

Urology UPDATE

Summer 2009



Children's
Hospital of Pittsburgh | of
UPMC

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Letter From the Chief

As you may know, while we awaited the opening of the new campus of Children's Hospital of Pittsburgh of UPMC, our division led a double life. While Drs. Ost, Sweeney and I were based at the former hospital, Drs. Bellinger and Schneck were in offices on Craig Street.

Happily, the spacious new campus in Lawrenceville gives us the opportunity to join forces in every aspect of our practices, which should improve efficiency and decrease the potential for confusion. Add to that the beautiful state-of-the-art surroundings, and the future of the Pediatric Urology Division at Children's Hospital looks bright indeed!

We continue to see patients at all of Children's Ambulatory Care Centers on a regular basis. The phone numbers that operated at Craig Street are no longer functional, so please contact us at the numbers at the end of this newsletter.

Our division continues to define the standard of care in pediatric urology. We have been fortunate to have one of the most sought after fellowship programs in the country, now entering its seventh year. We have outstanding faculty at the forefront of the specialty. We are known nationally and internationally for our work in minimally invasive surgery, management of vesicoureteral reflux, management of pediatric stone disease, techniques of hypospadias repair, and lower urinary tract reconstruction for spina bifida, posterior urethral valves, or bladder and cloacal exstrophy.

Along those lines, Children's Hospital will be sponsoring the International Meeting of the ABC (Association for Bladder Exstrophy Community) the weekend of Aug. 14-16, 2009, along with the Hypospadias and Epispadias Association. These meetings are geared toward patients and families as well as professionals, so please consider joining us or passing the information along to your interested families. The website for more information is www.bladderexstrophy.com.

I hope you find the enclosed information helpful. Please feel free to contact me, or any of us in the division, with questions related to urological care, access to our clinic, or other issues.

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and Chief Medical Officer
Children's Hospital of Pittsburgh of UPMC
Chief, Division of Pediatric Urology
Vice Chair and Professor of Urology
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Clinical Update | Prenatal

Hydronephrosis FAQ

When does prenatally detected hydronephrosis warrant early delivery or prenatal intervention?

Very rarely. Hydronephrosis can be due to obstruction at the ureteropelvic junction, ureterovesical junction (megaureter), or in boys, the posterior urethra (posterior urethral valves or urethral atresia). It also can be due to vesicoureteral reflux. Much of the hydronephrosis that is seen prenatally is simply developmental and improves on its own. Late in gestation, amniotic fluid is composed mostly of fetal urine. If there is obstruction to the flow of urine, or abnormal development of the kidneys, the condition of oligohydramnios may occur. Oligohydramnios, especially occurring early in pregnancy, is associated with pulmonary hypoplasia (affecting lung growth and maturation) and the potential for respiratory difficulty after birth (Docimo, S.G.; Luetic, T.; Crone, R.K.; Davies, P.; Reid, L.; Retik, A.B.; Mandell, J.: *Journal of Urology*, 142:657, 1989). Most intervention prior to term delivery is based on concerns about lung development and function.

After delivery, how should hydronephrosis be evaluated?

This depends a bit on the scenario and where the child is delivered. If qualified pediatric radiologists are available, a neonatal ultrasound can be performed. It has been shown that ultrasound of the kidneys and bladder is as accurate during the first 48 hours of life as it is later, so waiting to perform ultrasound is not necessary (Docimo, S.G.; Silver, R.I.: *Journal of Urology*, 157:1387-1389, 1997). If the ultrasound demonstrates unilateral hydro-

continued on reverse

About the Division of Pediatric Urology

Faculty and Staff

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Regina Norris, MD
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Nurse practitioner; director, HELP Center

Patricia Shields, RN
Nurse manager

Katrina Ziegler, RN
Nurse manager

Archish Maharaja
Manager

Availability

Dr. Docimo
Children's Hospital in Lawrenceville
(the new main campus)

Dr. Schneck
Lawrenceville, Wexford, Bethel Park, Monroeville

Dr. Bellinger
Lawrenceville, Wexford, Bethel Park

Dr. Ost
Lawrenceville, Wexford

Dr. Norris
Lawrenceville

Clinical Update *continued from reverse*

nephrosis with a normal kidney on the other side, there is no urgency and further evaluation can be carried out electively. If there is severe bilateral hydronephrosis, especially in a boy with a dilated bladder, one needs to consider posterior urethral valves or bilateral ureteropelvic junction obstruction, either of which might require urgent intervention. Although more controversial than in the past, we still recommend prophylactic amoxicillin because of the high risk of urinary infection in children with neonatal hydronephrosis especially if associated with reflux (Herndon, A.; McKenna, P.H.; Kolon, T.; Gonzales, E.T.; Baker, L.; Docimo, S.G.: *Journal of Urology*, 162:1203-1208, 1999). Urgently in boys with suspected valves, or electively in others, a VCUG is performed to evaluate for reflux and/or bladder outlet obstruction. Renal scans are used as indicated to evaluate for renal function and obstruction, but are done after at least 6 weeks of age if possible, to allow the kidneys to mature through the transitional phase of function.

How are posterior urethral valves managed in the newborn?

Most boys are large enough, even if a bit premature, to undergo cystoscopic valve ablation. This will resolve the obstruction, although it is important to realize that boys with posterior urethral valves may require lifelong therapy for bladder and/or kidney dysfunction. In boys too small or too ill for cystoscopic ablation, a vesicostomy can be performed, allowing urine to drain at low pressure into the diaper through a small stoma in the skin. When the child gets bigger, the valves are ablated and the vesicostomy closed.

What is the current management of ureteropelvic junction (UPJ) obstruction?

It is important to note that most of the kidneys affected by what we call UPJ obstruction improve on their own and do not require surgery. We operate on kidneys that show severe hydronephrosis with thinning of the parenchyma, decreased function on renal scan, or, in older children, kidneys associated with symptoms such as abdominal pain and vomiting. When surgery is required, the majority of infants and children at Children's undergo laparoscopic pyeloplasty. This is an operation that has been done through an open flank incision for decades and that only in select centers is performed laparoscopically. The procedure is done as a 23-hour hospital stay and is associated with a rapid recovery and virtually no visible scars. Children's has one of the largest series of pediatric laparoscopic pyeloplasties in the world, with success rates that exceed the national standard of 95 percent. (Sweeney, D.D.; Ost, M.C.; Schneck, F.X.; Docimo, S.G.: "Pediatric Laparoscopic Pyeloplasty: An Evolution of Technique," *Journal of Urology*, 179(supp): 356, 2008).

We Want To Hear From You.

If we can supply you with further information on these or other urological topics, don't hesitate to call. Our physicians would be happy to arrange a visit for an educational session.

Visit Us on the Web.

For more information, as well as articles related to common topics in pediatric urology, please visit us on Children's Hospital's web site at www.chp.edu/CHP/urology.

A Sampling of Recent Faculty Publications

Smaaldone, M.C.; Cannon, G.M.; Wu, H.; Bassett, J.; Polsky, E.G.; **Bellinger, M.F.; Docimo, S.G.; Schneck, F.X.**: "Is Ureterscopy First Line Treatment for Pediatric Stone Disease?" *The Journal of Urology*, pp. 2128: 2131, 2007.

Cannon, G.M.,; Smaaldone, M.C.; Wu H.Y.; Bassett, J.C.; **Bellinger, M.F.; Docimo, S.G.; Schneck, F.X.**: "Ureterscopic management of lower-pole stones in a pediatric population," *Journal of Endourology*, 21:1179, 2007.

Cannon, G.M.; Polsky, E.G.; Smaaldone, M.C.; Gaines, B.A.; **Schneck, F.X.; Bellinger, M.F.; Docimo, S.G.**; Wu, H.Y.: "Computerized Tomography Findings in Pediatric Renal Trauma — Indications for Early Intervention?" *Journal of Urology*, 179:1529, 2008.

Smaaldone M.C.; **Docimo S.G.**: "Re: Extended Urethral Mobilization in Incised Plate Urethroplasty for Severe Hypospadias: A Variation in Technique to Improve Chordee Correction," *A. Bhat; Journal of Urology*, 2007; 178: 1031-1035. *Journal of Urology*, 179:2067, 2008.

Docimo, S.G.: "A New Age in the Management of Vesicoureteral Reflux? Infection Rates After Open Surgery Versus Dextranomer Injection," *Journal of Urology*, 179:2094, 2008.

Corcoran, A.T.; Smaaldone, M.C.; Mally, D.; Ost, M.C.; **Bellinger, M.F.; Schneck, F.X.; Docimo, S.G.**; Wu, H.Y.: "When Is Prior Ureteral Stent Placement Necessary to Access the Upper Urinary Tract in Prepubertal Children?" *Journal of Urology*, 180:1861, 2008.

Hayn, M.H.; Smaaldone, M.C.; **Ost, M.C.; Docimo, S.G.**: "Minimally Invasive Treatment of Vesicoureteral Reflux," *Urologic Clinics of North America*, 35:477, 2008.

Smaaldone, M.C.; Corcoran, A.T.; **Docimo, S.G.; Ost, M.C.**: "Endourological Management of Pediatric Stone Disease: Present Status," *Journal of Urology*, 181:17, 2008.

Carvalho, R.; Dilworth, P.; **Docimo, S.G.**; Cuffari, C.: "Crohn Disease of the Neovagina and Augmented Bladder in a Child Born with Cloacal Exstrophy," *Journal of Pediatric Gastroenterology and Nutrition*, 2009 Jan. 48(1):106-9, 2009.

Docimo, S.G.; and Butani, R.: "Minimally Invasive Techniques for Lower Urinary Tract Reconstruction," in Bax, K.; Georgeson, K.E.; Rothenberg, S.S.; Valla, J.S.; and Yeung, C.K. editors: *Endoscopic Surgery in Infants and Children*, Springer, Berlin, 2008.

Matoka, D.J.; **Ost, M.C.**; Smaaldone, M.C.; **Docimo, S.G.**: "Laparoscopic Orchidopexy," in Wilcox, D.T.; Godbole, P.P.; and Koyle, M.A. editors: *Pediatric Urology: Surgical Complications & Management*, Blackwell Publishing, Oxford, 2008.

Kim, C.; **Docimo, S.G.**: "Minimally Invasive Approaches to Lower Urinary Tract Reconstruction," in Shukla, A.R.; Austin, P.F.; Herndon, C.D.A. editors: *Clinical Pediatric Urology Study Guide*, Informa Healthcare, London, 2009.

Docimo, S.G.: "Commentary: Laparoscopic Ureteral Reimplantation," in Hinman, F. and Baskin, L.S. editors: *Atlas of Pediatric Urologic Surgery*, Elsevier, Philadelphia, 2008.

Docimo, S.G.: "Commentary: Laparoscopic Orchiopexy Techniques," in Hinman, F. and Baskin, L.S. editors: *Atlas Of Pediatric Urologic Surgery*, Elsevier, Philadelphia, 2008.

Ost, M.C.; Okeke, Z.; VanderBrink, B.A.; Rastinehad, A.; Kavoussi, L.R.; Siegel D.N.; and Smith, A.D.: "Totally Bloodless Percutaneous Renal Surgery," *Journal of Endourology*, 2008 Oct.: 22(10):2241-4.

Estrada, C.R.; Datta, S.; **Schneck, F.X.**; Bauer, S.B.; Peters, C.A.; and Retik, A.B.: "Caliceal Diverticula in Children: Natural History and Management," *Journal of Urology*, 2009 March; 181(3):1306-11; discussion 1311. Epub 2009 Jan 18.

Hayn, M.H.; **Bellinger, M.F.; Schneck, F.X.**: "Small Intestine Submucosa as a Corporal Body Graft in the Repair of Severe Chordee," *Urology*, 2009 Feb.; 73(2):277-9. Epub 2008 Oct 26.

Hayn M.H.; Herz, D.B.; **Bellinger, M.F.; Schneck, F.X.**: "Intermittent Torsion of the Spermatic Cord Portends an Increased Risk of Acute Testicular Infarction," *Journal of Urology*, 2008 Oct. 180(4 Suppl):1729-32. Epub 2008 Aug 21.

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