A BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.

Follow this format for each person. DO NOT EXCEED FOUR PAGES.

<table>
<thead>
<tr>
<th>NAME</th>
<th>POSITION TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adam P. Klausner, M.D.</td>
<td>Associate Professor of Urology &amp; Warren W. Koontz Professor of Urologic Research</td>
</tr>
</tbody>
</table>

| eRA COMMONS USER NAME | aklausner |

| EDUCATION/TRAINING | (Begin with baccalaureate or other initial professional education, such as undergraduates, and continue with graduate education and training.) |

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(S)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cornell University, Ithaca, NY</td>
<td>BA</td>
<td>1988-1992</td>
<td>English</td>
</tr>
<tr>
<td>State University of New York, Syracuse</td>
<td>MD</td>
<td>1992-1996</td>
<td>Doctor of Medicine</td>
</tr>
<tr>
<td>Mount Sinai Medical Center, New York, NY</td>
<td></td>
<td>1996-2002</td>
<td>Resident in Urology</td>
</tr>
<tr>
<td>University of Virginia School of Medicine, Charlottesville, VA</td>
<td></td>
<td>2002-2004</td>
<td>Fellow in Bladder, Basic Science</td>
</tr>
</tbody>
</table>

A. Personal Statement

My initial exposure to research during my urologic residency made me realize the important, yet limited, role of urodynamics (cystometrics) in the management of patients with voiding dysfunction (see ref #1). After my residency, I completed a fellowship in the laboratory of Dr. William Steers at the University of Virginia in 2004. During this two-year fellowship, I gained in-depth experience in basic research involving voiding dysfunction. The research focused on development of animal models, including the partial bladder outlet obstruction model in rodents, and evaluation of neurochemical changes in the brain and spinal cord. The experience also provided expert training in the performance conscious cystometry studies in small animals. After joining the faculty at VCU, I began my clinical work as a neuro-urologist, treating a large volume of patients with overactive bladder (OAB) and incontinence. In this capacity, I directly oversee more than 500 urodynamic studies per year at our parent institution (VCU) and our affiliate Veterans Affairs hospital where I provide neuro-urologic care for one of the largest spinal cord injury units in the country. In these clinical endeavors, I was frustrated by a lack of understanding of OAB and limited treatment options available for my patients.

Fueled by this frustration and a desire to answer clinically important questions regarding the regulation of bladder during the filling phase of micturition, I began a collaboration with Dr. Paul Ratz, a well-known basic science researcher in vascular and detrusor smooth muscle pharmacology and physiology, and Dr. John Speich, a mechanical engineer interested in understanding the unique biomechanical properties of the urinary bladder. Our initial work on spontaneous contractile rhythm in rabbits led to several publications, an internal grant (AD Williams), prize honors at a national urologic research competition, and awards for best basic science poster at two separate meetings of the Society of Urodynamics and Female Urology. In addition, our work on adjustable passive stiffness and adaptation in the bladder has resulted in multiple collaborative publications. In recognition for my research efforts, I was promoted to the rank of Associate Professor in 2009 and given an endowed professorship (the Warren W. Koontz, Jr. MD professor of urologic research) to help support these research activities.

In the current proposal, the multi-disciplinary collaboration of a neuro-urologist with a background in basic science and a mechanical engineer who can apply systems-based analyses to the physiology of biologic tissues is an important asset that will likely help in its successful completion. The central hypothesis of our research is that the load on the detrusor tension sensor can be affected by biomechanical properties including bladder geometry, dynamic compliance, and spontaneous rhythmic contractions. Furthermore, we believe that continuously recorded urgency, the acute output of the tension sensor, reflects changes in the load on the tension sensor. Our hypothesis is highly testable, and we expect that successful completion of the current proposal will allow for development of novel metrics for improved cystometrics testing, improved...
sub-categorization of OAB, and will provide a foundation for future research aimed at exploring the mechanisms of our observed findings.

B. Positions and Honors.

Positions and Employment

1996-1998   Resident in General Surgery, Mount Sinai Medical Center, New York, NY
1998-2002   Resident in Urology, Mount Sinai Medical Center, New York, NY
2002-2004   Fellowship in Urologic Research: Mentor: Dr. William Steers, Dept. of Urology, University of Virginia, Charlottesville, VA
2004-2009   Assistant Professor of Urologic Research, Department of Urology, University of Virginia Health Systems, Charlottesville, VA
2004-2009   Assistant Professor, Division of Urology, VCU Medical Center and Hunter Holmes McGuire Veterans Hospital, Richmond, VA
2004-2009   Assistant Professor, Division of Urology, VCU Medical Center and Hunter Holmes McGuire Veterans Hospital, Richmond, VA
2009-2013   Associate Professor & W.W. Koontz MD Professor of Urologic Research, Division of Urology, VCU Medical Center and Hunter Holmes McGuire Veterans Hospital, Richmond, VA

Other Experience and Professional Memberships

Alpha Omega Alpha
American Urological Association
Mid-Atlantic Section of the American Urological Association:
   Member of Board of Trustees
American Medical Association
Society for Urodynamics, Female Pelvic Medicine, and Urogenital Reconstruction (SUFU):
   Basic Science Co-Program Director
American Paraplegia Society
American Geriatrics Society

Honors

2013   Selected as “Physician Champion” at VCU Medical Center in an institution-wide survey of patients, staff, and colleagues
2012, 2013 Nominated as Mid-Atlantic Section Representative for the annual Gold Cystoscope Award
2012   1st prize poster for Basic Science (SUFU annual meeting, Feb, 2012
2010   American Urological Association Annual Research Forum- 3rd Prize
2010   Selected as “Top Doctor” in Urology, Richmond Magazine, Apr, 2010
2009   Appointed to the 1st Warren W. Koontz endowed professorship in urologic research at VCU Medical Center
2009   1st prize poster for Basic Science (SUFU annual meeting, Feb, 2009)
2003, 2002 Pfizer Scholars in Urology award for Fellows in Urology, University of Virginia
2002   Praecis/Gerald P. Murphy Scholar award
2001   Pfizer Scholar award in Urology for Urologic residents
2001, 1998 Mount Sinai Merit Award, “In recognition of service beyond the call of duty and in appreciation of exceptional courage.”
2001   Honorable mention, annual F. Valentine resident Essay Competition, New York, NY
2000   2nd Prize, annual F. Valentine resident Essay Competition, New York, NY
1995   Alpha Omega Alpha- inducted in 3rd year of medical school
1994   Lange Medical Publications Award for Outstanding Achievement as a Medical Student

C. Fifteen Selected peer-reviewed publications (from list of 55)


C. Research Support


2) AP Klausner (PI): A mechanistic role for prostaglandins in overactive bladder: Does spontaneous detrusor activity arise from interstitial cell to detrusor smooth muscle signaling? AD Williams Research Grant. (July 2008 – June 2009)

3) AP Klausner (Co-PI) with LL Goetz (Co-PI): Randomized Trial of Proanthocyanidins (PACs) for reduction of bacteriuria in catheter dependent Veterans with Spinal Cord Injury. HH McGuire Veterans Affairs Medical Center. Sponsor- Trophikos, Inc. (2013 – 2014)