Dr. Cavallo treats include urethral strictures, urinary incontinence, Peyronie’s disease, erectile dysfunction, and buried penis. Ultimately, Dr. Cavallo knows that for her elite skills to make a difference, she has to help her patients navigate their options.

"Patients with severe erectile dysfunction often feel embarrassed and disconnected from their partner. Their self-esteem declines. Some may not respond to pharmacological therapy and this can exacerbate how they feel," she said. "It’s really gratifying to know that you can offer a man a procedure that, for even the most refractory cases, can allow them to have erections again. In doing so, they can reestablish connections with their partner and their quality of life improves dramatically and fairly immediately.”

Among the specialized procedures Dr. Cavallo provides to patients is urotheloplasty, a definitive treatment for urethral strictures. Urethral strictures are narrowings of the urethra from scar tissue that can make it difficult and painful to urinate. This scar tissue can be the result of prior interventions, inflammation, infection, injury, or other causes. The most common treatments are endoscopic procedures, such as urethral dilatation and direct vision internal urethrotomy (DVIU), but these tend to be temporary remedies because they open but do not remove the scar tissue. Instead, Dr. Cavallo rebuilds the urethra using a tissue graft from the patient’s own mucosa.

The treatment standard is that patients with bulbar urethral strictures less than 2 centimeters in length should have only one endoscopic treatment before undergoing urethral reconstruction. Patients with all other types of urethral strictures should proceed directly to urethral reconstruction. Dr. Cavallo plans to focus on areas of Connecticut where patients are having multiple endoscopic treatments and will do educational outreach to physicians in those areas to update them on the permanent reconstructive solutions available to their patients.

All of the surgeries that Dr. Cavallo performs address quality of life, something she would like to see tracked using validated instruments and recorded in electronic health records—both to improve individual clinical care and to support research endeavors. Using the quality of life data, she aims to analyze the comparative effectiveness and comparative cost of available therapies. For example, some patients with Peyronie’s disease, an acquired curvature of the penis, qualify for treatment with either an injectable pharmaceutical or surgery. To best inform patients about their therapeutic options, Dr. Cavallo believes that the treatments should be compared with respect to cost as well as effectiveness using both objective measurements and patient-reported outcomes. Only then can treatment options be placed in the context of a patient’s personal goals of care.

Dr. Cavallo completed a prestigious National Institutes of Health (NIH)-funded K12 Comparative Effectiveness Research Career Development Award and is interested in evaluating the comparative success of various interventions in urology, where new techniques and devices are abundant. As a health services researcher, Dr. Cavallo also studies how to use study results to inform physician-patient shared decision-making, and how to disseminate and implement changes in clinical practice guidelines to practitioners nationwide to eliminate practice variation.

Dr. Cavallo is the eighth woman to join the Urology faculty at Yale. Since her arrival, third-year Urology resident, Dr. Marianne Cailla-Lennon, has begun to consider a career in male genitourinary reconstructive surgery. “She’s an amazing mentor, and I’m very happy she’s here,” said Dr. Cailla-Lennon, who will have the opportunity to assist Dr. Cavallo in surgery. She will also collaborate with Dr. Cavallo on research, including a look at the representation of women within the field of urology. “There were some places I interviewed that had zero women on faculty,” said Dr. Cailla-Lennon. “For bladder cancer, there will have the opportunity to assist Dr. Cavallo in surgery. She has a unique interest in educating patients with various levels of health literacy about their urologic disorders and their treatment options.

“Dr. Cavallo is the first person in her family to attend college, teaching residents is a joy, as is teaching patients. She has a unique interest in educating patients with various levels of health literacy about their urologic disorders and their treatment options.”

When Dr. Daniel Petrylak graduated from medical school in 1985, there was little to offer in the way of chemotherapy to patients with genitourinary cancers. “For bladder cancer, there was no effective treatment,” he recalled. Likewise, oncologists struggled to find treatments that were effective against prostate cancer. Three years later, as a fellow at Memorial Sloan Kettering Cancer Center, it was Dr. Alan Yagoda, acclaimed oncologist and researcher, who steered his mentor, Dr. Petrylak, towards research in prostate cancer. His influence made a career in medical oncology with a focus on genitourinary cancers particularly appealing.

“You work in areas where there’s a need, and that’s one of the reasons why I chose prostate cancer initially,” he said. “The population is aging, and there weren’t a lot of effective treatments. The need for research and advances was really apparent.”

Years later, in 2012, Dr. Petrylak brought his expertise in genitourinary (GU) cancers to Yale. He is a leader in drug development and has played a major role in identifying new chemotherapy agents that are getting better results for patients with prostate, bladder, and other cancers. His wide-ranging role at Yale as Professor of Urology and of Medicine and co-director of the Cancer Signaling Networks Research Program at Yale Cancer Center, allows for the opportunity to pursue research with the hope and excitement of new discoveries and new cures. One of the most important meetings of the week for Dr. Petrylak is when the Genitourinary Tumor Board convenes, a multispecialty group of physicians who work together to develop care plans for complex patient cases. He views a multidisciplinary approach to GU malignancies as critical to personalized patient care, but the consultations do not end there.

Dr. Petrylak’s patient schedule is frequently comprised of international patients from across Europe and the Middle East who fly to the U.S. for a consultation. His international role in
cancer research has him traveling around the world to confer with colleagues and addressing symposia. As a result, the international exposure he has gained has also expanded his portfolio of patients, each of whom is seeking his experience and advice.

In addition to making big discoveries, Dr. Petrylak is especially adept at discerning small differences between patients’ diagnoses and then working with other physicians to chart optimal courses of treatment.

"Even though there are clinical practice guidelines, interpreting them, especially in complex cases, involves a lot of thoughtfulness, a lot of expertise,” said Dr. Michael Leapman, a Yale Urology surgeon. He described a recent patient with bladder cancer. “Because this patient was not able to receive conventional chemotherapy after surgery, Dr. Petrylak was able to enroll him on a clinical trial of a promising drug that may reduce his risk of cancer recurrence,” he said. Surgeons throughout the department share similar stories of Dr. Petrylak making a decision that was not initially obvious, but was ultimately more beneficial for a patient. Those good outcomes are exactly what Dr. Petrylak was looking for when he began his career. “It’s rewarding to see people who had a poor prognosis just a few years ago live longer,” he said.

Dr. Petrylak has access to clinical trials, led by himself or by colleagues, that may be an appropriate option for patients when conventional therapies are failing. “They do offer hope,” said Dr. John Colberg, a surgeon who specializes in prostate and bladder cancers. Dr. Colberg sends his patients to Dr. Petrylak for a consultation. “Even if there isn’t a current trial, new studies tend to emerge in a matter of months providing patients with more possibilities.”

"Dr. Petrylak is so well-connected in the research world that he will always know of relevant trials,” Dr. Colberg said.

“In the evenings, back in the office, the faculty are all talking to Dan,” said Dr. Peter Schulam, Chair of Urology. “Some colleagues are seeking mentorship on research projects; others, on clinical cases.”

Being a resource to his colleagues at Yale while conducting national and international research collaborations takes a great deal of flexibility. “Fortunately, his phone works everywhere,” said Dr. Schulam. He spoke about texting Dr. Petrylak on a Friday, when he was just arriving in Calgary for the Annual Global Summit on Genitourinary Malignancies. They spoke and emailed over the weekend about two cases and met the following Monday for the Annual Global Summit on Genitourinary Malignancies. “They were piecing together funding from other sources and went forward. “I was confident because of what we were seeing in the laboratory,” he said, adding with a laugh: “I know how to pick ‘em.” The drug showed a survival benefit and now has FDA approval as a prostate cancer treatment.

A certain boldness pays off. “It’s important that ideas move forward, but there are also a lot of failures. It’s difficult to predict what’s going to happen,” he said. But he added that even when patients do not respond, there is still much to learn. “The important thing is to figure out why,” he said.

Dr. Roy Herbst, Chief of Medical Oncology at Yale Cancer Center and Smilow Cancer Hospital, along with Dr. Schulam, recruited Dr. Petrylak to Yale with a vision toward making it a center for world-class research and clinical care in genitourinary cancers. Dr. Petrylak’s skill and reputation as an international leader in his field is helping to bring even more clinical and research capacity to Yale, said Dr. Herbst. Junior medical oncologists are working closely with Dr. Petrylak and developing their own programs of research with his mentorship. “It raises their game. They are working with a luminary in the field, and he certainly is that,” said Dr. Herbst.

Dr. Petrylak agrees. He believes that advanced diagnostics are the key to better outcomes in genitourinary cancers. “I think that all patients will soon have their tumors profiled molecularly, and once that’s done we can select the appropriate treatment. I think that’s where the future’s going to be,” he said.

Though his colleagues value his mentorship and collaboration, his proudest moment as a researcher came from being extremely independent. He believed that doctor had the potential to help men with metastatic prostate cancer.

“That was a concept nobody wanted to touch,” he recalled. The manufacturer did not share his enthusiasm and declined to fund a study. So, Dr. Petrylak pieced together funding from other sources and went forward. “I was confident because of what I was seeing in the laboratory,” he said, adding with a laugh: “I know how to pick ‘em.” The drug showed a survival benefit and now has FDA approval as a prostate cancer treatment.

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