PROMOTION AND TENURE (Assistant Professor to Associate Professor)
Area of Excellence — service
School of Medicine
2014-15

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SECTION 06: Candidate's Statement

Personal Statement: Timothy A. Masterson, M.D.

I returned "home" to join the Department of Urology at the Indiana University School of Medicine (IUSoM) in January of 2009 as an assistant professor. Indiana University served as the institution for both my undergraduate and medical school training. In an attempt to diversify my education, I traveled west to Salt Lake City for Urologic training at the University of Utah Health Sciences Center between 2001 and 2006. Following my desire to care for and serve those afflicted by genitourinary cancers, I was afforded the unforgettable opportunity to train at one of the leading urologic oncology centers in the US at Memorial Sloan-Kettering Cancer Center in New York as a clinical and research fellow from July of 2006 through the end of 2008. Since matriculating from this fellowship, I have been given the privilege to come full circle back to Indiana to begin my professional career at the IUSoM where my medical career started. Since joining the faculty in the Department of Urology, I have developed an expertise in the care and surgical intervention of patients with genitourinary cancers, advanced the knowledge and understanding of genitourinary cancer biology, established a reputation as an administrative leader for our clinical service and operating room at Wishard Memorial Hospital, and displayed excellence in the teaching and modeling for our medical students, residents and fellows in urology. Through these commitments and successes, I present to you my dossier for tenure and promotion in the area of excellence in service.

SERVICE

The subspecialty of genitourinary surgery or urology is a widely diverse and exciting field. Over half of most clinical activity involves the evaluation, diagnosis, and management of cancers involving the kidneys, bladder, prostate, testis and penis. Due to the association of many of these conditions with obesity and tobacco use, the overall incidence of genitourinary cancers being diagnosed continues to climb. The Department of Urology at the IUSoM has a storied history in the surgical and multidisciplinary management of urologic malignancies, particularly testicular cancer. It is through my experience rotating through the University service as a medical student in the summer of 2000 under the influence of Drs. Koch, Foster, and Bihrle that I developed my passion and interest in the field of Urologic Oncology. This has fostered my drive and determination to serve among the next generation of great urological surgeons at Indiana University.

Upon arriving in the winter of 2009 after completing my fellowship, I quickly developed working relationships with my clinical and research mentors to set the foundation for my academic and professional career. Our department provides specialty care for much of the state of Indiana, western Ohio, Northern Kentucky, eastern Illinois, and Southern Michigan. At the Indiana University Health University Hospital, I have developed and grown an ever–increasing local, regional, statewide and national referral base for the management of advanced testicular cancer, invasive bladder cancer, clinically localized prostate cancer, and regionally advanced kidney cancer. This is best reflected by my academic productivity growing by almost 1,500 clinical RVU's per year since my arrival. My practice incorporates both open and minimally invasive techniques, complemented by a vast understanding of genitourinary

reconstruction techniques to manage the most complex urologic patients. Through our collaborations with our colleagues in medical and radiation oncology, multidisciplinary care teams have been developed, affording our patients with the latest and cutting edge care. This includes the participation and enrollment of patients into a variety of clinical studies, including a host of surgical trials (Bladder neck sling study at time of radical prostatectomy, Adolor post-cystectomy ileus trial) and several chemotherapy and immunotherapy trials in prostate, bladder and kidney cancer (Dovotinib, Dasatinib, ARGOS). As a reflection of the quality of service provided, I have been recognized locally (Clarian), regionally (Indianapolis Monthly) and nationally (SLD Industries, Who's Who) for my clinical care and contributions as a urologic surgeon. Similarly, I have been invited as a lecturer and debater among several multidisciplinary national and international conferences as an expert within the field of Urologic Oncology (American Radium Society debate on high risk prostate cancer, International Kidney Cancer symposium debate on surgical approach to pT1b renal masses, ADHI lecture on testis cancer, American Urological Association (AUA)-Urological Society of India lecture on testis/bladder/kidney cancer). To date, I have published 46 manuscripts, invited reviews, book chapters, and scientific papers within the field of urologic oncology since my career began.

Through my appointment as a clinical staff at the IUSoM, I have assumed additional clinical responsibilities at both the Wishard Memorial/Eskenazi Health Hospitals and the Veterans Affairs Medical Center. At Wishard Hospital/Eskenazi Health, my clinical duties focus largely in providing urologic care to an underserved, unscreened population. I spend approximately 30% of my time in this capacity. Care includes both general urology and subspecialty urologic care in trauma, oncology, endourology, and minimally invasive surgery. In an effort to expand the reach of IU Health Urology into the greater Indianapolis area, I am building a practice at our satellite hospital IU Health North in Carmel. Prior to my arrival, there were no fellowship trained urologic oncologists operating at this facility; and prior to 2009 IU Urology had not established a consistent presence there, which I am helping to build now. I currently represent one of two Urologic Oncology specialists that provide care at this location. During my time there, I have developed a robotic surgery practice and serve as part of a team that is dedicated to expanding our presence beyond our downtown practice.

From an administrative standpoint, I have served as the Chief of Service for the past 5 years at Wishard Hospital, and more recently Eskenazi Health. This has been a rewarding and educational experience. This requires ongoing assessments of our service's clinical productivity and workflow issues, hiring and reviewing annually our ancillary staff and nurses, and ensuring that our patients receive the highest quality of care possible. I participate in several activities at Wishard Hospital/Eskenazi Health beyond my responsibilities as service chief of Urology. I have served on the Clinical Services Oversight and the Medical Executive Committee's since my arrival in 2009. These committees collectively function to establish clinical guidelines and policy for physicians and healthcare providers, review individual service productivity through quarterly reporting, and determine the future direction and needs of the hospital system as a whole going forward. In 2011, I was nominated and confirmed as a Co-Chairperson for the Operating Room (OR) Committee. This serves as a very important position in determining the direction and goals for all surgeons operating at Wishard Hospital/Eskenazi Health. I am humbled and grateful that my colleagues feel as though I am someone who is best suited and

capable of leading this charge. Our first of many responsibilities entailed the monumental task of preparing the OR staff and services for transitioning into a brand new hospital, revamping workflow and logistics of processing and distributing surgical equipment and supplies, and the implementation of several initiatives to improve OR efficiency and utilization. As my proficiency as a leader within our county hospital system has grown, this has spawned opportunity both within my department as well as the medical center for leadership positions. This began with my appointment as the fellowship director of our Urologic Oncology program in April of 2013 and co-director of Clinical Trials for the Department of Urology. More recently, I was voted by my academic peers to serve as the IUHP representative to the IUSoM Faculty Steering Committee for a 2-year term.

As a specialist in prostate cancer care and management, I have participated and collaborated with members of the Prostate Cancer Committee through the Purdue Center for Cancer Research. Together, a health outreach program named Affecting Cancer Together (ACT) has been developed to increase awareness of the disease. We have begun to set up free prostate cancer screening clinics strategically located in underserved areas that are known to represent at-risk populations for the disease. As a member of the Urology Department at Indiana University Medical Center and the IU Simon Cancer Center, I have come to recognize the need for a program such as ACT to aid and educate the community of Marion County. Due to my administrative role as a Board Member for Wishard Health Services and service line leader for Urology within Wishard, I see first-hand the potential to help the underserved population understand and take action on their health, especially with regards to prostate cancer. The first of these screening programs occurred in April of 2011, and we will continue to expand until our goal of one clinic per month is realized.

Regarding service to the Discipline or Profession of Urology, I sit on the editorial review board for both *The Scientific World Journal* and *Dataset Papers in Medicine,* and have participated as a peer-reviewer for all the major Urological journals including the *Journal of Urology, European Urology, Urology, Journal of Clinical Oncology, BJU-International, Annals of Surgery, Cancer,* and the *World Journal of Urology.* Within this capacity, I was recently acknowledged for my contributions as a "Best Reviewer for 2013" in the field of oncology for *The Journal of Urology* during a ceremony at the annual meeting of the AUA this past May of 2014. I have served as an invited moderator as an expert in bladder cancer at the 2011 Annual Meeting of the North Central Section of the AUA held in Palm Springs, California. Previously, I was nominated and confirmed to serve as Member-At-Large for the Indiana Urological Association Board of Directors for 2012-2014. In this position, I fulfill the role of spokesperson and representative for the members of the IUA, play a supportive role to our Directors, and will serve as a directing voice during our upcoming annual meeting this spring of 2012. More recently, I was voted to represent the State of Indiana as the Young Urologist Representative to the North Central Section of the AUA.

Having been the recipient of great mentoring in the past as a student and understanding the challenges student's face as they prepare for their future, I have participated in the Mock Residency Interviews for the IUSoM class of 2011 as well as the Intern Book Camp directed by the Department of Surgery to prepare the incoming Interns for their clinical duties. Additionally,

I also have volunteered to proctor the Annual Urology Resident In-service exam mandated by the American Urologic Association in 2009 and 2010. Additionally, as my reputation has grown within the academic community and as a valued member of the Department of Urology, I have been identified over the past year by several medical students as a valued faculty advisor as they prepare for a career in Urology.

RESEARCH:

I have been fortunate to have several great research mentors who serve as the foundation for all of my translational and clinical research endeavors. In an attempt to capitalize upon the excellent resources and talent in the realm of basic sciences at Purdue University, a successful collaborative relationship has been developed with the Purdue Center for Cancer Research and the Department of Chemistry. Beginning in early 2009, an effort was made to determine whether a new technology called desorptive electrospray ionization (DESI) mass spectrometry could discriminate between cancerous and noncancerous tissues though the profiling of cell surface glycerophospholipid content. Not only was this successful in bladder, kidney and testis cancers, but a novel tumor marker Cholesterol Sulfate (CS) was identified in prostate cancer. CS has now been the focus of our collaboration with investigations of its utility in screening for early stage disease as a marker in urine and serum, as a predictor of tumor biology and disease progression, and the development of a handheld model for investigation as an intraoperative tool for assessing surgical margin status during cancer surgery. Some of the early investigations have further identified other associated alterations in cholesterol metabolism in prostate cancer, including its esterification and accumulation in intracellular vesicles. Current efforts are looking to exploit these findings to determine their role in prostate cancer tumorigenesis and the opportunity for label-free identification of disease via spectroscopic diagnosis through the development of instrumentation that will allow for endoscopic evaluation of cancer foci in the prostate. These studies have been supported through a grant provided by the Collaboration of Translational Research Committee, Indiana CTSI; and are the current focus of larger grant applications to the NIH, Department of Defense, Keck and "V" Foundations.

Beyond translational collaborations, an important part of our research focuses on clinical research evaluating clinicopathologic correlations and their associations with cancer-related outcomes. Our department maintains large surgical databases in prostate, bladder and testis cancer. With regards to prostate cancer, I published a series of articles assessing the impact of tumor focality on survival, the role surgical technique imparts on surgical margin status during radical prostatectomy, and more recently the significance of the linear extent of surgical margin positivity and seminal vesicle invasion on outcomes. In testis cancer, I have completed two book chapters discussing: 1) the clinical manifestations of early and advanced stage disease; and 2) the genetic and biologic basis for intratubular germ cell neoplasia and bilateral testis tumors. In collaboration with colleagues at Memorial Sloan-Kettering Cancer Center, I just recently completed a series of manuscripts accepted for publication outlining their large clinical experience in Stage III nonseminomatous germ cell tumors and the impact of advancing age on long-term survival and surgical morbidity after retroperitoneal lymph node dissection. Lastly, after several years of collecting clinical data, we are just now beginning our exploration of the long-term clinical and pathological outcomes after radical cystectomy (Variant Histologies, DVT

incidence, Nodal staging), along with our experience in continent urinary reservoir construction of the "Indiana Pouch" that was developed and first reported back in 1987 by my senior colleagues.

EDUCATION:

The endeavor of medical student, resident and fellow education is an ongoing process. This occurs daily in the outpatient clinic setting as well as in the operating room both at University Hospital and Wishard Hospital. Due to my responsibilities as service chief at Wishard Hospital, I have the opportunity to work alongside with our medical students, residents and fellows, monitoring their progress in both the operative and clinical setting on a daily basis during their 1-3 month-long rotations. Additionally, I have provided several hour-long didactic lectures to these leaners along a constellation of topics related to oncology and reconstruction.

As a high volume center in Urologic Oncology, we have the special privilege to train clinical and research fellows. Our departmental expertise in the entire clinical spectrum of localized and advanced prostate, bladder, renal, testis, penile, urethral and retroperitoneal malignancies, including sarcomas, affords a highly sought after experience for national and international urologists seeking postgraduate fellowship training. I have served both as a clinical and research mentor for 7 urologic oncology fellows since my arrival in 2009. My responsibilities otherwise include technical instruction in the operating room, facilitating their progression of escalating autonomy and independence in complex urologic procedures, and didactic education in tumor biology and disease characteristics/presentation. As fellowship director, I currently serve an even greater role as mentor and friend to the fellows as they prepare for careers as leaders within the field.

CONCLUSION:

During my first five and a half years as a clinical faculty member of the Department of Urology at the IUSoM, I have put forth great effort to establish myself as a competent surgeon, clinician, educator and researcher. Through my dedication and desire to improve the lives of my patients, to increase the efficiency and productivity of our clinical and operative services at Wishard Hospital, and to promote our department through my academic and research endeavors, I believe that I am well on my way to developing a national reputation that brings honor and recognition to the institution. It is my hope that the review committee finds this dossier worthy of promotion and tenure in the area of excellence in service.

Sincerest regards

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