Urinary Catheterization

Chapter 30

Fundamentals Nursing Skills and Concepts

Altered Urinary Elimination

- Urinary catheterization with straight and indwelling catheter
  - Male
  - Female
- Removal of indwelling catheter
- Closed and open intermittent catheter irrigation
- Suprapubic catheter care

Altered Urinary Elimination

- Physiological support
  - Invasive procedure
- Psychological support
  - Apprehension
  - Body image changes
- Competent/Sensitive

Anatomy and Physiology of Urinary Tract System

- Two kidney—form urine from the blood
- Two ureters—tubes that conduct urine from the kidneys to the bladder
- One urinary bladder—temporary reservoir for urine
- One urethra—tube that conducts urine from the bladder to the outside of body via urinary meatus

Urinary Catheterization

- Placement of catheter through the meatus into the urethra and up to bladder to remove urine
- Sterile procedure
- Requires physician order

Use of Urinary Catheters

- Measure accurate intake and output
  - Fluid imbalance
  - Post-op
- Urinary retention
  - Obstruction
  - Trauma
  - Post-op
  - Paralysis
  - Incontinence

Complications of Retained Urine

- Increase risk of UTI
  - Urosepsis
- Urine reflux
  - Kidney damage
- Bladder rupture

Types of Urinary Catheters

- External catheter
- Straight catheter
- Indwelling or retention catheter
- Suprapubic catheter

Urinary Catheter Lumens

- One lumen
  - Intermittent catheterizations
  - No balloon
- Two lumen
  - Indwelling catheterization
  - One lumen to drain urine
  - One lumen to inflate balloon for retention

Urinary Catheter Lumens

- Three lumen
  - Continuous bladder irrigation
  - Instillation of medication
  - One lumen to drain urine
  - One lumen to inflate balloon
  - One lumen to irrigate or instill medication

Urinary Catheters

- Available
  - Variety of sizes
  - Usual adult size #14-16 Fr
  - Minimize trauma and risk of infection
  - Infant size #5-6 Fr
  - Child size #8-10 Fr
  - Size printed on catheter port

Urinary Catheters

- Balloons range in size
  - 5ml balloon to 30 ml balloon
  - Usual adult size 5-10 ml
  - Larger sizes have been associated with ulceration of the bladder and urethra
  - Large balloon may increase risk of infection
  - Size of balloon printed on catheter port

Risk for Infection

- Long term catheterization should be avoided due to increased risk of UTI
- Indwelling urinary catheters—most prevalent cause of hospital acquired infections in the U.S.
- S/S of UTI
  - Fever
  - Chills
  - dysuria

Risk for Infection

- Frequent voiding in small amounts
- Dull or aching back, lower abdomen, groin, or flank pain
- Cloudy urine
- Bloody urine
- Foul-smelling urine

Catheter Care

- Change catheters
  - Leaking
  - Blockage
  - Before obtaining a sterile specimen for culture
- Daily catheter care
- Always keep drainage bag below level of bladder—in sitting, standing, or lying position
- Never place drainage bag on floor

Catheter Care

- Document
  - Amount
  - Color
  - Consistency
- Check for any kinks
- Avoid pressure on tubing

Assessment Prior to Catheterization

- Past history of catheterization
  - Any previous catheterizations
  - Size of catheter
  - Any difficulties
- Check for allergies
  - Latex
  - Betadine

Assessment Prior to Catheterization

- Patient's knowledge of procedure
- Assess patient's weight, mobility of lower extremities, LOC, and ability to cooperate
- Inspect perineal region
  - Discharge
  - Swelling
  - Erythema

Catheter Insertion

- Explain procedure to patient
- Provide privacy
- Supply adequate lighting
- Apply clean gloves
- Wash perineal area if needed
- Remove gloves
- Wash hands

Catheter Insertion

- Closely observe instructor's demonstration
- Illustration—Fundamentals Nursing Skills and Concepts, pg. 723, Skill 30-3
- Check physician's order
- Wash hands
- Gather supplies—check for any tears and expiration date
- Check allergies

Documentation

- Type and size of catheter inserted
- Amount of fluid used to inflate balloon
- Specimen collection—if applicable
- Color, consistency, and amount of urine obtained
- Patient’s response to procedure

Removal of Indwelling Catheter

- Clean technique required
- Goal—prevent trauma to the urethra
- Monitor first void after catheter removal
  - Amount, color, and consistency
  - Time
  - Any difficulties
- If catheter was placed for patient with difficulty emptying bladder—monitor output 24-48 hr

Removal of Indwelling Catheter

- Instruct patient to report
  - Abdominal pain or distention
  - Sensation of incomplete emptying
  - Incontinence
  - Constant dribbling of urine
  - Voiding in very small amounts

Assessment Prior to Removal of Indwelling Catheter

- Check physician's order
- Note amount, color, and consistency of urine prior to removal
- Note any perineal discharge or erythema
- Check amount of fluid used to inflate balloon
- Indwelling catheter increased risk of UTI
- Instruct patient on S/S of UTI

Removal of Indwelling Catheter

- Closely observe instructor’s demonstration
- Check physician’s order
- Wash hands
- Gather supplies
- Explain procedure to patient

Removal of Indwelling Catheter

- Provide privacy
- Apply clean gloves
- Wash perineal area if needed
- Remove gloves
- Wash hands

Documentation

- Note time catheter removed
- Amount of urine obtained on I&O
- Note any patient teaching and understanding by the patient

Urinary Catheter Irrigation

- Maintain catheter patency
- Instill medication
- Intermittent
  - prn
- Continuous
  - Continuous infusion of a sterile solution into bladder

Urinary Catheter Irrigation

- Closed catheter irrigation
  - Maintains sterile connection of catheter and tubing
- Open catheter irrigation
  - Breaks the seal of the closed system
  - Strict sterile technique is required

Urinary Catheter Irrigation

- Continuous bladder irrigation
  - Triple lumen catheter
  - Closed irrigation system
  - Genitourinary surgery—keep bladder free of blood clots and sediment—prevent catheter blockage

Assessment Prior to Catheter Irrigation

- Verify physician's order
- Type and amount of irrigation
- Note type of catheter in use
- Palpate bladder for distention or tenderness
- Note any bladder pain or spasms
- Note urine amount, color, clarity, and presence of mucus, clots, or sediment

Closed Intermittent Urinary Catheter Irrigation

- Closely observe instructor's demonstration
- Illustration—Fundamental Nursing Skills and Concepts, page 733, Skill 30-5
- Wash hands
- Gather supplies—check for tears and expiration date
- Explain to patient
- Provide privacy

Evaluation

- Measure actual urine output
- Note that catheter is draining
- Inspect urine for clots and sediment
- Assess pain level
- Monitor temperature
- Observe for kinks or pressure on tubing
- Instruct patient to inform you of any increased pain or bladder fullness