Symposium, and much more.

We hope you will join us in pursuing research during your time as a surgical resident, and welcome you to be part of what we believe is the premier home for surgical research.

Sincerely,

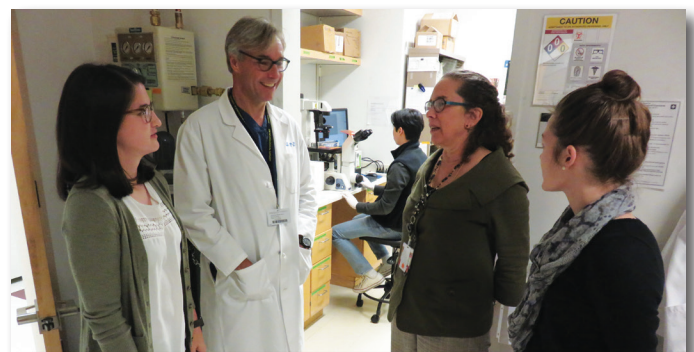


David R. Flum, MD, MPH, FACS

Professor of Surgery, Adjunct Professor, Pharmacy and Health Services
Associate Chair for Research, Department of Surgery
University of Washington



David R. Flum, MD, MPH, FACS
Associate Chair for Research



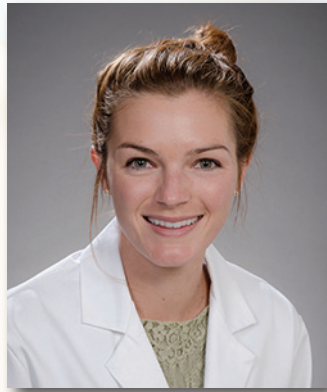
Drs. Dara Horn (2018–20 Research Resident), Grant O'Keefe,
Nicole Gibran and Sara Daniel (2018–20 Research Resident)
(Photo credit: Michael Hilleary, Department of Surgery, Public Information Specialist)

RESIDENT RESEARCHERS



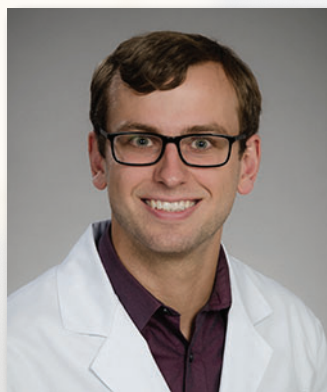
Catherine Beni, MD, PhD, 2019–2021

Dr. Beni is a research fellow in the T32 Postdoctoral Research Fellowship in Trauma and Burns under the guidance of Dr. Grant O’Keefe, Professor in the Division of Trauma, Burn, and Critical Care Surgery. Dr. Beni is focused on translational research for improving the precision of trauma resuscitation. She is working to characterize current resuscitation practices after trauma, with the goal of utilizing mathematical modeling to create decision-making tools and feedback-control algorithms for fluid resuscitation. She is also working on improving the evaluation of volume status in critically ill patients. She ultimately intends to pursue a fellowship in trauma and critical care.



Sara Daniel, MD, 2018–2020

Dr. Daniel is working with the newly created University of Washington Tumor Immunology and Microenvironment (UW TIME) lab group, which comprises multiple faculty from the Departments of Surgery, Medicine, and Pathology. Building off previous work by lab members on the tumor slice culture model, Dr. Daniel’s primary focus is evaluating the effects of hypoxia on the cancer microenvironment, particularly the immunosuppressive effects exhibited by the stroma and infiltrating lymphocyte phenotypes. While immunotherapy has previously had limited effects on pancreatic adenocarcinoma and other solid tumors, a better understanding of the interactions between tumors as well as the spatial relationships and metabolism of cells in the tumor environment will allow combination immunotherapy to activate intratumoral T cells. She is also working on a clinical trial with her primary mentor, Dr. Venu Pillarisetty, evaluating the effects of a somatostatin analogue on leak rates after pancreatic surgery.



David Drouillard, MD, 2019–2021

Dr. Drouillard is a trainee in the NIDDK–funded T32 fellowship in Gastrointestinal Surgical Outcomes Research at the Surgical Outcomes Research Center (SORCE) under the direction of Dr. David Flum, Professor in the Division of General Surgery. He is interested in comparative effectiveness research and health systems and policy. His research will involve multiple areas of general surgery with a focus on the evidence-based management of diverticulitis. During his fellowship, Dr. Drouillard will also complete a Master of Science in Public Health at the University of Washington with a focus on Health Services. He plans to ultimately pursue a fellowship in colorectal surgery and a career as an academic surgeon.

Dara Horn, MD, 2018–2020

Dr. Horn is a research fellow in the T32 Postdoctoral Research Fellowship in Trauma and Burns under the mentorship of Dr. Grant O’Keefe, Professor in the Division of Trauma, Burn, and Critical Care Surgery. She will be focused on translational research, applying advances in nutrition and metabolomics to improve the outcomes and care of critically ill and injured patients, and ultimately provide more personalized therapy options. During this time, Dr. Horn will also pursue a Master of Science degree in Epidemiology through the UW School of Public Health, with a focus on clinical research methods. After residency, she plans to pursue a fellowship in trauma and critical care.



Kevin Labadie, MD, 2018–2020

Dr. Labadie has two distinct projects relating to diagnosis and treatment of cancer of the digestive system under the mentorship of Drs. James Park and Venu Pillarisetty. With Dr. Park, he is developing an antibody–directed theranostic platform for diagnosis and treatment of Hepatocellular Carcinoma (HCC), the most common form of liver cancer. Their team has successfully conjugated an antibody specific to HCC to different radioisotopes including Zirconium–89 (Zr-89) and Yttrium–90 (Y-90) for immuno–positron emission tomographic imaging and cytotoxic radioimmunotherapy respectively. In an orthotopic xenograft tumor model, Dr. Labadie has demonstrated the ability to detect, treat and surveil tumors with the same antibody conjugated to Zr-89 or Y-90. Under mentorship of Dr. Venu Pillarisetty in the UW TIME lab, Dr. Labadie is utilizing a tumor slice culture model to study the local immune microenvironment in pancreatic adenocarcinoma and colorectal liver metastasis with an emphasis on evaluating efficacy of genetically engineered macrophages to enhance antitumor immunity of tumor infiltrating leukocytes through production of interleukin-12.



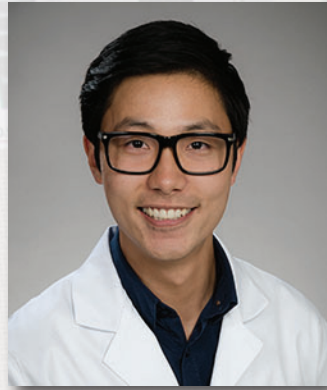
Alex Lois, MD, 2019-2021

Dr. Lois is a trainee in the NIDDK-funded T32 fellowship in Gastrointestinal Surgical Outcomes Research at the SORCE under the tutelage of Dr. David Flum, Professor in the Division of General Surgery. His research will span a variety of clinical areas including health systems and policy, surgical ethics, and examining patient reported outcomes in general and foregut surgery. Additionally, Dr. Lois will be enrolled at the University of Washington, completing a Master of Science degree with a focus in Epidemiology. This advanced coursework in quantitative and qualitative research methodology and data analysis will facilitate his ongoing research at SORCE and help prepare him for a future career as a physician scientist. Following residency Dr. Lois plans to complete a fellowship in minimally invasive and foregut surgery with the goal of continuing a career in academic surgery.



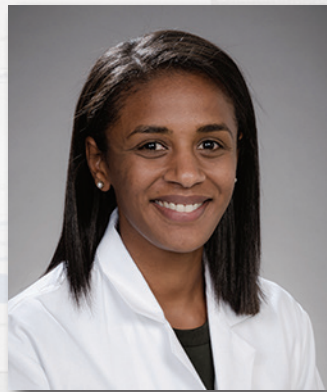
RESIDENT RESEARCHERS

(CONT FROM PAGE 3)



Jamie Oh, MD, 2019-2021

Dr. Oh is a research fellow in the NIH-funded T32 Post-doctoral Research Fellowship in Trauma and Burns under the direction of Principal Investigator Dr. Grant O’Keefe, Professor in the Division of Trauma, Burn, and Critical Care Surgery and Dr. Nicole Gibran, Associate Dean for Research and Graduate Education for Harborview Medical Center and Professor in the Division of Trauma, Burn, and Critical Care Surgery. Dr. Oh will focus on translational research involving animal models and human models for wound healing. He will be analyzing RNA sequence data to elucidate genetic influences on scarring and long term functional outcomes following burn injury. He will also work on clinical projects involving the burn registry, such as determining racial and socioeconomic determinants for outcomes after burn injury. During these two years, Dr. Oh will also be enrolled in the Masters of Science in Epidemiology program through the UW School of Public Health, focusing on clinical and translational research methods. He plans to ultimately pursue a fellowship in trauma, burns, and critical care.



Kavita Pandit, MD, 2018-2020

Dr. Pandit is a trainee in the NIDDK-funded T32 fellowship in Gastrointestinal Surgical Outcomes Research at the SORCE under the direction of Dr. David Flum, Professor in the Division of General Surgery. Her research interests span multiple clinical areas, though she will focus on health disparities in surgical care across a variety of settings and populations. During this two year fellowship, Dr. Pandit will also be enrolled in the Master’s in Public Health program at the University of Washington with a focus on health services. This advanced coursework will help her develop knowledge of research methodology and data analysis. She plans to eventually pursue a fellowship and career in colorectal surgery.

FROM RESEARCH RESIDENT TO ACADEMIC SURGEON

Giana H. Davidson, MD, MPH

Associate Professor, Division of General Surgery
Medical Director of Post-Acute Care, UW Medicine

Associate Medical Director of Clinical Resource Management, UW Medical Center



“During my clinical training in General Surgery, I completed a two year research fellowship to gain expertise in outcomes and health services research. This program was under the mentorship of Dr. Frederick Rivara and Drs. Saman Arbabi, Ronald Maier and Eileen Bulger at the Harborview Injury Prevention and Research Center (HIPRC) as a trainee in the Pediatric Injury Research T32 program. During these two years, I completed my Masters of Public Health in Epidemiology and gained invaluable experience in grant writing and outcomes research, allowing me to publish and present our work at various surgical and public health conferences. This was the foundation for my current research focused on improving the care of our surgical and trauma patients in the post-acute care period. In addition to my academic pursuits, my husband and I expanded our family to include two children! My research fellowship years were a wonderfully busy time in my life and the mentoring, training in epidemiology and statistics, and exceptional departmental support were instrumental in establishing my career in academic surgery.”

ACCOMPLISHMENTS RESULTING FROM FELLOWSHIP

Significant Publications

1. **Davidson GH**, Hamlat CA, Rivara FP, Koepsell TD, Jurkovich GJ, Arbabi, S. Long-term Survival of Adult Trauma Patients. *JAMA*. 2011;305(10):1001–1007.
2. **Davidson GH**, Rivara FP, Arbabi S. Trauma and Long-term Mortality—Reply. *JAMA*. 2011;305(23):2413–2414.
3. **Davidson GH**, Maier RV, Arbabi S, Goldin AB, Rivara FP. Impact of Operative Delay on Pediatric Trauma Outcomes. *J Trauma Acute Care Surg*. 2012 Jul;73(1):162–7.
4. **Davidson GH**, Rivara FP, Mack CD, Kaufman R, Jurkovich GJ, Bulger ME. Validation of Pre-Hospital Trauma Triage Criteria for Motor Vehicle Collisions. *J Trauma Acute Care Surg*. 2014 March; 76(3):755–761.

Awards and Honors

- First place, Region 10 ACS COT Resident Paper Competition & First place, Washington State COT clinical paper presentation. American College of Surgeons (ACS), Committee on Trauma (COT). Tacoma, WA. November 2010.
- Fourth place, UW Department of Surgery Schilling Research Symposium. Seattle, WA, February 2011.

Presentations

- UW Department of Epidemiology 29th annual SER Meeting. Injury as a Risk Factor for Fatal Unintentional Overdose following Hospitalization: A Population Based Analysis. Seattle, WA. June 2010.
- Washington State Joint Conference on Health. Injury as a Risk Factor for Fatal Unintentional Overdose After Hospitalization. Yakima, WA. October 2010.
- Washington State Joint Conference on Health. Public Opinion About Gun Regulation in Washington State. Yakima, WA. October 2010.
- Regional American College of Surgeons Committee on Trauma (COT) Resident Paper Competition. Long Term Survival of Adult Trauma Patients. Tacoma, WA. November 2010.
- Washington State Department of Health EMS and Trauma Steering Committee. Outcome of WA State Adult Trauma Patients. January 2011.
- UW Department of Surgery Schilling Research Symposium. Long Term Survival of Adult Trauma Patients. Seattle, WA. February 2011.
- American College of Surgeons, Washington–Oregon Chapter. Long Term Survival of Adult Trauma Patients. Lake Chelan, WA. June 2011.

FROM RESEARCH RESIDENT TO ACADEMIC SURGEON



Farhood Farjah, MD, MPH, FACS

Endowed Chair in Lung Cancer Research

Associate Professor, Division of Cardiothoracic Surgery

Associate Program Director, Cardiothoracic Surgery Residency Program

Associate Medical Director, Surgical Outcomes Research Center

"I interrupted my clinical training in general surgery to pursue a post-doctoral fellowship in outcomes and health services research under the mentorship of Drs. David Flum and Doug Wood through the Surgical Outcomes Research Center (SORCE). During that time I obtained a Masters of Public Health in Epidemiology and completed post-doctoral level coursework in biostatistics and health services research. In addition, I gained practical experience studying the delivery of care and outcomes of patients with lung cancer using the Surveillance, Epidemiology, and End-Results (SEER)-Medicare database. Moreover, I cultivated a vast network of mentors and collaborators throughout the Department and Institution. This unparalleled experience was critical in providing me the training, experience, and networks to legitimately pursue a career in academic surgery."

ACCOMPLISHMENTS RESULTING FROM FELLOWSHIP

Significant Publications

1. **Farjah F**, Symons RG, Krishnadasan B, Wood DE, Flum DR. Management of pleural space infections: a population-based analysis. *J Thorac Cardiovasc Surg*. 2007 Feb;133(2):346-351.
2. **Farjah F**, Wood DE, Yanez D 3rd, Symons RG, Krishnadasan B, Flum DR. Temporal trends in the management of potentially resectable lung cancer. *Ann Thorac Surg*. Jun 2008;85(6):1850-1855; discussion 1856.
3. Wood DE, **Farjah F**. Global differences in the training, practice, and interrelationship of cardiac and thoracic surgeons. *Ann Thorac Surg*. 2009 Aug;88(2):515-521; discussion 521-512.
4. Lao OB, **Farjah F**, Flum DR, Yeung RS. Adverse events after radiofrequency ablation of unresectable liver tumors: a single-center experience. *Am J Surg*. 2009 Jul;198(1):76-82.
5. **Farjah F**, Wood DE, Yanez ND 3rd, Vaughan TL, Symons RG, Krishnadasan B, Flum DR. Racial disparities among patients with lung cancer who were recommended operative therapy. *Arch Surg*. Jan 2009;144(1):14-18.
6. **Farjah F**, Flum DR, Ramsey SD, Heagerty PJ, Symons RG, Wood DE. Multi-modality mediastinal staging for lung cancer among Medicare beneficiaries. *J Thorac Oncol*. Mar 2009;4(3):355-363.
7. **Farjah F**, Flum DR, Varghese TK Jr, Symons RG, Wood DE. Surgeon specialty and long-term survival after pulmonary resection for lung cancer. *Ann Thorac Surg*. Apr 2009;87(4):995-1004; discussion 1005-1006.
8. **Farjah F**, Wood DE, Mulligan MS, Krishnadasan B, Heagerty PJ, Symons RG, Flum DR. Safety and efficacy of video-assisted versus conventional lung resection for lung cancer. *J Thorac Cardiovasc Surg*. Jun 2009;137(6):1415-1421.
9. **Farjah F**, Wood DE, Varghese TK Jr, Massarweh NN, Symons RG, Flum DR. Health care utilization among surgically treated Medicare beneficiaries with lung cancer. *Ann Thorac Surg*. Dec 2009;88(6):1749-1756.
10. Wood DE, **Farjah F**. Training, certification and practice of cardiac and thoracic surgeons in Europe: a comparison of the members of the European Association for Cardio-Thoracic Surgery and the European Society of Thoracic Surgeons. *Eur J Cardiothorac Surg*. 2010 Mar;37(3):511-515.

Awards and Honors

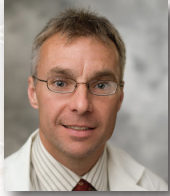
- Ruth L. Kirschstein National Research Service Award, (NIH/NCI), 2007
- Looking to the Future Scholarship, Society of Thoracic Surgeons, 2008
- 3rd Prize—14th Resident Research Symposium University of Washington Department of Surgery, 2008
- Society of Thoracic Surgeons J. Maxwell Chamberlain Memorial Paper, 2009

Presentations

- **Farjah F**, Wood DE, Varghese TK, Massarweh NN, Symons RG, Flum DR. Adverse events following pulmonary resection for lung cancer. American College of Surgeons 94th Annual Clinical Congress, October 2008, San Francisco, CA. Oral presentation.
- **Farjah F**, Wood DE, Varghese TK, Massarweh NN, Symons RG, Flum DR. Non-fatal adverse events following pulmonary resection: a performance-based quality metric for hospital level care. Combined Washington and Oregon Chapters American College of Surgeons Meeting, June 2008, Stevenson, WA. Oral presentation.
- **Farjah F**, Wood DE, Yanez D 3rd, Symons RG, Krishnadasan B, Flum DR. Temporal trends in the management of potentially resectable lung cancer. Society of Thoracic Surgeons 44th Annual Meeting. Fort Lauderdale, Florida. January 2008.
- **Farjah F**, Flum DR, Varghese TK Jr, Symons RG, Wood DE. J. Maxwell Chamberlain Memorial Paper for General Thoracic: Surgeon specialty and long-term survival following pulmonary resection for lung cancer. Society of Thoracic Surgeons 45th Annual Meeting. San Francisco, California. January 2009.

FUNDED RESEARCH TRAINING PROGRAMS

The University of Washington is a target-rich environment for resident research, with many clinical investigators across departments and schools to serve as mentors and resources for funding. Some examples of popular, ongoing NIH-funded training programs are below, but there are numerous other opportunities for funding through grants and other mechanisms. We will work with you to find the right fit to accomplish your professional goals.



Trauma, Injury and Inflammation Research T32 Program
PI: Grant O'Keefe, MD, MPH
Department of Surgery



Gastrointestinal Surgery Outcomes Research T32 Program
PI: David R. Flum, MD, MPH
Department of Surgery



Cardiovascular Research T32 Program
PI: David A. Dichek, MD
Department of Medicine, Cardiology



Northern/Pacific Fogarty Global Health Fellowship
PI: Joseph Zunt, MD, MPH
Department of Global Health



Gastroenterology Research T32 Program
PI: John M. Inadomi, MD
Department of Medicine,
Gastroenterology



Pediatric Injury Research T32 Program
PI: Frederick P. Rivara, MD, MPH
Department of Pediatrics



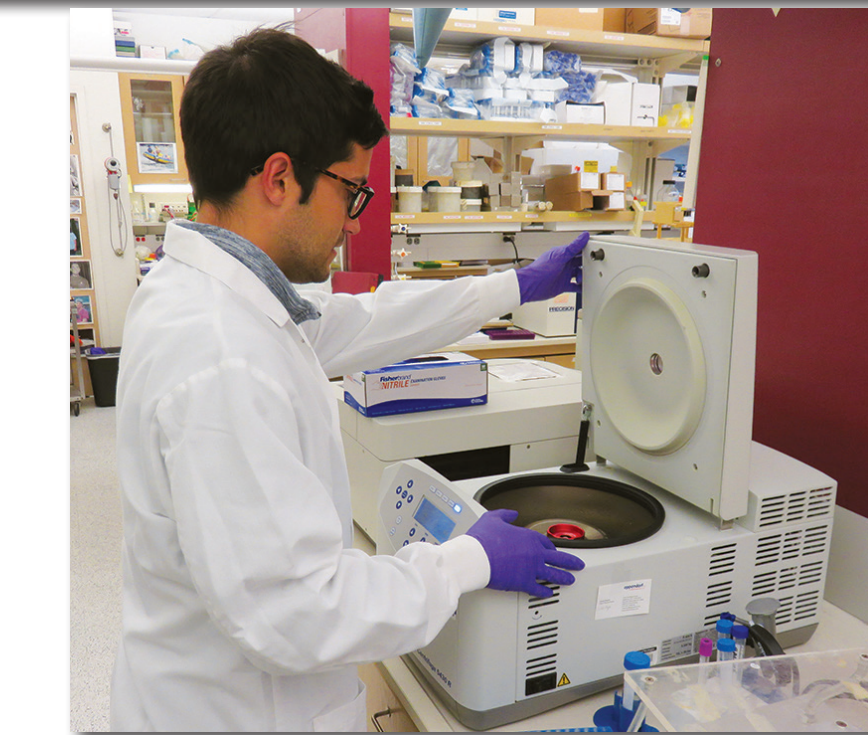
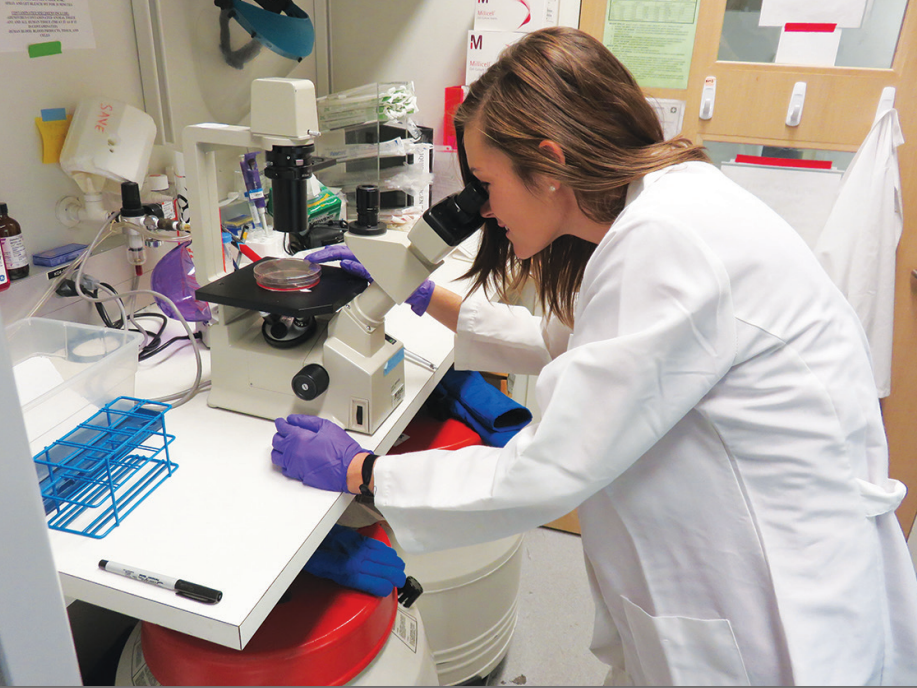
Palliative Care Research T32 Fellowship Program
PI: J. Randall Curtis, MD, MPH
Department of Medicine, Pulmonary
and Critical Care Division

NIH LOAN REPAYMENT PROGRAM (LRP)

In order to encourage health professionals to pursue careers in biomedical, behavioral, social, and clinical research, the NIH Loan Repayment Program may repay up to \$35,000 of qualified student loan debt per year for individuals committing at least two years to conducting qualified research funded by a domestic nonprofit organization or U.S. federal, state, or local government entity. This loan repayment benefit is in addition to institutional salary received during your time in research. Learn more about this program at <https://www.lrp.nih.gov/>.

LEARN MORE ABOUT DEPARTMENT OF SURGERY RESEARCH

This brochure covers research conducted by the current cohort of residents who have undertaken a structured two-year research fellowship, but there are numerous other opportunities to pursue shorter-term, discrete projects throughout your residency. To learn more about these opportunities, please be sure to visit the Research section of the DOS website, where you will find investigator profiles, information about our many research labs and centers, resident and fellow abstracts from the 2019 DOS Research Symposium, and much more: <https://bit.ly/2Dv4ISo>



UW Medicine

DEPARTMENT OF SURGERY

Department of Surgery Resident Research Leadership

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Adjunct Professor, Pharmacy and Health Services
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