

Co-Management of Common Pediatric Urological Problems: First Steps

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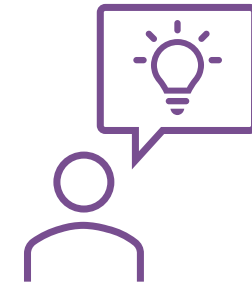
Overview of co-management

- A collaborative approach between disciplines to manage the care of a patient
- Shared responsibility, expertise, and decision-making
- The collaborators coordinate their efforts to develop and implement treatment plans and monitor progress.
- Aim is to improve patient outcomes, enhancing the efficiency of care delivery, and ensuring that patients receive comprehensive and integrated healthcare services.

Pediatric Urology Co-management Topics

Complete	Planned
Foreskin Problems	Enuresis
Undescended Testicles	Non-febrile UTI
Febrile UTI	
Hydronephrosis	

Ideas Welcome



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Subject: Co-management Documents

Organization of co-management documents

Page 1

- Fast Facts
- Key Terms
- Assessment
 - History and Physical Exam Red Flags
- Management

Page 2

- Algorithm, diagrams, photos to clarify concepts
 - Includes “what to expect when patient is seen by Urology”

Phimosis

From the Greek words "phimos" (φῖμός), meaning "muzzle" or "mouth," and "osis" (ῥσις), which denotes a condition or state.

Therefore, "phimosis" literally means "muzzled condition."

Phimosis: Key Terms

Physiologic phimosis: The foreskin doesn't retract fully in uncircumcised babies and toddlers, which is called physiologic phimosis.

Pathologic Phimosis: When the foreskin cannot be retracted because of a scar. Phimosis is diagnosed by gently pulling the foreskin down until it stops and seeing a white, circular scar around the opening of the foreskin.

Phimosis: Key Terms

Incomplete circumcision: When the circumcision leaves the foreskin too long or uneven. In most cases incomplete circumcision results only in an unsatisfying appearance. Rarely, the extra skin leads to a build-up of skin cells (called smegma), inclusion cysts, balanitis (inflammation or infections of the foreskin) or penile adhesions (the penile shaft skin attaches to the head of the penis).

Phimosis: Fast Facts

>95% born with physiologic phimosis

~50% of 3-year-old boys' foreskins can be retracted

~90% of 5-year-old boys' foreskins can be retracted

1-5% of males will have non-retractable foreskins by 16-years-old

Phimosis: HPE (History and Physical Exam)

Urine culture documented UTI

Inability to retract > 5 years-old

Foreskin becomes red, itchy, swollen (balanitis)

Ballooning on urination

Phimosis: Management

Care of the uncircumcised penis

Care of physiological phimosis (steroid ointments)

Indications for circumcision

Indications for circumcision revision

Phimosis: When to refer

Painful voiding, ballooning during urination

UTIs

2 episodes of balanitis

Paraphimosis

Failure of topical steroids

Painful erections, inability to retract in the older boy

Undescended Testicles

Undescended Testis (UDT): Key Terms

Undescended/cryptorchid-testis is not in scrotum and cannot be manipulated into the scrotum

Ectopic-testis is not in scrotum and is not along path of normal descent (may be in thigh or perineum)

Undescended Testis (UDT): Key Terms

Retractile-testis is not in scrotum, but can be manipulated into the hemiscrotum where it remains once traction on the testis is released

Ascended-testis was previously documented as located in the hemiscrotum and is now out of the scrotum

UDT: Fast Facts

3% of boys will present with undescended testis

Diagnostic imaging IS NOT beneficial for locating the testis

2-3% lifetime risk (4X average risk) of testicular cancer if the testis remains in the abdomen

UDT: Fast Facts

12-14 months is the age before which surgical intervention is recommended to help prevent infertility

4 months (corrected for prematurity) is the age after which observation is no longer beneficial, because UDT is unlikely to descend further

UDT: HPE (History and Physical Exam)

Prematurity?

Family history of UDT or Differences of Sex Development

Prior history of inguinal surgery

Examination in sitting position

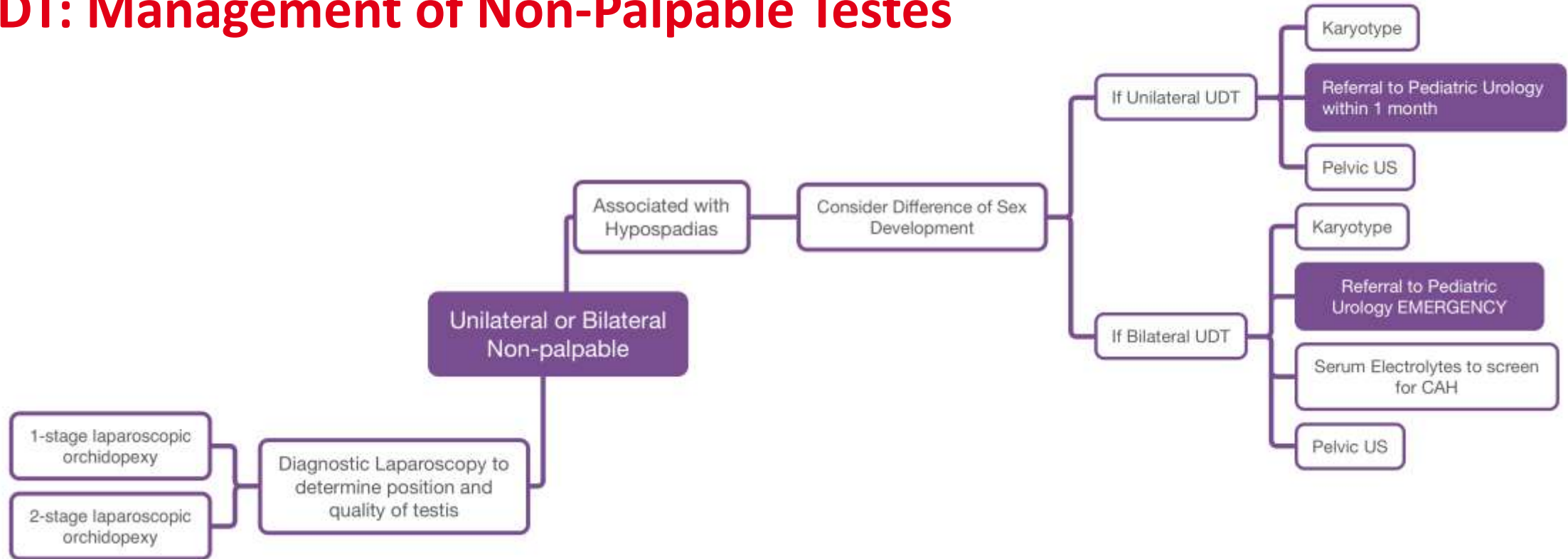
UDT: When to refer

EMERGENCY: UDT + Hypospadias

All boys > 4 months old corrected for prematurity

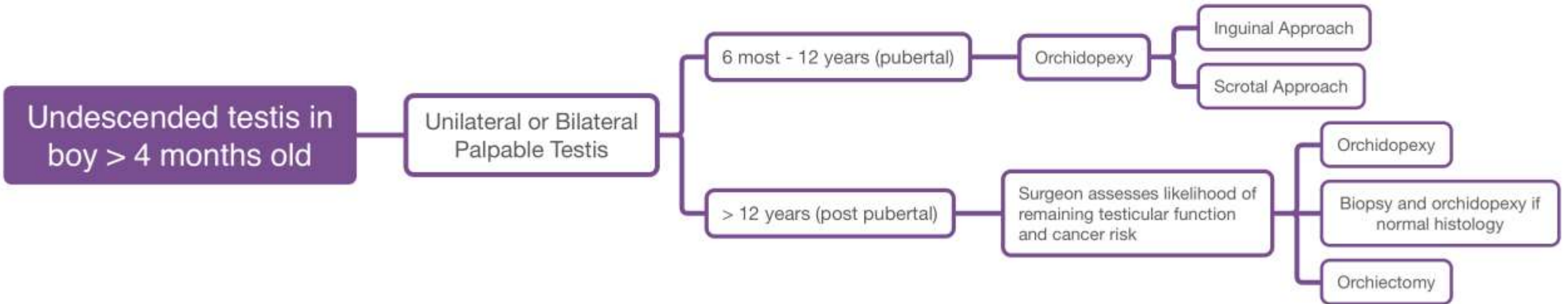
Imaging of VERY little utility

UDT: Management of Non-Palpable Testes



Ultrasounds are NOT Helpful unless evaluating possible difference of sex development

UDT: Management of Palpable Testes



Ultrasounds are NOT Helpful unless evaluating possible difference of sex development

Febrile UTI

Urinary Tract Infection (UTI): Key Terms

A urinary tract infection (UTI) is any inflammatory change in the urinary tract from an infectious agent. UTI is common in the pediatric population, accounting for more than 1.5 million outpatient visits and 13,000 inpatient hospitalizations annually.

UTI occurs in all ages, ranging in severity from lower urinary tract symptoms due to cystitis to life-threatening sepsis due to pyelonephritis.

Urinary Tract Infection (UTI): Key Terms

Urethritis: Urethra

Cystitis: Bladder

Epididymo-orchitis: Testis

Pyelitis: Ureter and renal pelvis

Pyelonephritis: Kidney

UTI: Fast Facts

~3-5% of all children develop UTI annually

>80% of UTI are caused by E. Coli

~12-30% of children will develop a recurrence

UTI: Fast Facts

~15% will have abnormal sonogram

Up to 20% will have high grade vesicoureteral reflux

UTI: Fast Facts – Foreskin and UTI

10x lower risk of UTI in circumcised boys during the 1st year of life

Among uncircumcised boys, the risk of UTI is lower in those with retractable foreskin than in those with non-retractable foreskin

Non-E coli UTI in circumcised males associated with urological abnormalities

UTI: HPE (History and Physical Exam)

Fever > 38C

Toxic appearing?

Urine sample by catheter or midstream

No bagged specimens, poor data drives inappropriate (and perhaps invasive) evaluation

UDT: When to refer

EMERGENCY: Fever + Toxic

UA/Ucx positive

Procalcitonin > 0.5 ng/mL

1st febrile UTI

UTI: Evaluation following fUTI- The Top Down

Procalcitonin > 0.05 ng/mL

Procalcitonin > 0.5 ng/mL

DMSA

DMSA +

VCUG

DMSA -

Stop and wait for 2nd UTI

Renal US, VCUG

Procalcitonin < 0.5 ng/mL

Stop and wait for 2nd UTI

Renal US, VCUG

Hydronephrosis

Hydronephrosis: Key Terms

Any degree of dilation of the renal collecting system detected on imaging studies.

Hydronephrosis can affect one or both kidneys.

Hydronephrosis severity can be classified based upon imaging characteristics.

Hydronephrosis may have many causes and does not always equal urinary obstruction.

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Hydronephrosis: Fast Facts

1-5% of screening ultrasound of expectant mothers show a dilated kidney

30-40% of cases of prenatal hydronephrosis have a pathological cause upon postnatal evaluation with more severe hydronephrosis having a higher risk of pathology

25-33% of prenatal patients with a history of hydronephrosis have pathology meriting surgery

Hydronephrosis: HPE (History and Physical Exam)

High grade hydronephrosis

Pain on same side as hydronephrosis

UTI

Palpable flank mass

Hydronephrosis: When to refer

EMERGENCY: Hydronephrosis with oligohydramnios in either gender,
Bilateral hydronephrosis and hydroureter in male

All others ~ 3rd -4th week of life with a sonogram

Antibiotic prophylaxis for (1) dilated ureters and (2) duplicated kidneys

Thank You!



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