
BIOGRAPHICAL SKETCH

NAME: Renea M. Sturm, MD

POSITION TITLE: Assistant Professor of Urology (visiting status pending appointment)

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE	Completion Date MM/YYYY	FIELD OF STUDY
Rice University, Houston TX	B.A.	05/2004	Music
Baylor COM, Houston TX	M.D.	05/2009	Medicine / Research Track, Neuroscience
University of California, Davis	Residency	06/2011 06/2015	Surgery Urology / Tissue Engineering
Northwestern University/Lurie Children's Hospital, Chicago IL	Fellowship	07/2018	Pediatric Urology / Tissue Engineering, Stem Cell Biology, Immunomodulation

A. Personal Statement

I am a urologic surgeon-scientist with experience and expertise in bench-to-bedside research. My overarching goal is to apply basic science and technologic advancements to improve equity, quality and consistency of surgical care for children with urologic disorders across diverse healthcare settings. Basic science research focus areas include tissue engineering and immunomodulation of the lower urinary tract. Laboratory research in medical school provided a background in neuroscience, particularly cholinergic transmission and animal behavior. Recent laboratory research in residency and fellowship afforded further expertise in tissue engineering with a focus in bladder and urethral pathology. In the clinical realm my research evaluates the application of technologic innovations to improve outcomes and quality of life for children with urologic disorders.

B. Positions and Honors

Positions and Employment

2018- Assistant Professor of Pediatric Urology, UCLA

Other Experience and Professional Memberships

2009- Member, American Urological Association

2018- Member, Society for Pediatric Urology

2018- NIDDK/AUA Workgroup: Congenital Anomalies of the External Genitalia

Honors

2000-04 Rice University Dean's list

2000-04	Collegiate honorary nominations: National Collegiate Scholars, Phi Theta Kappa, Golden Key National Honor Society
2000-04	Scholarship recipient: Rice University
2008	Baylor College of Medicine research scholar award, basic science
2012	Northern California Resident Research Competition research awards
2013	Western Section AUA scholarship meeting attendee
2014-15	Northern California Resident Research Competition research awards
2015	Clinical research prize finalist: ESPU Fall Congress
2016	Clinical research prize finalist (2 abstracts): SPU Fall Congress

C. Contribution to Science

1. My early publications and research training occurred within the Mariella De Biasi PhD lab. This work elucidated the role of cholinergic transmission within the medial habenula in nicotine addiction. As the primary surgeon for this project, I created and tested a surgical model that allowed direct targeting and intervention within the medial habenula and interpeduncular nucleus *in vivo* in a mouse model followed by subsequent behavioral evaluation.
 - a. Salas R*, Sturm R*, Boulter J, De Biasi M *shared first authorship (2009). Nicotinic Receptors in the Habenulo-interpeduncular System are Necessary for Nicotine Withdrawal in Mice. *J Neurosci*, 29(10):3014-18. [PMID: 19279237]
 - b. Salas R, Fung B, Sturm R, De Biasi M (2013). Abnormal Social Behavior in Nicotinic Acetylcholine Receptor $\beta 4$ Subunit-null Mice. *Nicotine Tobacco Research*, 15(5):983-86. [PMID: 23042983]
2. As a urologist-in-training, I observed that children with neurogenic bladder are often subjected to frequent urinary tract catheterizations. The clinical research for which I obtained funding through Shriner's Hospital for Children emphasized the social context of catheterization via a prospective evaluation of a novel catheterization regimen that was found to be safe and effective in improving quality of life in youth with neurogenic bladder. Subsequent studies evaluated options for noninvasive bladder monitoring via ultrasound technologies including elastography as a novel modality for bladder wall monitoring.
 - a. Sturm R, Durbin-Johnson B, Cantrell A, Kurzrock E. Use of a Diurnal Indwelling Catheter for Patients with Spinal Cord Disorders: Pilot Study of Safety and Quality of Life. Northern California Resident Research Symposium Podium Presentation (2015), European Society of Pediatric Urology Meeting Podium Presentation (2015), Under review: *PM&R Journal*.
 - b. Sturm R, Cheng E. Bladder Wall Thickness in the Assessment of Neurogenic Bladder: A Translational Discussion of Current Clinical Applications (2016). *Ann Transl Med*, 4(2):32. [PMID: 26889485]
 - c. Franco I, Sturm R, Yerkes E, Nicholas J, Cheng E. Does Bladder Work Correlate with Shear Wave Velocity? American Urological Association Meeting Podium Presentation (2017), Joint Congress of the ICCS and SRHSB Podium Presentation (2017).
 - d. Sturm R, Yerkes E, Nicholas J, Snow-Lisy D, Diaz Saldano D, Gandor PL, Halline C, Rosoklija I, Rychlik K, Johnson E, Cheng E (2017). Ultrasound Shear Wave Elastography: A Simple, Non-invasive Method to Evaluate Bladder Pressure. *Journal of Urology*, 198(2):422-29. [PMID: 28366710]

3. There are two classic primary goals in neurogenic bladder management: 1) preservation of renal function (e.g. via prevention of excess bladder pressure transmission to the upper urinary tracts) and 2) quality-of-life optimization. Thus, as the bladder remodels and storage pressure increases, individuals with neurogenic bladder may require an augmentation cystoplasty. There is currently no satisfactory tissue substitute for this procedure; bowel utilization is associated with short and long-term risks including metabolic disturbances, stone formation, perforation and malignancy. In the lab of Arun Sharma PhD, I evaluated the role of mesenchymal stem cells (MSC) in immunomodulation and vascularization of seeded synthetic biodegradable scaffolds in an animal model of bladder augmentation. Our ongoing work evaluates long-term outcomes following bladder augmentation using bone marrow derived CD34+/MSC seeded scaffolds in small and large animal models.
- a. Godley S, Sturm R, Osborn SL, So M, Kurzrock E. Neo-vascularization of Bladder Grafts: Pilot Study and Optimization. Northern California Resident Research Symposium, Podium Presentation (2015).
 - b. Sturm R, Bury, M, Ahmed N, Fuller N, Sharma A. The Effect of Autologous Stem Cells on Inflammation and Vascularization in a Nonhuman Primate Model of Augmentation Cystoplasty. American College of Wound Healing and Tissue Repair Meeting Poster Presentation (2015), American Urological Association Meeting, Podium Presentation (2016).
 - c. Liu JS, Bury MI, Fuller NJ, Sturm RM, Ahmad N, Sharma AK. Bone Marrow Stem/Progenitor Cells Attenuate the Inflammatory Milieu following Substitution Urethroplasty (2016). Scientific Reports, 6:35638. [PMID: 27762304]
 - d. Sturm R. Pediatric Neurogenic Bladder: Personalizing evaluation and management to impact care (included a discussion of ongoing bladder tissue engineering work, 2018). Urology grand rounds/visiting professor conference presentations: UCLA, Johns Hopkins University, University of Toledo, Lurie Children's Hospital.

Complete List of Published Work in MyBibliography:

https://www.ncbi.nlm.nih.gov/sites/myncbi/1RoTsQcd_rT5i/bibliography/45931291/public/?sort=date&direction=descending