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Chapter 29

The Child with a Genitourinary Condition



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Objectives

- “ Define each key term listed.
- “ Name the functional unit of the kidney.
- “ List four urological diagnostic procedures.
- “ Recognize urinary tract anomalies in infants.
- “ Differentiate between nephrosis and acute glomerulonephritis.
- “ Discuss the skin care pertinent to the child with nephrosis.



Objectives (cont.)

- “ Explain any alterations in diet applicable to the child with nephrosis.
- “ Outline the nursing care of a child who is diagnosed as having Wilms tumor.
- “ Discuss the impact of genitourinary surgery on the growth and development of children at various ages.
- “ Discuss the impact of undescended testes on fertility.



Development of the Urinary Tract

- “ Consists of two kidneys, two ureters, the urinary bladder, and urethra
- “ Function is to rid body of waste products and maintain body fluid homeostasis
- “ Produce a substance (ESF) that stimulates RBC formation in bone marrow and renin, which regulates blood pressure



Development of the Reproductive System

- “ Gender is determined at time of fertilization
- “ Tests to diagnose conditions of the reproductive tract
 - . Pap
 - . Blood tests
 - . Cultures
 - . Ultrasound
 - . Pregnancy



Sexual Abuse in Children

- “ May be manifested by behaviors, such as
- Urinary frequency
 - Excessive masturbation
 - Encopresis
 - Severe nightmare
 - Bedwetting
 - Irritation or pain in genital area
 - Decrease in physical or emotional development



Assessment of Urinary Function

“ Urological diagnostic procedures

- UA
- Ultrasound
- IV pyelogram
- CT scan of kidneys
- Biopsy
- Uroflow
- Cystoscopy
- Voiding cystourethrography
- Cystometrogram
- Urethral pressure



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Commonly Used to Describe Urinary Dysfunction

- “ Dysuria
- “ Frequency
- “ Urgency
- “ Nocturia
- “ Enuresis
- “ Polyuria
- “ Oliguria



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Anomalies of the Urinary Tract



Phimosis

- “ A narrowing of the preputial opening of the foreskin
 - Prevents foreskin from being retracted over penis
 - Corrected by circumcision
- “ Forcible retraction of tight foreskin is avoided because it can lead to paraphimosis
- “ Foreskin cannot be returned to its normal position
- “ Swelling and impaired circulation caused by constriction



Epispadias and Hypospadias

“ Epispadias

- Urinary meatus is on the upper surface of the penis

“ Hypospadias

- Congenital defect in which the urinary meatus is located on the lower portion of the shaft
- May be accompanied by chordee, a downward curvature of the penis from a fibrous band of tissue

“ In mild cases surgery is not indicated

“ Surgery is usually performed before 18 months of age

“ Routine circumcision is avoided in these children, because foreskin may be useful in the repair



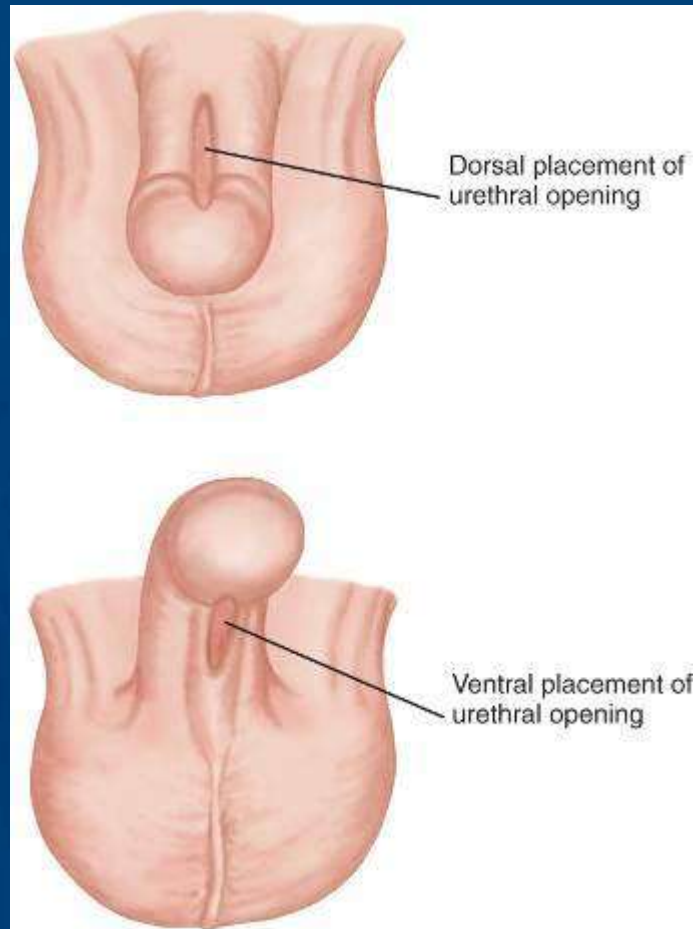
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Epididias and Hypospadias (cont.)





Exstrophy of the Bladder

- “ Lower portion of abdominal wall and anterior wall of bladder are missing
- “ Noticeable by fetal sonogram
- “ Bladder lies open and exposed on abdomen
- “ Urine leaks continually from the bladder and skin becomes excoriated
- “ Bladder covered to protect mucosa
- “ Diapers placed under- rather than on the infant- to protect bladder while allowing urinary drainage
- “ Positioned on the back or side so urine drains freely
- “ Ideally, surgical closure performed within 48 hours of birth



Obstructive Uropathy

- “ Calculi, tumors, strictures, and scarring may cause obstruction
- “ Hydronephrosis
- “ Polycystic kidney
- “ Urinary diversion surgery may be performed
 - Toddler may be unable to attain independence in toilet training
 - School-age child suffers from being different, may have a distorted body image
 - Adolescent may have lowered self-esteem and is concerned about sexuality



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Health Promotion

- “ The bladder capacity of a child can be approximated by the following formula
- “ $\text{Age in years} + 2 = \text{Ounces of bladder volume or capacity}$



Acute Urinary Tract Infection (UTI)

“ More common in girls

- Girls have a shorter urethra, location of urethra is near anus, wearing of close-fitting nylon underwear, bubble baths, retention of urine, and vaginitis

“ Most caused by *E. coli*

“ Normal urine is acidic

- Alkaline urine favors pathogens

“ Terms

- Urethritis
- Cystitis
- Bacteriuria
- Pyelonephritis
- Ureteritis
- Vesicoureteral reflux

Urinary Tract Infection UTI

 (cont.)

- “ Signs and symptoms depend on the age of the child
- “ Treatment
 - Infants under 1 year old are usually hospitalized for IV antimicrobials
 - Older children are treated at home with oral antimicrobials
- “ Parent teaching stresses the need for proper amounts of fluid to maintain sterility and flushing of the bladder



Health Promotion

- “ Interventions to prevent UTI
 - Cleanse perineum with each diaper change
 - Wipe perineum front to back
 - Avoid bubble baths
 - Have child urinate immediately after a bath
 - Use white cotton underwear
 - Use loose-fitting pants
 - Offer adequate fluid intake



Nephrotic Syndrome (Nephrosis)

- “ A number of different types of kidney conditions distinguished by the presence of marked amounts of protein in the urine, edema, and hypoalbuminemia
- More common in boys
 - Seen more in children 2 to 7 years of age
 - May be related to a thymus T-cell dysfunction
 - Prognosis is good in steroid-responsive patients

otic Syndrome (Nephrosis)

 (cont.)

- “ Generalized edema
- “ Weight gain
- “ Pale, irritable, listless
- “ Poor appetite
- “ Blood pressure usually normal
- “ Urine exam reveals massive albumin and a few RBCs
- “ Prone to infection when absolute granulocyte counts fall below 1000 cells/mm^3 (neutropenia)

Nephrotic Syndrome (Nephrosis)

(cont.)

“ Treatment

- Steroids to reduce proteinuria and edema
 - “ Steroids mask infection; therefore, it is important to monitor the child for signs of infection
- Prevent medication toxicity
- Diuretics have not been effective in reducing nephrotic edema
- Avoid adding salt to foods whenever edema is present
- Fluids generally are not restricted except when massive edema is present

otic Syndrome (Nephrosis)

(cont.)

“ Nursing care

- Supportive care to parents and child
- Parent instructed to keep daily record of the child's weight, urinary protein levels, and medications
- No vaccinations or immunizations should be administered while the disease is active or during immunosuppressive therapy
- Positioning
- Strict monitoring of I&O
- Daily weight and protection from infection



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Safety Alert

“ A child recovering from nephrotic syndrome should not receive any vaccinations or immunizations while the disease is active and during immunosuppressive therapy.



Acute Glomerulonephritis

- “ Allergic reaction (antigen-antibody) to group A beta-hemolytic streptococcal infection
- “ Antibodies produced to fight invading organisms also react against glomerular tissue
- “ Both kidneys usually affected
- “ Mild cases generally recover within a couple of weeks



Wilms Tumor (Nephroblastoma)

- “ Embryonal adenosarcoma is thought to have a genetic basis
- “ Most discovered before age 3 years
- “ One of the most common malignancies of early life
- “ Few or no symptoms during the early stages of growth
- “ Abdominal mass usually found by parent or during routine health checkup



Wilms Tumor (cont.)

- “ IV pyelogram reveals a growth, tumor compresses kidney tissue, usually encapsulated
- “ May cause hypertension
- “ Until the tumor has been surgically removed, abdominal palpation must not be performed
- “ A sign above the bed and a notation on the chart must clearly state no abdominal palpation



Kidney Tumor (cont.)

“ Treatment

- Combination of surgery, radiation, and chemotherapy
- Affected kidney and tumor are removed as soon as possible after diagnosis confirmed

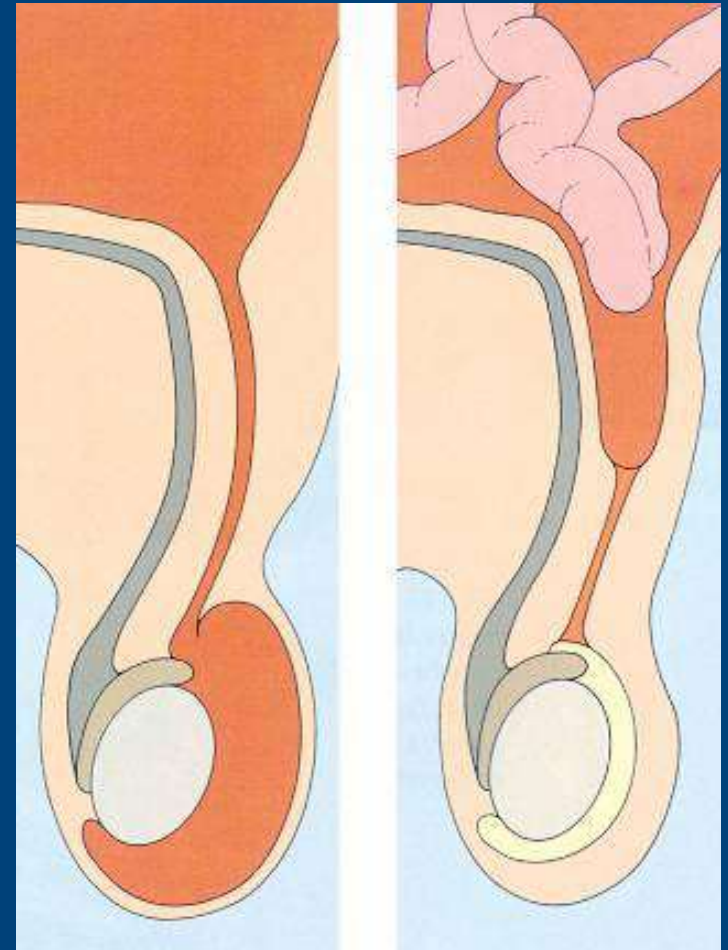
“ Nursing care

- Preoperative
- Avoid abdominal examination by caregivers
- Routine postoperative care



Hydrocele

- “ Excessive amount of fluid in sac that surrounds the testicle
- “ Causes scrotum to swell
- “ Chronic hydrocele that persists beyond 1 year is corrected by surgery





Cryptorchidism

- “ Testes fail to descend into the scrotum
- “ Unilateral form is more common
- “ Testes are warmer in abdomen, sperm cells begin to deteriorate
- “ If both testes are involved, sterility can result
- “ Often accompanied by inguinal hernia
- “ Testes continue to secrete hormones directly into the bloodstream, so secondary sex characteristics are not affected

Cryptorchidism (cont.)



“ Treatment

- Hormonal management before surgery consists of the administration of human chorionic gonadotropin (hCG)
- May precipitate descent of the testes into the scrotal sac
- Orchiopexy improves the condition, fertility rate among these patients may be reduced
- Increased risk of testicular tumors as the child reaches adulthood

Cryptorchidism (cont.)



- “ Nursing care
 - Scrotal support
 - Prevent contamination of suture line
 - Teach testicular self-exam
 - Psychological and emotional support
 - Surgery on % private parts+can be embarrassing
 - Nurse assures the child that his penis will not be affected



of Urinary or Genital Surgery on Growth and Development

- “ Between 3 and 6 years of age, the child becomes curious about sexual differences and may masturbate
- “ Surgical interventions during this stage of development require guidance and preparation in order to minimize negative impact on growth and development



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Question for Review

“ What daily nursing assessment should be omitted in a child diagnosed with a Wilmsq tumor?



REVIEW

- “ Objectives
- “ Key Terms
- “ Key Points
- “ Online Resources
- “ Review Questions