What’s Hot and What’s Not in Pediatric Urology

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What’s hot!  Early Surgery

Bilateral Disease
Non-Palpable Testes
Refer at 3-4 months of age Operate 6 months

What’s hot!  MRI in UDT Obesity to localize Testes

Helps with Surgical Approach
Laparoscopic versus Standard

What’s hot!  Laparoscopy for Intraabdominal Testes

What’s not!  Imaging i.e CT scan, Sonography to localize testes

Find testes with imaging = surgery/orchiopexy
Don’t find testes = surgery/orchiopexy/orchiectomy

Elder, Pediatrics
Retractile testes may become Ascending testes

An explanation of Why some children Present later in life with undescended testes

Epidemiology

Incidence of Undescended testes

- 3% of full-term newborn males
- 0.9 percent at 9 months of age
- 15-20 % of premature males

Apparent reasons for the late orchiopexies were an ascending testis in 45% of the cases, parental delay in 22% of the cases, late referral in 20% of the cases and iatrogenic cryptorchidism after other inguinal surgery in 9% of the cases.

Ascending testes were more likely to have a history of being retractile in 85% of the cases.


What’s not!

Operating on retractile testes

Best time to exam testes: The newborn exam

Neonatal Torsion
What’s new!

Inguinal exploration with extravaginal torsion right

What’s not!

Asynchronous neonatal torsion

“Rare”

Acute changes = operation

Post-Natal Differential Diagnosis

<table>
<thead>
<tr>
<th>Grade IV</th>
<th>Grade V</th>
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<tbody>
<tr>
<td>UPJ</td>
<td>Reflux</td>
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High chance of surgery

Antibiotic prophylaxis

Resolution over time

Antenatal Torsion Facts

- Antenatal torsion is not rare - Testicular agenesis occurs in 8% of patients with UDT, most thought to be caused by antenatal torsion.
- A palpable testis is rare
- Postnatal exploration = Salvage rate infrequently

Antenatal Torsion Presentation

- Note: Aruni - Typical neonatal presentation
  - Dark scrotum
  - Painless
  - Little scrotal wall changes
- Acute Neonatal Torsion
  - Sweating
  - Tender
  - Entumescence of scrotal wall

- Torsion does NOT occur in boys with one testis

NO ACUTE CHANGES - NO OP
ACUTE CHANGES - EMERGENCY OP

Prenatal Hydronephrosis

Megaureter
Megaureter Long-term Follow-up

Neonate 2 year F/U 10 year F/U

Megaureter Natural History

Neonate 5 year F/U 8 year F/U

Megaureter Natural History

Neonate 2 year F/U 5 year F/U

What's Hot: Non operative Management of Megaureter

Past:
Historically Surgical Repair

Present:
Non-operative
Good Renal Function
Antibiotic Prophylaxis until toilet trained

What’s hot !

Conservative Post Operative Imaging
i.e. No VCUG for mild hydro grade 1 and maybe 2

Little chance for post natal surgery

Hydronephrosis Grade III of less
Pelvic diameter of the Kidney < 12 mm

Who do you need to worry about?

Grade IV Hydronephrosis
Rarely Grade III
Symptoms!
Deterioration on Renal Scans

Unilateral Neonatal Hydronephrosis is a Benign Disease

<25% of Kidneys will Deteriorate on Scan, Washout Not Useful
2 Day old Female Renal Sonogram
Prenatal Diagnosis Hydronephrosis

Age one month VCUG

1 Month Renal Sonogram

Age 6 weeks MAGII I Lasix Renogram

Age 4 months MAGII I Lasix Renogram

7 Months Renal Sonogram
Age 13 month MAGII I Lasix Renogram

18 Months Renal Sonogram

What remains Hot: Non operative Management of ureteropelvic Junction obstruction

Past:
Historically Surgical Repair

Present:
Non-operative
Good Renal Function

What’s Not
Freaking out new parents

Overuse of prophylactic antibiotics

Rare need for emergent post-natal evaluation
Almost all can be done at 4-6 weeks of age
After parental bonding

Watch out for severe bilateral and Valves (thickened bladder)

Treatment of Disorders of Sexual Differentiation

What’s hot ! Accurate Diagnosis
What's hot! Clear imaging
Uterus
Cervix
Vagina
Bladder
Urethra
Confluence
Common Urogenital Sinus

What's hot! Accurate Diagnosis
Severe Hypospadias

What's hot! Accurate Diagnosis
Perineal Hypospadias/Utriculus

What's hot! Accurate Diagnosis
Partial Androgen Insensitivity

What’s hot! Nerve Preservation! Anatomical Reconstruction
Anatomy of the Human Clitoris
24 Weeks Gestation

Male
Female
Consensus statement on the management of intersex disorders
Archives of Disease in Childhood, 2006

Disorders of Sex Development (DSD)
Consensus expert review
Chicago 50 experts intensive meeting

1. Nomenclature
2. Diagnosis
3. Medical Management
4. Surgical Management
5. Outcomes
6. Advocacy
7. Future Research

What’s hot!

What’s not

Irreversible surgery
Forcing a Sex Assignment

Hypospadias

What’s Hot in Hypospadias Surgery
1. Early repair 4-6 months
2. Pediatric Anesthesia
3. Caudal blocks
4. Outpatient Surgery

Technical Advances
1. Preservation of the Urethral Plate
2. Incision of the Urethral Plate
3. Dorsal Midline Plication
4. Deepithelized Urethroplasty Coverage
5. Two Stage Alternative
6. Bracka Buccal for Complications

1. Abnormal Location of the Urethral Meatus
2. Penile Curvature/Chordee
3. Abnormal Foreskin Development
What’s hot in research?

Endocrine Disruptors/ Maternal Environmental Exposure

Increasing Incidence  
Etiology
Genetic Susceptibility

What’s hot!

Accurate Diagnosis of incontinence
 Post potty trained girls

Continual damp with a history of normal voiding

Sonogram and VCUG normal
Except for discrepancy in Kidney size

MRI for Diagnosis
Pathophysiology of Ectopic ureter in females

Vesico-ureteral Reflux

What's Hot in Reflux Treatment
- Same Surgical Indications as Always
  1. Breakthrough pyelonephritis
  2. Persistent high grade reflux

What's Hot in UTI Treatment
- Need for antibiotics in low grade reflux
- Need for VCUG

Treatment of Dysfunctional Elimination Syndrome
Timed Voiding
Miralex
**What’s Hot**

TOP DOWN Approach

DMSA Scan Predicts Renal and Infection Outcome

**Figure 4. Abnormal DMSA scan**

- Failure to resolve surgery
- Improvement in reflux
- No change in reflux
- Breakthrough infection surgery

DMSA performed >4-6 months after infection

**What’s not! Recurrent Pyelo and Renal Scarring**

Early antibiotic therapy for UTI

**What’s not! Screening for Sibling Reflux**

Sonogram at Most

**What’s Hot**

DMSA performed >4-6 months after infection