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Memorial Sloan Kettering
Cancer Center

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Our radiation oncology residency program also includes a dedicated year of protected time for more-intensive research investigations. This generally takes place during the third year of the program. During this time, residents have the opportunity to engage in basic or translational laboratory research, or conduct clinical research studies that are typically beyond the scope of a resident who can only dedicate part of the time to research efforts.

Universally, the research year has been a highly rewarding experience for our residents. In addition to strengthening their training in research methodology, our residents have completed research projects that have yielded publications and successful grant applications, some even developing into research platforms that graduating residents have continued to pursue as junior faculty members.

Residents with high-quality training and a proven track record in laboratory-based research — as well as a commitment to a career as a physician-scientist in radiation oncology — may wish to consider the possibility of enrolling in the [American Board of Radiology \(ABR\) Holman Research Pathway](#). Selection for this research track is contingent upon having a well-formulated research plan with a supportive research mentor(s), as well as demonstrating a high level of clinical proficiency, as clinical training must be effectively completed in an abbreviated amount of time. Our program directors, department chair, and the ABR will determine whether this pathway is appropriate for individual residents.

Recent Research Year Projects

Recent laboratory-based resident research has involved the study of homologous recombination defects in human breast cancers in the [Powell lab](#), molecular bases for synergism between radiation and androgen deprivation in prostate cancer in the [Sawyers lab](#), mechanisms of radiation-based inhibition of perineural invasion in the [Wong lab](#), high-throughput small molecule screens for novel DNA repair inhibitors in the Powell Lab, bioinformatic analysis of epigenetic reprogramming in IDH-mutant gliomas in the Chan lab, and mouse models of genomic instability pathways in breast cancer in the [Petrini lab](#).

Much of this research has taken place in the [Human Oncology and Pathogenesis Program](#), [Memorial Hospital Research Laboratories](#), the Department of [Medical Physics](#), and programs within the Sloan Kettering Institute, including [Cancer Biology and Genetics](#), [Immunology](#), [Molecular Biology](#), and [Molecular Pharmacology](#).

Recent clinical-based resident research has looked at the quality of life of women with gynecologic cancers with clinical psychologist [Jeanne Carter](#), Surveillance Epidemiology and End Results (SEER)/Medicare population-based studies with medical oncologist and researcher [Ethan Basch](#), and in-depth analyses of radiation quality control and treatment failure patterns in a cooperative group trial with radiation oncologist [Suzanne Wolden](#).

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