

Management of Common Paediatric Urological Conditions And When to Refer!

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Background

Genital problems

- Penis
- Testes
- Female

Recurrent UTI's

Vesicoureteric Reflux

Wetting

Hydronephrosis

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Who Am I?

- Consultant Paediatric Urologist in Chelsea & Westminster Hospital
 - Tertiary referral centre for neonatal and paediatric surgery and urology
- Clinical lead for the North West London Paediatric Surgical Network
 - Imperial College/ Hillingdon/ North West London Hospitals/ West Middlesex/ Watford General
- Executive Committee Member of the Society for Fetal Urology

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Robotic Paediatric Urology



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Genital Problems

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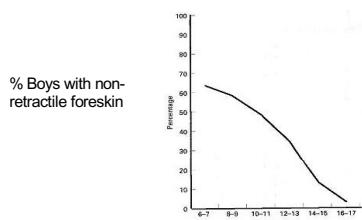
Penis

- Phimosis
- Balanitis
- BXO
- Paraphimosis
- Smegma pearls
- Congenital megaprepuce (buried penis)
- Hypospadias

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Physiological Phimosis

- Foreskin is non-retractile and adherent to glans at birth
- 50% of 2-year-olds have a non-retractile foreskin
- Study of 4000 young men in Denmark (2005): mean age of first foreskin retraction 10.4 years



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Phimosis Management

- 0.1% Betamethasone (Betnovate) cream effective in about 60% if applied properly
- Evidence (Acta Pediatr 2012) suggests 4 weeks sufficient
- Surgical options then preputioplasty or circumcision

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Neonatal/ cultural circumcision

May be performed under penile block (local anaesthetic) up to 6 weeks of age

Various methods: beware of Plastibel and clamps

Ensure normal anatomy!

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Smegma pearls



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Balanitis Xerotica Obliterans (BXO)



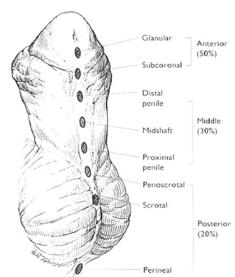
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Paraphimosis



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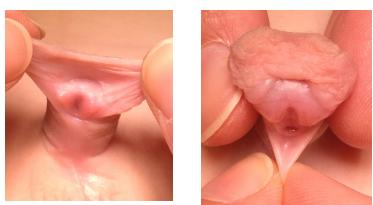
Hypospadias



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Hypospadias

- Surgery in one or more stages (depending on severity and presence of distal urethra) at 1 year of age
- Request karyotype if associated UDT



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Congenital megaprepuce
(true buried penis)



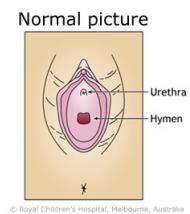
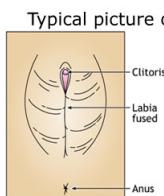
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QUESTIONS?

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Labial adhesions



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Labial adhesions

- Estriol 0.1% cream b.d. for 4 weeks



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Urethral Prolapse (caruncle)



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QUESTIONS?

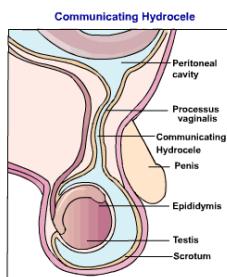
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Groin, scrotum and testes

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Hydrocoele

- Non-tender scrotal swelling
- Can “get above”
- Could fluctuate
- Commonly resolves by 2 years



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Inguinal hernia

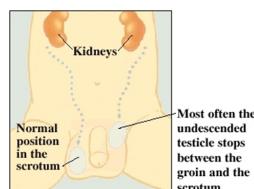
- Beware of high incarceration risk in babies < 1 year – refer even if reducible
- Watch out for prolapsed ovary in girls: needs urgent referral



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Undescended Testis

- 3% at birth; 1% at 6 months
- 3 months: fetal gonocytes transform into adult dark spermatogonia
- Orchidopexy reduces UDT malignancy risk
- Ideal orchidopexy age is 9 months: refer early!
- No investigations required



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Retractile testis

- “Mobile” testis that can be brought down into the scrotum
- Active cremasteric reflex till about 7 years
- Should sit in the scrotum once manipulated
- Annual observation: could “ascend”

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Acute Scrotum



Acute scrotum ?cause

Incarcerated hernia

Idiopathic scrotal oedema

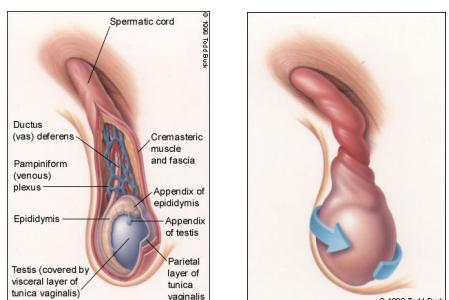
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Differential diagnosis

- Testicular torsion
- Torted hydatid of Morgagni
- Epidymitis
- Incarcerated hernia
- Acute scrotal oedema
- Trauma
- Tumour
- Henoch-Schonlein purpura
- Appendicitis

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Testicular Torsion



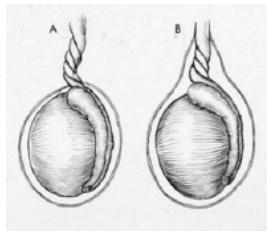
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QUESTIONS?

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Urinary Tract Infections

- Usually male infants admitted with sepsis or girls peri-toilet training
- History:
 - Prenatal
 - Voiding frequency and stream
 - Bowels
 - Family history
- Examination

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Spina Bifida Occulta



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Ensure it's a true febrile UTI

- Fever >38°
- Dipstick: leukocytes and nitrites
- Culture positive
- + Symptoms
- Bag urines have high false positive rate (88%!): valid only when they yield negative results
- *Asymptomatic bacteriuria does not require treatment with antibiotics*

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NICE made easy

- Presentation <3 months
 - Usually need admission for i.v. ab's
 - Acute renal tract ultrasound
 - Discuss with Paediatric Urologist
- Presentation 3-12 months
 - Request ultrasound
 - MCUG and DMSA if abnormal ultrasound or UTI atypical or recurrent: refer early

NICE UTI Guidelines 2007

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Presentation >1 year

- Between 1 year and toilet-training: *unusual*
- *Avoid MCUG if possible*
- Start with ultrasound, check bladder-emptying
- DMSA if ultrasound abnormal or febrile UTI is atypical/ recurrent
- Refer if abnormal results or recurrent

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UTI's in toilet-trained children

- Usually recurrent cystitis – not true febrile UTI's
- If true febrile UTI's – refer
- Otherwise, no imaging! treat bladder dysfunction:
 - Fluid intake
 - Bladder training
 - Toileting position
 - Constipation
 - Avoid antibiotics – advise Cranberry, probiotics, D-Mannose

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NICE Fluid intake guidelines

Age	Sex	Total drinks per day
4–8 years	Female	1000–1400 ml
	Male	1000–1400 ml
9–13 years	Female	1200–2100 ml
	Male	1400–2300 ml
14–18 years	Female	1400–2500 ml
	Male	2100–3200 ml

Nocturnal enuresis: the management of bed-wetting in children and young people
NICE 2010

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sit on the toilet

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QUESTIONS?

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Vesico-ureteric Reflux (VUR)

- Renal dysplasia/ reflux nephropathy commonest cause of ESRF in children (UK Renal Registry 2012)
- Renal scarring is congenital present in up to 40% at presentation
- Scarring less likely to be caused by pyelonephritis

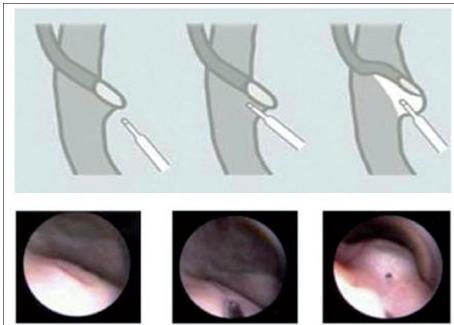
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Initial Management

- Prophylaxis only indicated in Grades III-V (high-grade)
 - Trimethoprim 2mg/kg nocte
- Spontaneous resolution in only 38%
- Risk-factors for non-resolution:
 - Renal abnormality (Duplex, dysplasia, diverticula)
 - Break-through infection
 - Bladder dysfunction

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Deflux injection



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Follow-up

- Conservative:
 - Prophylaxis until out of nappies
- If asymptomatic:
 - Annual BP and urine dipstick if renal scarring
 - Risk of hypertension 10% with unilateral and 20% with bilateral scarring

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Wetting

- Does not need active management <5 years
- Ensure appropriate fluid intake, bowel management and toileting position
- Avoid bladder stimulant drinks: blackcurrant/Ribena/fizzy/ Red Bull/ caffeine
- Stop fluids 2 hours before bed

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Wetting

- Refer if failure of conservative management (allow 6 weeks)
- Night-time wetting
 - Bed-wetting alarm
 - Desmomett 120-240 micrograms nocte
- Overactive bladder symptoms
 - Oxybutynin (MR if >7 years)
 - Solifenacin

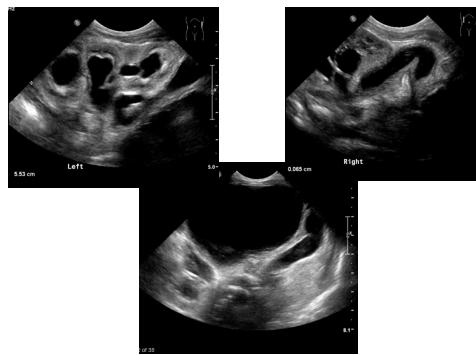
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Hydronephrosis

- Usually prenatally-diagnosed (asymptomatic) or following investigation of UTI's/ other
- Please refer with actual images – APD measurements can be misleading
- Avoid requesting invasive investigations (MCUG/ nuclear med) without consulting a specialist
- Urgent if bilateral or in solitary kidney

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Bilateral ureteric dilatation



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For urgent referrals or to discuss cases, please contact:
On call Paediatric Surgical SpR in C&W on bleep 4441

Prenatal Counselling:
Julia Baker via Antenatal Clinic in C&W

Elective Paediatric Urology referrals: fax to 0203-315-8814

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