GU Assessment, Diagnosis and Case Studies

Jami Windhorn, RN BSN
SOAR Session #7
GU System

- **Kidneys**: Ultrafiltration of the blood, maintain water and electrolyte homeostasis
- **Pelvicalyceal systems**: urine collection
- **Ureters**: transport urine
- **Bladder**: stores urine
- **Urethra**: voiding of urine
Nursing Assessment History – Female

• Menstrual and Obstetric History
• Vaginal Discharge
• Painful and/or frequent urination
• Incontinence
• Nocturia
• Abdominal and/or flank pain
• Family History of GU problems
• Overall Medical History
• Current Medications
Nursing Assessment History - Male

- Urethral Discharge
- Incontinence
- Testicle Pain
- Pain and/or Frequent Urination
- Abdominal and/or Flank Pain
- Nocturia
- Family History of GU Problems
- Overall Medical History
- Current Medications
Nursing Assessment – Male and Female

• Fever? Chills? Nausea? Vomiting?
• Diarrhea? Constipation?
• Decrease in Appetite?
• Weight Loss?
• Peripheral Edema
• Urine output
Nursing Assessment

• **Inspection:** Edema? Scars? Genital or Urethral Discharge?

• **Palpation:** Suprapubic tenderness? Bladder Distention?
  Abdominal tenderness or masses? Kidney Enlargement?

• **Percussion:** Bladder Distention
GU Diagnosis
Urinary Tract Infection

Causes:

* Improper wiping technique in women brings bacteria from the rectum up towards to the urethra

* Not drinking enough fluids

* Diabetes

* Pregnancy

* Kidney Stones

* Enlarged prostate
Urinary Tract Infection

• **Symptoms:**
  * Burning with urination
  * Urinary urgency
  * Cloudy and/or foul smelling urine
  * Flank pain
  * Fever
  * Nausea and vomiting
Urinary Tract Infection

• Diagnosis:
  * Urinalysis

• Treatment:
  * Antibiotics
  * Drinking lots of water
  * Urinate often
Urinary Incontinence

• Loss of bladder control

• Severity of urinary incontinence ranges from occasionally leaking urine with coughing or sneezing to having an urge to urinate that's so sudden and strong you don't get to a toilet in time.
Urinary Incontinence

• **Stress Incontinence:** loss of urine when coughing, sneezing, laughing or lifting something
  * Sphincter muscle of the bladder is weak due to pregnancy, childbirth or removal of prostate gland

• **Urge Incontinence:** sudden urge to urinate followed by an involuntary release of urine
  * Caused by UTIs, stroke, Alzheimer’s disease
Urinary Incontinence

• **Overflow Incontinence:** frequent dribbling of urine
  * Caused by damaged bladder, multiple sclerosis

• **Mixed Incontinence:** combination of other forms of incontinence

• **Functional Incontinence:** due to a physical or mental impairment
  * unable to unbutton pants quickly enough to get on the toilet

• **Total Incontinence:** continuous leaking of urine
Acute Renal Failure

• Kidneys suddenly stop working due to:
  * Sudden decrease in blood flow to the kidneys due to trauma or serious infection
  * Damage from medicine, poison or infection – Antibiotics, Pain meds or blood pressure medications
  * Blockage stopping urine from flowing out of the kidneys – kidney stones or tumor
Acute Renal Failure

• Risk Factors:
  * Older Adult
  * Long term health problems – Kidney or liver disease, diabetes, high blood pressure
  * Extreme Illness
  * Heart or Abdomen surgery
  * Bone Marrow Transplant
Acute Renal Failure

• Symptoms:
  * Decreased urine output
  * Leg and pedal edema
  * Poor appetite
  * Nausea and vomiting
  * Confusion, Anxiety, Restless or sleepy
  * Flank pain
Acute Renal Failure

• Diagnosis:
  * CMP
  * Ultrasound
  * Health history
Acute Renal Failure

• **Treatment:**
  * Treat the disease causing the renal failure
  * Dialysis
  * Antibiotics
  * Low Sodium, Potassium and Phosphorus diet
Chronic Renal Failure

- Poor kidney function over an extended period of time, symptoms may not be present for 30+ years

- Nephrons become damaged over time and eventually the healthy ones are unable to compensate for the damaged ones
Chronic Renal Failure

• Risk Factors:
  * High blood pressure
  * Diabetes
  * Kidney infection
  * Polycystic kidney disease
  * Narrow or blocked renal artery
  * Long term use of NSAIDs
Chronic Renal Failure

• Symptoms:
  * Decreased urine output
  * Edema
  * Fatigue
  * Poor oral intake
  * Nausea and vomiting
  * Insomnia
Chronic Renal Failure

• Diagnosis:
  * CBC, CMP, Glomerular filtration rate
  * In-depth health history
  * Renal Ultrasound or CT
  * Renal Biopsy
Chronic Renal Failure

• Treatments:
  * Treat the disease causing renal failure
  * Maintain blood pressure and blood sugars in the healthy range
  * Exercise
  * Dialysis
  * Medications
  * Kidney Transplant
Hemodialysis

- Utilizes a man made membrane to remove wastes from the blood, restore the electrolyte balance and eliminate extra fluid from the body
- Used in acute and chronic renal patients
- Utilizes a fistula, graft or venous catheter to filter the blood
- Can be done in a center or at home
- Process takes 3-5 hours 3-5 times a week
Hemodialysis
Hemodialysis

- **Risks:**
  - Hypotension
  - Muscle cramps
  - Arrhythmias
  - Nausea, vomiting, headache or confusion
  - Infections
  - Blood clot in the catheter
Hemodialysis

• Complications:

* Anemia: treated with Erythropoietin and given during dialysis along with Iron supplements

* Bone Disease and Calcifications: loss of bone minerals during dialysis can cause calcifications in the feet, intestines and heart

* Itching: treat with benedryl

* Cramps: dialysis causes rapid fluid and electrolyte shifts in and out of muscles causing nighttime cramps, treated with Vitamin E
Hemodialysis

• Another consideration when a patient is on Hemodialysis is what medications are dialyzed out during their cycles

• See Handout “Is this Drug dialyzed?”
CAUTI

• Catheter Associated Urinary Tract Infection

• According to CDC, “UTI’s are the most common type of healthcare associated infection reported to the National Healthcare Safety Network (NHSN). Among UTI’s acquired in the hospital, approximately 75% are associated with a urinary catheter”

• Centers for Medicare and Medicaid Services (CMS) have ruled that hospitals will no longer be reimbursed for treatment of any Hospital Acquired Infections including CAUTI

• All CAUTI’s are reported to NHSN
CAUTI Prevention (CDC)

- Insert catheters only for appropriate indications
- Leave catheters in place only as long as needed
- Ensure that only properly trained persons insert and maintain catheters
- Insert catheters using aseptic technique and sterile equipment (acute care setting)
- Following aseptic insertion, maintain a closed drainage system
- Maintain unobstructed urine flow
- Practice hand hygiene and standard (or appropriate isolation) precautions according to CDC HICPAC guidelines
Appropriate Urinary Catheter Uses

• Acute urinary retention
• Need for accurate measurements of Urine output in ICU patients
• Perioperative for urologic or abdominal surgeries
• Assist in healing of sacral or perineal wounds in incontinent patients
• Patients requiring prolonged immobilization ex. Pelvic fracture
• End of Life Comfort Care
Inappropriate Urinary Catheter Uses

- Incontinence
- Collecting urine for UA or Culture when patient can void
- Post-operatively for non-urethral or abdominal surgeries
GU Case Studies
• John is a 45-year-old dairy farmer was admitted with possible heat stroke and confusion. John has been working 13-14 hour days in 95-degree weather. Additionally, three months ago, he was in an automobile accident where he sustained severe muscle injury due to crushing injuries. He sustained substantial blood loss as a result of the accident.

• His initial assessment is that he is somewhat confused, weak, and swollen ankles. He is tachycardic at 108 and somewhat irregular. In his periods of coherence, he admits that he is thirsty and did not drink water while he was working nor did he wear sunscreen.

• His medication profile is OTC ibuprofen 3-4 capsules daily for lingering pain from the accident, and that is all he can remember. He does not remember if he has voided recently. VS in ER are BP 122/58, R 22, T 99.8, HR is 104. His lab values are as follows: Na 148, K 5.5, BUN 45, Creatine 2.2, Glucose 108, WBC 14.6, Hemoglobin 17.3, Hematocrit 51, Platelets 255.
GU Case Study #1

• What type of renal failure do you think John has?
• What factors contribute to John’s renal failure?
• What would your treatment plan include?
• What is some discharge teaching John should receive?
GU Case Study #2

- A 78-year-old patient admitted with a stroke 2 days ago has developed a strong urinary tract infection. His Foley catheter is draining urine that is cloudy, dark yellowish-orange with a strong odor. Strands of pus are also visible in the urine.

- He is on an intravenous heparin infusion and has a history of type 2 diabetes. The physician orders co-trimoxazole (Bactrim), and phenazopyridine (Pyridium).
GU Case Study #2

- What type of UTI does he have?
- What are the purposes of the medications ordered?
- What should be assessed before giving Bactrim?
- Should the Foley be removed?
- Does this UTI need reported?
QUESTIONS???