Pediatric Insights

BEST CHILDREN'S HOSPITALS U.S.News & WORLD REPORT UROLOGY 2017-18

Spring 2018

An Update From the Division of Pediatric Urology

In This Issue

Research Update: New Findings and In-Progress Investigations

One of the Division's most recent publications in the journal *Urology* in January 2018 discusses retrospective findings from cases at Children's Hospital of Pittsburgh of UPMC related to predictors of testicular salvage following cases of testicular torsion. Glenn Cannon, MD, and Francis Schneck, MD, along with their colleagues Todd Yecies, MD, and Jathin Bandari, MD, residents from the Department of Urology at UPMC, reviewed a cohort of 104 cases of emergent testicular torsion over a 14-year period (2003-2017) in an attempt to identify predictive elements of testicular salvage in relation to the direction of rotation.

In the study, it was found that 46 percent of cases showed a lateral rotation, much higher than seen in the limited previous studies by other groups, and in contradiction to the current literature and education that testicular rotation occurs in a medial direction thereby pointing to detorsion in a lateral manner. Findings in this study suggest that the current evidence and standard of practice may be "misleading and may carry a high potential risk for exacerbating present torsion."

While the study was not able to identify any predictive factors for identifying the direction of torsion and the use of manual detorsion by clinicians, several new factors were found to be predictive of testicular salvage after detorsion, along with confirmation of existing factors from prior studies.

The new predictors found in this study include both the absence of reactive hydrocele and a more than 50-percent size differential. The full findings of this new study are available for review in: Yecies TS, Bandari J, Schneck FX, Cannon GM. Direction of Rotation in Testicular Torsion and Identification of Predictors of Testicular Salvage. Urology; 2018; Jan 10. Pii: S0090-4295(17)31237-2. Epub ahead of print.

New Research: Complications in Proximal Hypospadias Repair

Rajeev Chaudhry, MD, and Drs. Schneck and Cannon have been investigating the effects of postoperative corticosteroids in cases of proximal hypospadias repair. Their ongoing study is the first randomized, placebo-controlled trial to evaluate the rate of complications in proximal hypospadias repair, and whether complication rates can be reduced by the administration of oral steroids immediately after surgery.

The hypothesis and aim are to see if reductions in inflammation with the steroid use mitigates postsurgical complication rates and improves or speeds up the healing process. So far, 22 patients have been enrolled in the ongoing study. Dr. Chaudhry and colleagues are currently preparing a detailed abstract on the study findings to date.

Continued on Page 2

Children's Hospital of Pittsburgh of UPMC

Research Update *Continued from Page 1*

New Research: Radiation Dosing in Conventional Fluoroscopic Cystourethrogram

In this study, Drs. Chaudhry, Cannon, and Schneck, along with colleagues in the Department of Radiology at Children's Hospital, are prospectively evaluating the radiation dosing in conventional voiding cystourethrogram (VCUG). The existing literature is sparse in relation to skin entrance doses with the procedure.

Given the relatively young age of patients undergoing this procedure (median age of 13.6 months in this study), understanding the effective radiation dosing is an important and valuable tool in discussions with parents. This current study has shown a relatively low effective whole-body dose during a single VCUG procedure in the study, which utilized a low dose, pulsed fluoroscopy approach (three pulses per second). More details from this study will be forthcoming upon publication.

At the NS-AUA 2017

Members of the Division of Pediatric Urology were well represented at the 2017 NS-AUA meeting. The following is a list of abstracts and posters presented by faculty during the meeting.

Abstracts

Hugar LA, Chaudhry R, Stephany HA, Ost MC, Schneck FX, Cannon GM. Surgical Outcomes of Open Ureteral Re-Implantation in Patients With Spinal Dysraphism: A Single-Institution Experience.

Chaudhry R, Fox PJ, Reyes-Mugica M, Witchel SF, Rajkovic A, Belgorosky A, Schneck FX, Yatsenko S. Rare Alterations in CYP11B1 Gene in 46,xx Virilized Females With Ambiguous Genitalia and 46,xy Males With Early Onset Virilization.

Browning JD, Li B, Stephany HA, Cannon GM, Schneck FX, Ost MC, Chaudhry R. Surgical Management and Outcomes of Pediatric Ureterocele: A 12-year Experience.

Posters

Yu M, Chaudhry R, Fuller TW, Cannon GM, Schneck FX, Ost M, Nguyen CR, Stephany HA. Pediatric Renal Transplant and Subsequent Ureteral Re-implantation.

Yecies TS, Bandari J, Schneck FX, Cannon GM. Direction of Rotation in Testicular Torsion and Identification of New Predictors of Testicular Salvage.

Theisen K, Chaudhry R, Schneck FX, Ost MC, Cannon GM, Stephany HA. Practice Patterns for Management of Urolithiasis in Patients With Spina Bifida: Single-institution Experience.

Yecies TS, Semins MJ, Sheetz M, Duranko M, Chaudhry R. Identifying the Relationship Between Fluoroscopy Pulse Rate and Radiation-absorbed Dose.

ABOUT THE DIVISION

The Division of Pediatric Urology offers diagnostic evaluation and surgical treatment for children with genitourinary disorders, including ureteropelvic junction obstructions, vesicoureteral reflux, hydronephrosis, and other conditions. Currently led by Glenn M. Cannon, MD, the Division supports a robust clinical and research program, as well as offering an accredited two-year fellowship program featuring an active basic science research laboratory experience.

Drs. Rajeev Chaudhry, Francis Schneck, and Glenn Cannon in the operating room.

Faculty and Staff

Glenn M. Cannon, MD
Interim Division Chief and Associate Professor of Urology

Francis X. Schneck, MD
Clinical Director and Associate Professor of Urology

Rajeev Chaudhry, MD
Assistant Professor of Urology

Katharine Carter, PA-C

Dana Casciato, CRNP

Susan Kasubiak-Tillman, PA-C

Kathleen Perich, CRNP

Recent Publications

Below are select recent publications from Division faculty members.

Yecies T, Bandari J, Schneck F, Cannon G. Direction of Rotation in Testicular Torsion and Identification of Predictors of Testicular Salvage. *Urology.* 2018; Epub ahead of print.

Dangle P, Bansal U, Chaudhry R, Cannon GM, Schneck FX, Ost MC. Trends In Urologic Indications for Pediatric Renal Transplantation Over a 27 Year Period – UNOS Database. *Urology.* 2017; Nov 14. Epub ahead of print.

Farber NJ, Davis RB, Grimsby GM, Shinder B, Cannon GM Jr, Jacobs MA, Ost MC, Schneck FX, Stephany HA, Gargollo PC, Dwyer ME. Bowel Preparation Prior to Reconstructive Urologic Surgery in Pediatric Myelomeningocele Patients. *Can J Urol.* 2017; 24(5): 9038-9042.

Cannon GM, Ost MC. Robot-Assisted Laparoscopic Extravesical Ureteral Reimplantation for Primary Vesicoureteral Reflux in Children. *J Urol.* 2017; 197(6): 1379-1381.

Hugar SB, Kadow BT, Davis A, Ranganathan S, Reyes-Mugica M, Schneck FX, Picarsic J. Pediatric Testicular Hemangioma in a 10-Year Old: A Rare Entity That May Mimic Malignancy With Appraisal of the Literature. *Urology.* 2018; Jan 3. Epub ahead of print.

Chaudhry R, Theisen KM, Dangle PP, Schneck FX. Congenital Aphallia: Novel Use of Acellular Dermal Matrix During Scrotal Flap Phalloplasty. *Urology.* 2017; 105: 167-170.

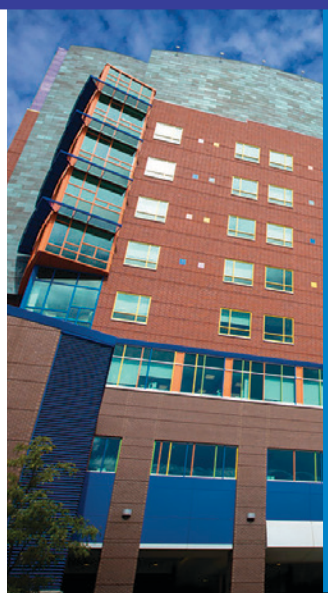
Chaudhry R, Theisen KM, Dangle PP, Schneck FX. Percutaneous Stone Surgery in Spina Bifida Patients — Are Stone-Free Rates Worth the Risk? *J Endourol.* 2017; Apr; 31(S1): S81-S86. Epub ahead of print.

Dangle PP, Lee A, Chaudhry R, Schneck FX. Surgical Complications Following Early Genitourinary Reconstructive Surgery for Congenital Adrenal Hyperplasia-Interim Analysis at 6 Years. *Urology.* 2017; 101: 111-115.

Children's Hospital of Pittsburgh of UPMC

4401 Penn Ave.
Pittsburgh, PA 15224

Affiliated with the University of Pittsburgh School of Medicine and ranked among the nation's best children's hospitals by *U.S. News & World Report*.



About Children's Hospital of Pittsburgh of UPMC

Regionally, nationally, and globally, Children's Hospital of Pittsburgh of UPMC is a leader in the treatment of childhood conditions and diseases, a pioneer in the development of new and improved therapies, and a top educator of the next generation of pediatricians and pediatric subspecialists. With generous community support, Children's Hospital has fulfilled this mission since its founding in 1890. Children's is named consistently to several elite lists of pediatric hospitals, including ranking No. 9 in the prestigious *U.S. News & World Report* annual Honor Roll of America's Best Children's Hospitals for 2017–2018 and ranking 10th among children's hospitals and schools of medicine in funding for pediatric research provided by the National Institutes of Health (FY2016).

USNW507159 AS/MP 3/18