

Revolutionizing the Treatment of Common Urological Diseases

Center of Excellence on Urological Disease

Co-Directors: Herbert Lepor, M.D., Tung-Tien Sun, Ph.D., and Xue-Ru Wu, M.D.

Home of the first Department of Urology in the United States, NYU Langone Medical Center has been a leader in treating localized prostate cancer with nerve-sparing radical retropubic prostatectomy, a technique co-developed by Dr. Herbert Lepor, co-director of the Center of Excellence. Men from all over the world have come to NYU Langone for this treatment, which maximizes the prospect of retaining erectile function.

NYU Langone is host to world-renowned research programs on bladder biology and diseases, and has made seminal contributions including the discovery by the center's co-director, Dr. Tung-Tien Sun, of bladder-specific markers, "uroplakins," that can be used for early detection of the metastasis of bladder cancer. The group also developed the first genetically engineered bladder cancer mouse models, which are being used to evaluate novel preventive and therapeutic strategies.

Fifteen years ago, the Urology Department had a strategic vision: fostering strong collaboration between basic scientists and clinicians across multiple departments could create a catalyst for advancing basic urological research and innovative clinical care. The Urology Research Group now consists of 34 NYU Langone faculty members representing 12 academic departments. The enthusiastic members are committed to making this center a truly preeminent translational base. Discoveries here can revolutionize treatment of common urological diseases.

The Center of Excellence on Urological Disease is at the hub of cutting-edge treatment for localized prostate cancer—from robot-assisted radical prostatectomy to minimally invasive ablative therapies. In fact, NYU Langone will be one of the nation's first sites for an FDA-clinical program to investigate high intensity focused ultrasound (HIFU) treatment, and one of the first to test photodynamic therapies. Another possible way to destroy prostate cancer is by using oncolytic viruses. A novel version of the herpes-simplex virus engineered by and patented by a microbiologist at NYU Langone specifically attacks tumor cells while sparing normal ones—offering tremendous potential for treatment of not only prostate cancer, but bladder cancer. Our genetically engineered mouse models of bladder cancer are being investigated to determine drug and interventions that are effective for bladder cancer.

Prostate cancer is the most common cancer in American males, with some 300,000 new cases diagnosed annually, while bladder cancer ranks as the fourth most common cancer in men and eighth in women. These diseases, and disorders such as kidney stones and urinary tract infection (UTI), affect people of all ages, genders, races and socio-economic groups. A fifteen-year history of collaboration between investigators in urology, cell biology, oncology, pharmacology and other related departments has led to groundbreaking discoveries and treatments for urological disease. Designation as a Center of Excellence on Urological Disease will augment what is already a powerhouse of basic and translational research, bringing new findings, new treatments and new hope.

