

James & Esther King Biomedical Research Program

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*Urology
Mayo Clinic*

*2010 Program
Research Project Grant
(5-year project)*

Project Title: The Molecular Epidemiology of Renal Cell Carcinoma

Project Summary: Renal cell carcinoma (RCC) is by far the most common form of kidney cancer. Of interest, the number of people diagnosed each year with RCC, as well as those who eventually die from this cancer, has been steadily increasing in the U.S. (and Florida) for more than three decades. Despite this, the underlying causes of RCC remain poorly understood. The goal of this project is to conduct a large case control study of RCC in order to improve our understanding of the causes of RCC. This project will be the result of a combined effort by investigators at two Florida academic medical institutions (Mayo Clinic and Moffitt Cancer Center) and will involve recruitment of 1,400 individuals with RCC and 1,400 controls with no history of cancer. Using data and tissue samples collected from these individuals, we will build on the current knowledge that smokers, obese individuals, and those with a history of urinary tract infections are at increased risk of developing RCC. We will test specific hypotheses regarding exactly how these factors work at the cellular level in the kidney to cause RCC. By doing so, we have the potential to enhance our understanding of how these common exposures increase a person's risk of RCC. As such, our findings could translate into new intervention strategies (i.e., better risk stratification, early detection, and/or chemoprevention) that would ultimately reduce the burden this cancer places on individuals and society.