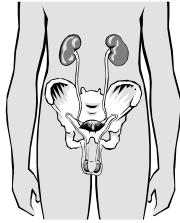


**COLLECTING,  
PROCESSING & TESTING  
URINE SPECIMENS**



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**Anatomy & Physiology of the  
Urinary System**

- 2 kidneys
  - nephrons, functional units
  - glomerular filtration
  - reabsorption / secretion
- 2 ureters
- Bladder
- Urethra



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**OBTAINING SPECIMENS  
SPECIMEN TYPES**

- UA 95% water, 5% waste
- Random UA
- First morning UA
- Clean-Catch Midstream UA (CCUA)
- Timed UA
  - 24 hr, quantitative & qualitative
- Catheterization (> 50ml residual abnormal)
  - straight
  - Foley, indwelling
- Chain of Custody



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## Quality Control, Preservation & Storage

- Containers
- Labeling
- Patient education
- Preservation
  - 1 hour at room temperature
  - refrigeration
    - sediment
    - specific gravity
  - return to room temperature



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## Urinalysis

- Physical
  - color & turbidity
  - volume (24 hr average 1250 ml)
  - odor
  - specific gravity (normal range 1.005 - 1.030)
    - urinometer, refractometer, dipstick
- Chemical
  - reagent strips or tablets
  - automated photometry
- Microscopic
  - centrifuge, microscope



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## Medical Terms Relating to the Urinary System

- Nocturia
- Enuresis
- Turbidity
- Oliguria
- Anuria
- Ketone bodies
- Urinary pH (4.5 - 8.0 normal range)



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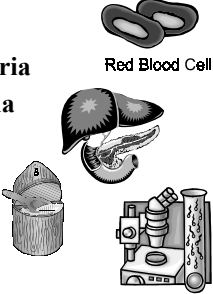
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## Medical Terms Relating to the Urinary System

- Hematuria
- Hemoglobinuria
- Myoglobinuria
- Bilirubinuria
- Urobilinogen
- Glycosuria
- Proteinuria
- Nitrite



Red Blood Cell

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## Medical Terms Relating to the Urinary System

- Leukocytes (0-8 WNL)
- Erythrocytes (0-3 WNL)
- Phenylketones (PKU)
- Cells: epithelial, WBC, RBC
- Casts
- Crystals
- Yeast
- Bacteria (*Escherichia coli*)
- Parasites (*Trichomonas vaginalis*)



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- Properly collect, processed, & tested urine specimens provide valuable information regarding health and illness.
- The urinary system works with other body systems to maintain homeostasis.
- The medical assistant plays a vital role in patient education, specimen integrity, and quality health care.



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