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Innovations in Urology

Rady Children's Hospital San Diego

Rady Children's - A comprehensive system focused solely on children.

PEOPLE

Dr. Leslie Hsieh joins Continence Center program

Leslie Hsieh, M.D., F.A.A.P., recently joined the 2-B-Dry Program at Rady Children's Hospital-San Diego, part of the Division of Urology's Continence Center. In the program, patients are seen for bladder and bowel dysfunction, with conditions including daytime wetting, nocturnal enuresis, urinary frequency, urinary urgency, giggle or stress incontinence, dysuria, post-void dribbling, recurring urinary tract infections and encopresis.

Dr. Hsieh will employ a variety of treatment modalities, including tibial nerve stimulation, urodynamics, EMG uroflowometry, biofeedback, counseling and medications when needed.

Prior to working at Rady Children's, Dr. Hsieh practiced as a general pediatrician for eight years in San Diego and Washington, D.C. She earned her medical degree from the University of Vermont College of Medicine and completed her pediatric residency and internship at Georgetown University.

PROGRAMS

New clinic to treat disorders of sex development

The Disorders of Sex Development (DSD) Clinic, scheduled to open this fall, will care for children born with chromosomal, gonadal or anatomic abnormalities of the genitalia and/or reproductive organs. DSD encompasses a wide range of disorders, from Klinefelter syndrome to the rare aphallia (absence of a penis).

More common DSDs include congenital adrenal hyperplasia (CAH) in XX females and partial or total androgen insensitivity in XY males. With CAH, girls present with genitalia virilization due to excessive androgen production. Conversely, with androgen insensitivity, boys present with an external feminine appearance due to poor androgen tissue response.

Some DSDs may show up later in a child's life. A young girl, for example, may fail to develop secondary sex characteristics, or a boy may

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innovation belongs in every moment

INNOVATIONS

Project aims to reduce unused surgical instruments

be found to have ovarian tissue while undergoing a hernia repair. Medical management of these patients involves correctly diagnosing the disorder and potentially managing hormonal manipulation, as well as providing psychosocial counseling. Surgical reconstruction may be needed for some patients to align internal and external sex organs with the chosen gender.

As these patients have a variety of medical needs, the DSD Clinic will use a multidisciplinary approach, with specialists from Rady Children's Urology, Endocrinology/Diabetes and Gynecology divisions. Marcela Vargas, M.D., who has recently joined the Endocrinology team, will serve as the coordinator. For children with disorders that require surgical reconstruction, Madhu Alagiri, M.D., from Urology, and Akilah Weber, M.D., from Gynecology, will collaborate to manage these patients.

RESEARCH

Evaluating radiation exposure to primary caregivers

Reducing radiation exposure to both patients and caregivers during radiology procedures is a top safety priority at Rady Children's. For children requiring nuclear medicine procedures used in pediatric urology, radiation exposure is well-documented, but exposure for caregivers and family members has not been established.

The concern is that tracer could be found in the diapers of children undergoing nuclear imaging tests and potentially pose an unsafe radiation risk to a primary caregiver who is pregnant or to young siblings. As a result, Sarah Marietti-Shepherd, M.D., and her colleagues recently conducted a pilot study to assess radiation exposure to primary caregivers.

The researchers prospectively identified 16 diapered children aged 3 or younger undergoing either Mag3, DMSA or renal bladder ultrasound. Six patients underwent DMSA, five underwent Mag3 and five underwent renal bladder ultrasound (control group). The primary caregiver agreed to wear a dosimeter for 24 hours starting immediately following the studies. Additionally, a dosimeter was placed adjacent to two patients' first post-procedure diapers for 24 hours for Mag3, as well as two for DMSA, to measure direct exposure.

The researchers found that radiation exposure to the primary caregivers following these tests was negligible: the measured 24-hour ionizing radiation exposure to the primary caregiver of diapered children undergoing Mag3 and DMSA was 0-5 mRem, less than a chest X-ray. The researchers, however, still recommend that caregivers change diapers in the first 24 hours following these tests to achieve exposure that is ALARA (as low as reasonably achievable).

Kelly Swords, M.D., and fellow Kelly Nast, M.D., are leading the way in the Urology division in reducing excess/unneeded surgical instruments in the operating-room tray, with a focus on high-volume procedures.

The goal of this quality improvement project is to control costs, as unused surgical instruments can add a significant cost to the hospital's bottom line. Secondary benefits include quicker assembly of the surgical tray, greater accuracy of the tray, increased instrument life, reduced risk of personal injury and increased employee satisfaction.

Research has shown that most surgical instruments in a tray go unused. In the first study to examine surgical instrument tray use across multiple specialties, the highest observed use rate was just 22 percent. The study concluded that attention to tray composition may result in immediate and significant cost-savings through reduced sterile processing labor. (View the abstract).

In the first phase of their study, Drs. Swords and Nash will examine surgical trays for excess instrumentation for three procedure areas: inguinal, re-implants and hypospadias. The second phase will eliminate excess instrumentation and assess how the reduction affects both the cost and patient care.

Earlier this year, they examined the circumcision trays and are currently eliminating 36 instruments per tray. With an average of 323 circumcisions performed each year, the annual cost savings is estimated at more than $4,300. An even greater cost reduction would occur from changing the orchiopexy tray, which is used for 572 procedures annually; reducing the 57 instruments to 23 is projected to save $7,200 a year.

Once their project is completed, the doctors plan to share the results with other Rady Children's specialties and work to reduce unused surgical instruments hospital-wide.