

Penile Anomalies in Childhood

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The Newborn Penis

- Development
 - 9-13 weeks gestation
 - Testosterone and dihydrotestosterone dependent
 - Genital tubercle -> glans penis
 - Genital folds -> penile shaft
 - Genital swellings -> scrotum

- Normal, full-term neonate
 - Stretched penile length 3.5 cm +/- 0.7 cm
 - 1.1 cm +/- 0.2 cm diameter

The Newborn Penis

- Complete foreskin, physiologic phimosis
- Median raphe
 - Deviated 10%
- Penile anomalies
 - Buried penis
 - Webbed penis
 - Torsion
 - Curvature 0.6% male neonates
 - Hypospadias 1:250
 - Epispadias 1:117,000
- Penile anomalies can be associated with anorectal malformations and urologic abnormalities

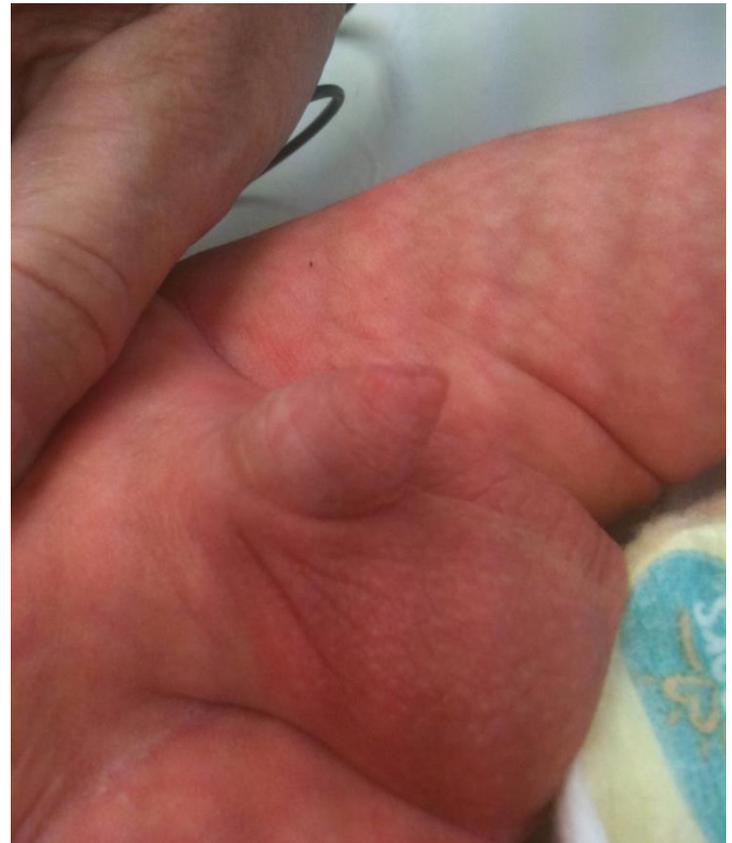
Buried Penis

- Abnormal fascial attachments, deficit in penile skin?
- CONTRAINDICATION TO NEWBORN CIRCUMCISION
- Not MICROPENIS
 - <2cm stretched penile length
 - Hypogonadotropic hypogonadism
 - Testicular failure
 - Androgen receptor defect
 - 5 alpha reductase deficit



Webbed Penis

- Web of skin obscures the penoscrotal junction
- Deficit in ventral preputial skin
- **CONTRAINICATION TO NEWBORN CIRCUMCISION**



Penile Torsion and Wandering Raphe



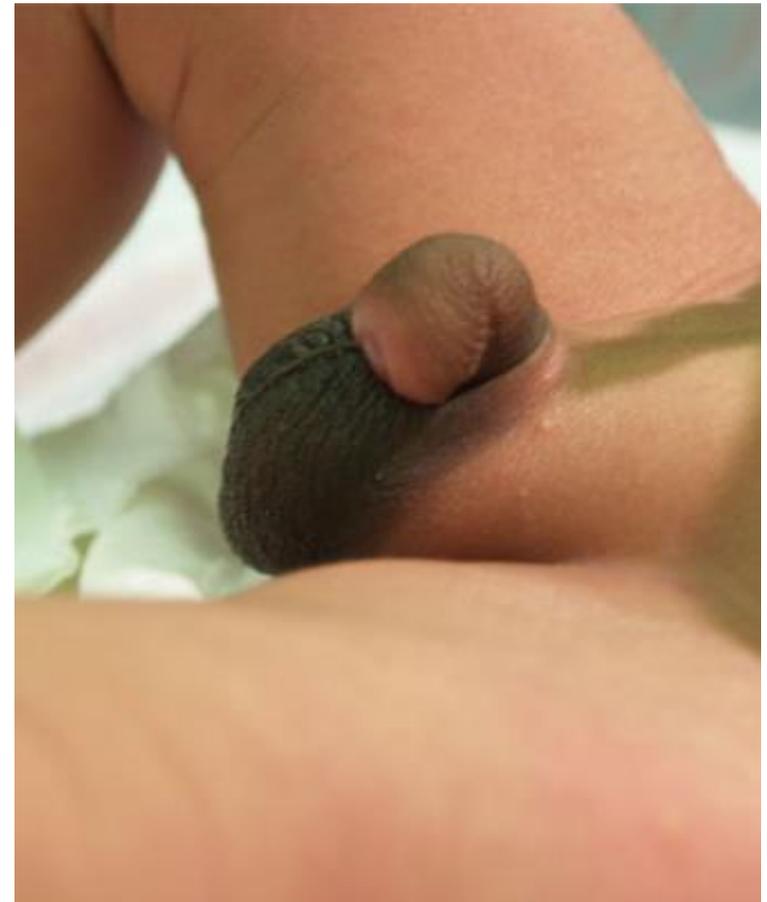
- Counterclockwise
- Abnormal arrangement of penile shaft skin in development
- Surgical repair if >40 degrees

Penile curvature

- 0.6% incidence
- 8.6% penile anomalies
- Often associated with hypospadias

- Can be initially noted in adolescence with erection

- Ventral skin deficiency
- Corporeal disproportion

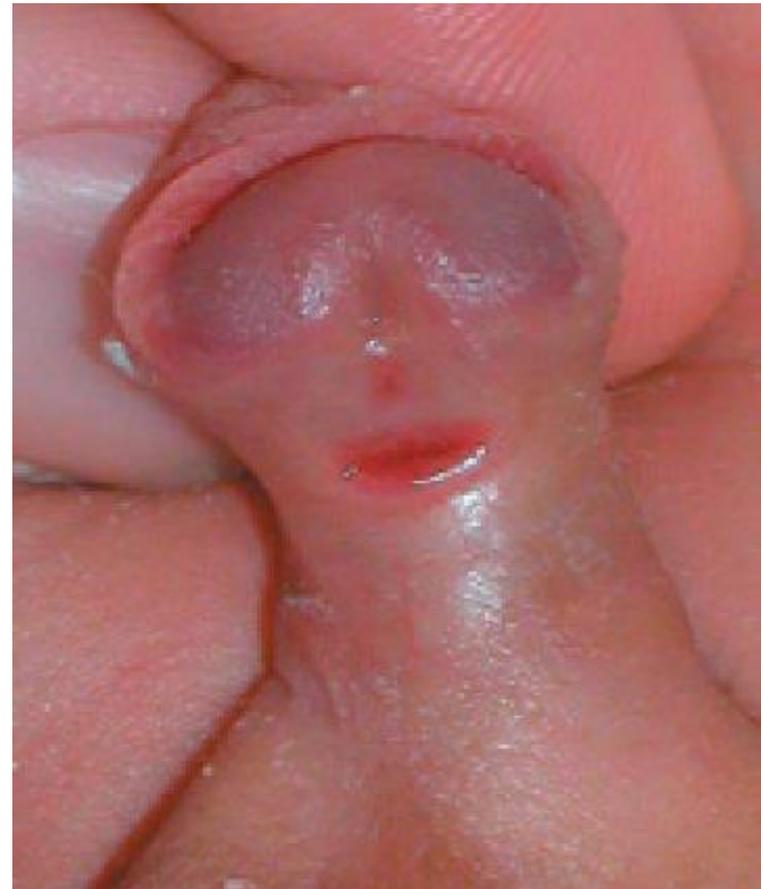


Hypospadias

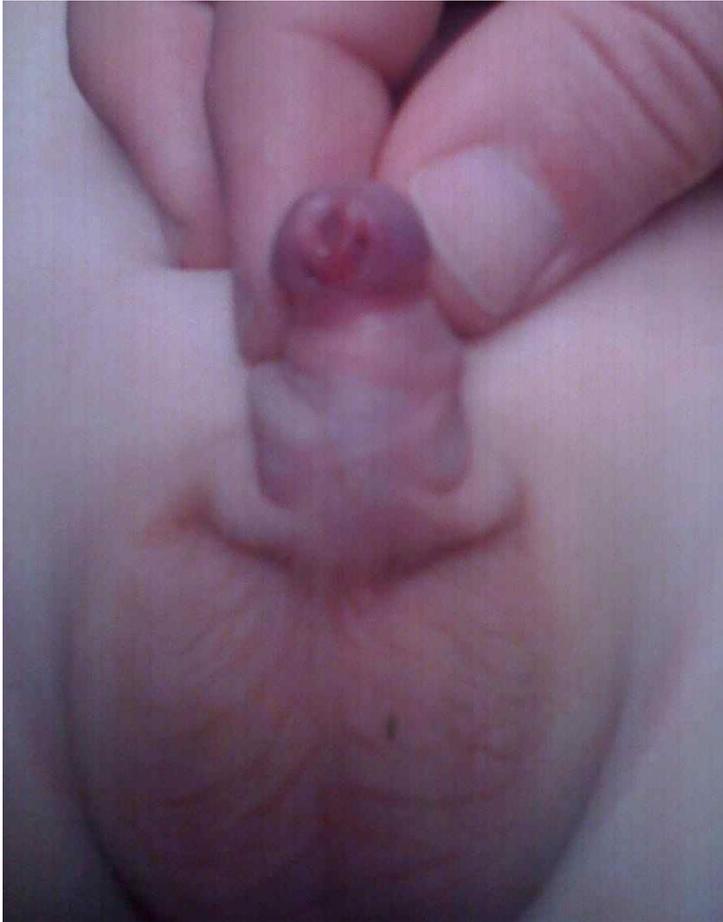
- Incomplete virilization of the pubic tubercle
- Ectopic urethral meatus
- Ventral curvature
- Incomplete foreskin

- Isolated hypospadias does NOT affect fertility

- Surgical intervention dependent upon severity



Hypospadias spectrum



Megameatus Intact Prepuce (MIP)



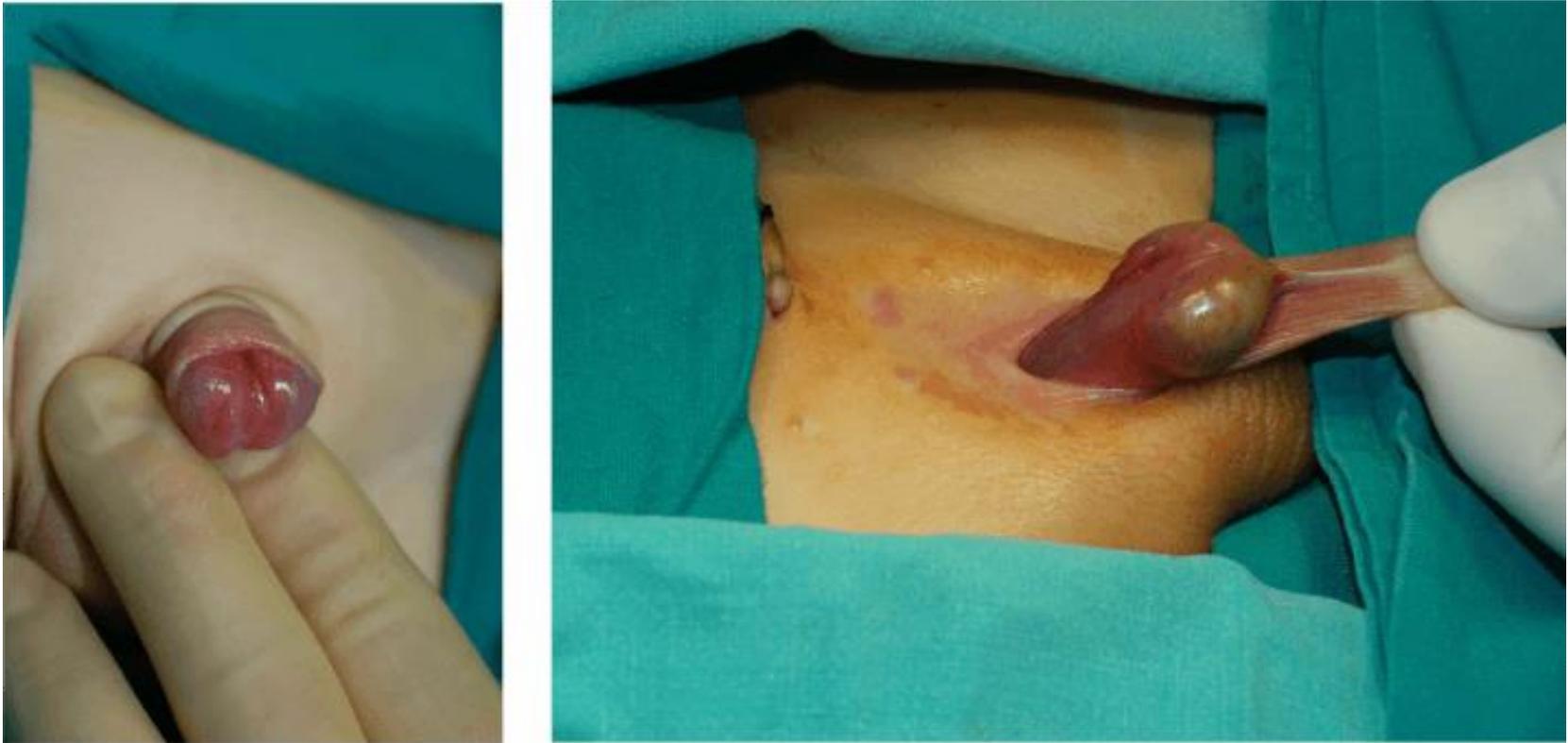
Scrotal Hypospadias

Be Aware of Possible DSD!

- Hypospadias with unilateral or bilateral UDT
 - Chromosomal abnormality
 - Risk of DSD increases with degree of hypospadias and nonpalpable gonad
- Bilateral nonpalpable UDT
 - 46XX
- **NO CIRCUMCISION**

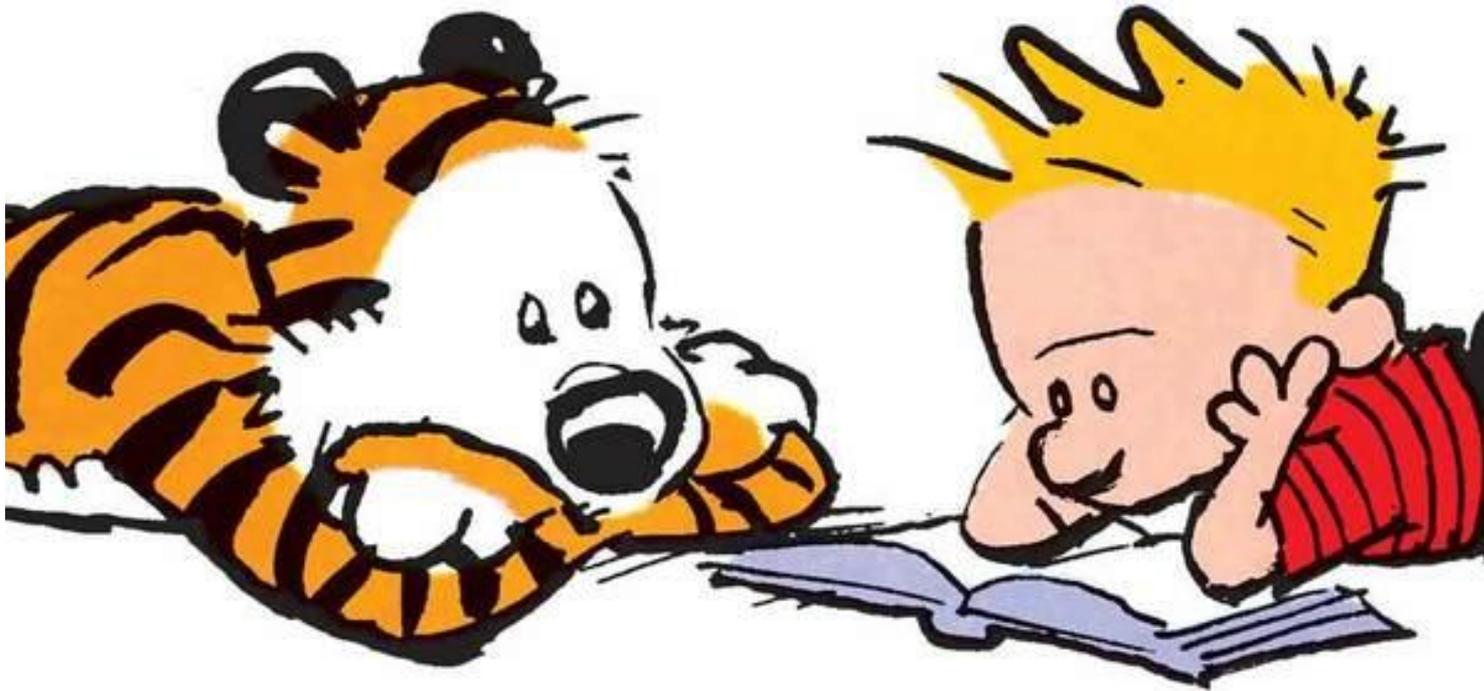


Epispadias (OEIS)



- Least severe of omphalocele, exstrophy, imperforate anus, spinal defects
- Often extends to the bladder neck
- Urinary incontinence common

The Circumcision Decision or Dilemma....



Circumcision: AAP policy statement

- Preventative health benefits of elective circumcision of male newborns outweigh the risks of the procedure
- Well tolerated when performed by trained professionals under sterile conditions.
- Complications are infrequent; severe complications are rare
- Lower complications in newborn than later in life
- Benefits not great enough to recommend routine circumcision for all male newborns
- Justify access to circumcision for families who choose it and warrant insurance coverage

Circumcision: AUA Policy Statement

- Neonatal circumcision has potential medical benefits and advantages as well as disadvantages and risks.
- Generally safe procedure with experienced operator
- Immediate risks: bleeding, infection, penile injury
- Late complications: buried penis, meatal stenosis, skin bridges, chordee and poor cosmesis
- 3% risk minor complications

Circumcision: AUA Policy Statement

- Proper circumcision prevents phimosis, paraphimosis and balanitis
- Markedly decreased incidence of penile cancer in US males
- Decreased incidence of UTI in first 6 months of life

- Reduced STD transmission
 - No effect on syphilis or gonorrhea
 - Decreased HIV transmission in Africa
 - Possible decreased HPV transmission

- “When circumcision is being discussed with parents and informed consent obtained, medical benefits and risks, and ethnic, cultural, religious and individual preferences should be considered.”

The Newborn Penis and the Newborn Nursery

- “Should we choose circumcision?”
 - Parental preference
 - Recommended for GU anomalies
 - Decreased UTIs <6 mon (11 circ to prevent 1 UTI)
 - Potential decrease in STD risk
 - Penile cancer- phimosis, hygiene

- “Can we perform a circumcision?”
 - Penile anomalies
 - ***Ambiguous genitalia***

- Care of the circumcised or uncircumcised penis

After the Newborn Nursery...

Circumcised penis	Uncircumcised penis
Application of vaseline to coronal margin	Physiologic phimosis
Retraction of suprapubic fat pad or shaft until visualization of the coronal margin	NO newborn care
	Manual retraction and replacement of foreskin during potty training
	Retract foreskin with cleaning

Post Circumcision Complications

- Penile adhesions will resolve over time spontaneously
- Penile skin bridges will NOT resolve and required intervention
- Redundant skin
 - Rarely requires intervention, retract suprapubic fat pad to assess
- Meatal stenosis
- Cicatrix
 - Betamethasone treatment, revision of circumcision

Meatal Stenosis

- Deviation of urinary stream
- Pain
- Bleeding

- Circumcised
- Meatal stenosis in 24 of 239 (7.29%)

- Glans in wet diaper
- ?Blood supply

- Meatotomy
 - OR or office



Post Circumcision Complications



Severe and RARE complications



Maybe no circumcision....?



Phimosis

- Physiologic in infancy
- Retraction and replacement of foreskin at potty training
- 10% at 3 years
- 8% at 6 years
- 1% at 16 years
- Adhesions are normal
- Smegma is not infection
- Treatment options:
 - Routine foreskin care
 - Betamethasone topical therapy (80% success)
 - Circumcision



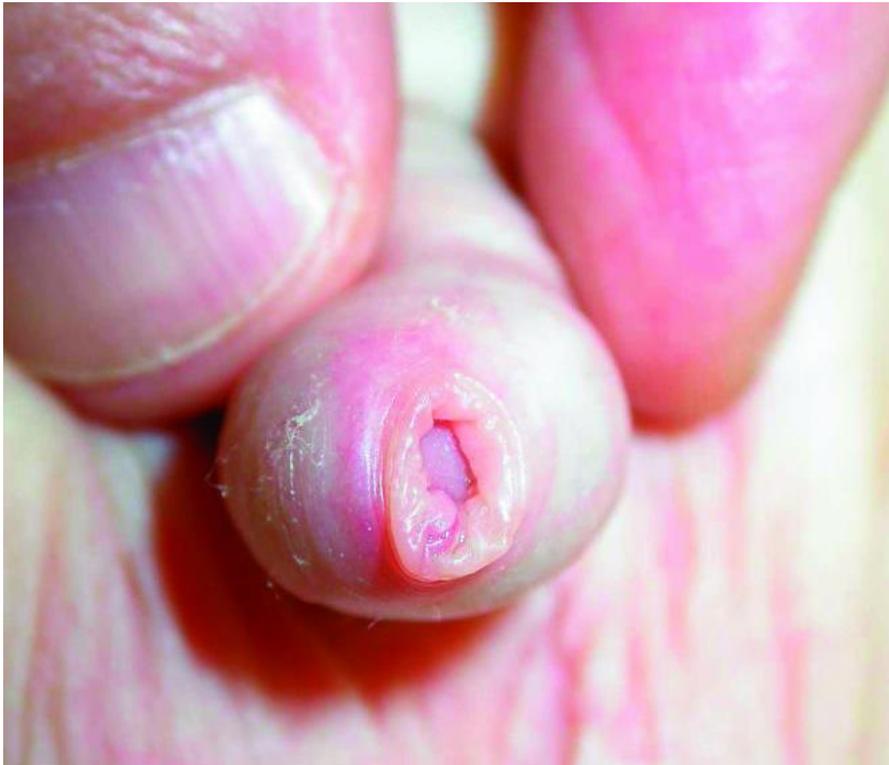
Balanitis

- 3-11% boys
- Sitz baths
- Typically treated topically
- Should initiate a discussion regarding proper foreskin care
- Recurrent balanitis can predispose to pathologic phimosis



PHYSIOLOGIC

PATHOLOGIC



Yale SCHOOL OF MEDICINE

Yale
NewHaven
Health
Yale New Haven
Children's Hospital

McGregor et al, 2007

Paraphimosis



Summary and questions?

- Penile development occurs in the first trimester
- Penile anomalies are common in newborn nursery
- Most penile anomalies do not require complex repair but may be a contraindication to newborn circumcision

- Newborn circumcision is elective but has potential benefits
- Recommend circumcision if urologic anomalies with risk for UTI

- Hypospadias is a wide spectrum and requires long term follow up
- Be aware of DSD risk

- Routine penile care for the uncircumcised penis and the post circumcision penis is the best prevention for complications

References

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