

*Tikrit University*

*College of Nursing*

*Basic Nursing Sciences*



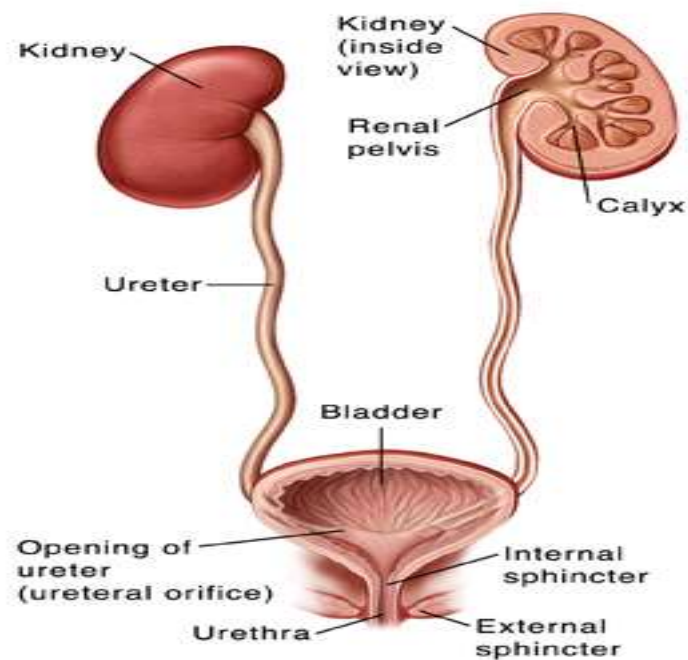
**Second Year - 2023-2024**

**Adult Nursing**

**Head-to-Toe Assessment: Urinary Assessment**

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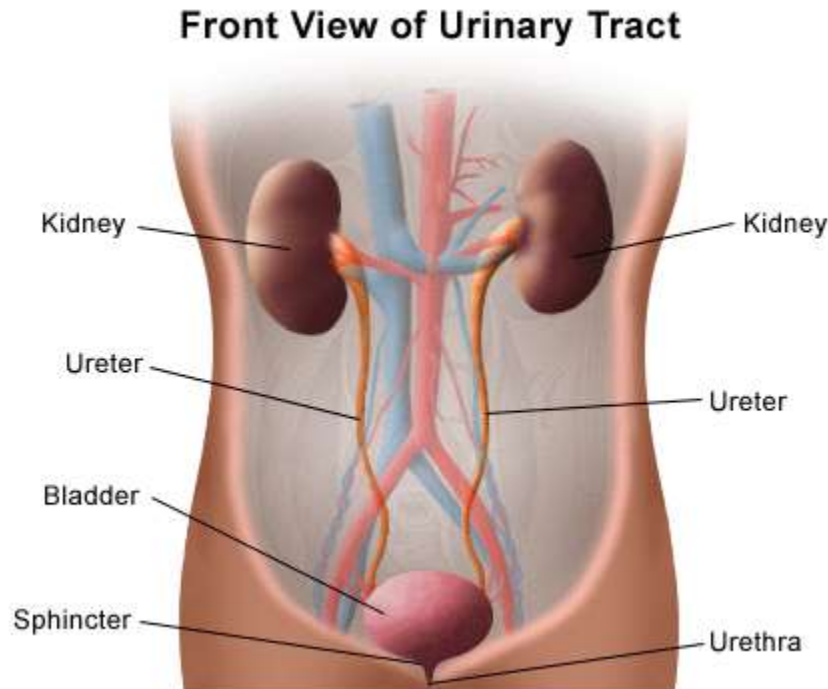


Safety considerations:

- Perform hand hygiene.
- Introduce yourself to patient.
- Confirm patient ID using two patient identifiers (e.g., name and date of birth).
- Explain process to patient.
- Be organized and systematic in your assessment.
- Use appropriate listening and questioning skills.
- Listen and attend to patient cues.
- Ensure patient's privacy and dignity.
- Document according to your agency's policies and guidelines.

## How does the urinary system work?

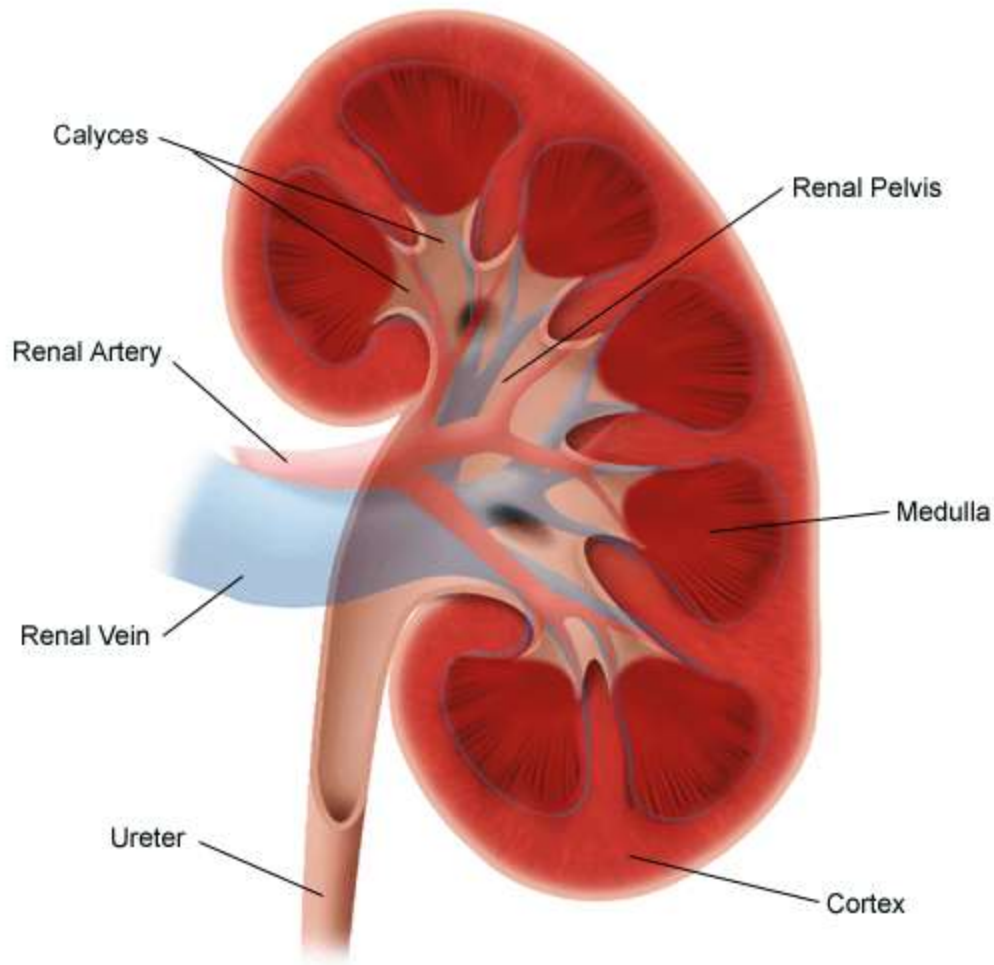
The urinary system's function is to filter blood and create urine as a waste by-product. The organs of the urinary system include the kidneys, renal pelvis, ureters, bladder and urethra.



The body takes nutrients from food and converts them to energy. After the body has taken the food components that it needs, waste products are left behind in the bowel and in the blood.

The kidney and urinary systems help the body to eliminate liquid waste called urea, and to keep chemicals, such as potassium and sodium, and water in balance. Urea is produced when foods containing protein, such as meat, poultry, and certain vegetables, are broken down in the body. Urea is carried in the bloodstream to the kidneys, where it is removed along with water and other wastes in the form of urine.

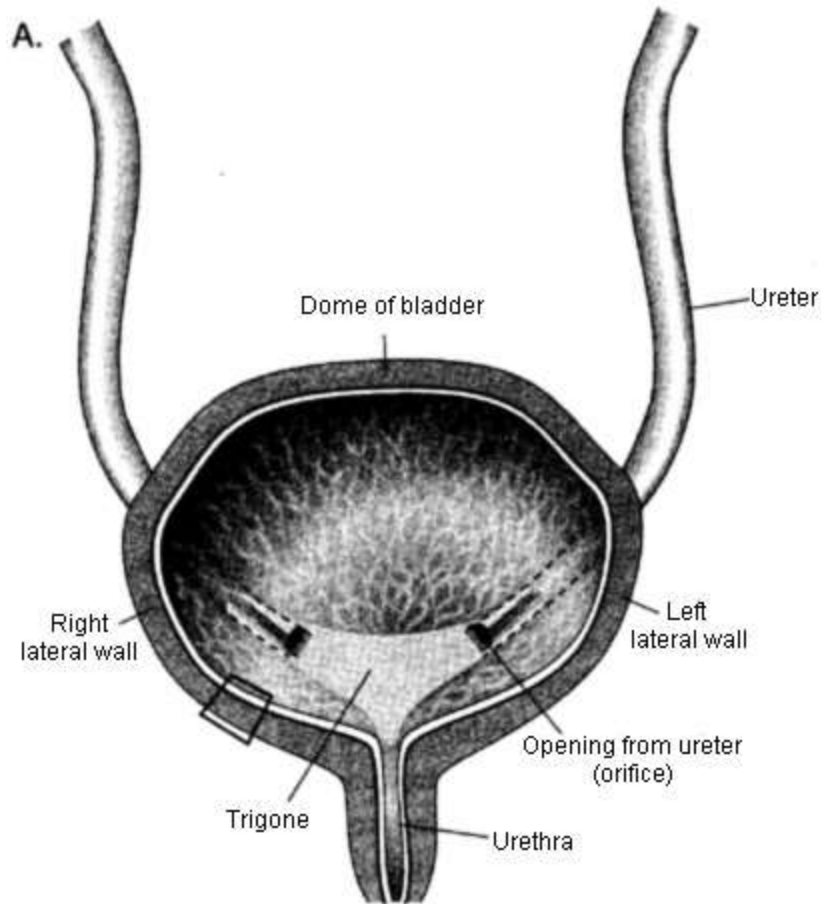
## Anatomy of the Kidney



Other important functions of the kidneys include blood pressure regulation and the production of erythropoietin, which controls red blood cell production in the bone marrow. Kidneys also regulate the acid-base balance and conserve fluids.

## Kidney and urinary system parts and their functions

- **Two kidneys.** This pair of purplish-brown organs is located below the ribs toward the middle of the back. Their function is to:
  - Remove waste products and drugs from the body
  - Balance the body's fluids
  - Release hormones to regulate blood pressure
  - Control production of red blood cells



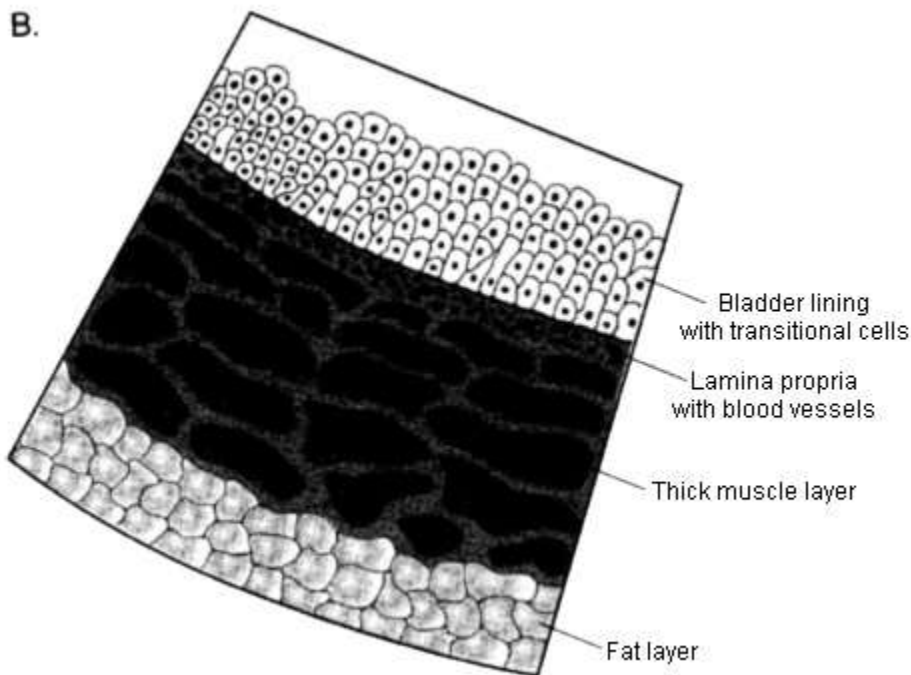
The kidneys remove urea from the blood through tiny filtering units called nephrons. Each nephron consists of a ball formed of small blood capillaries, called a glomerulus, and a small tube called a renal tubule. Urea, together with water and other waste substances, forms the urine as it passes through the nephrons and down the renal tubules of the kidney.

- **Two ureters.** These narrow tubes carry urine from the kidneys to the bladder. Muscles in the ureter walls continually tighten and relax forcing urine downward, away from the kidneys. If urine backs up, or is allowed to stand still, a kidney infection can develop. About every 10 to 15 seconds, small amounts of urine are emptied into the bladder from the ureters.
- **Bladder.** This triangle-shaped, hollow organ is located in the lower abdomen. It is held in place by ligaments that are attached to other organs and the pelvic bones. The bladder's walls relax and expand to store urine, and contract and flatten to empty urine through the urethra. The typical healthy adult bladder can store up to two cups of urine for two to five hours.

Upon examination, specific "landmarks" are used to describe the location of any irregularities in the bladder. These are:

- Trigone: a triangle-shaped region near the junction of the urethra and the bladder
- Right and left lateral walls: walls on either side of the trigone

- Posterior wall: back wall
- Dome: roof of the bladder



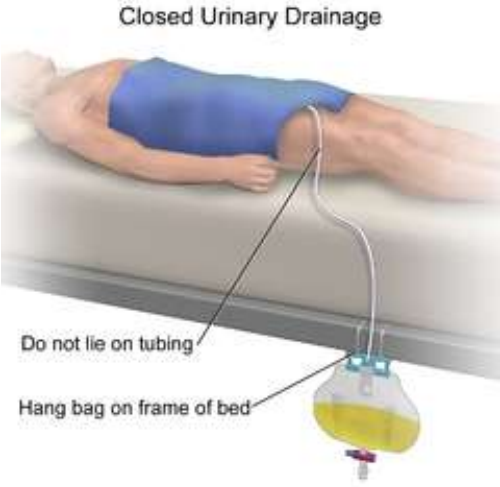
- **Two sphincter muscles.** These circular muscles help keep urine from leaking by closing tightly like a rubber band around the opening of the bladder.
- **Nerves in the bladder.** The nerves alert a person when it is time to urinate, or empty the bladder.
- **Urethra.** This tube allows urine to pass outside the body. The brain signals the bladder muscles to tighten, which squeezes urine out of the bladder. At the same time, the brain signals the sphincter muscles to relax to let urine exit the bladder through the urethra. When all the signals occur in the correct order, normal urination occurs.

## Facts about urine

- Normal, healthy urine is a pale straw or transparent yellow color.
- Darker yellow or honey colored urine means you need more water.
- A darker, brownish color may indicate a liver problem or severe dehydration.
- Pinkish or red urine may mean blood in the urine.

## Objective Data


Consider the following observations.

Steps	Additional information
<p><b>Observe:</b> Look for presence of urethral catheter, ileal conduit, nephrostomy tube(s), suprapubic catheter, and condom catheter. If present, note the colour, presence, and nature of any odour, and volume of urine in the urine collection system.</p> <p>Observe the urinary meatus if urethral catheter present for signs of irritation, including skin integrity and urethral ooze.</p> <div style="text-align: center;">  <p style="text-align: right;">Figure 2.23</p> </div> <p>Urine drainage system</p>	<p>Urine drainage systems suggest compromised urinary function. All urine drainage systems require care and attention to reduce risk of urinary tract infection and other issues.</p> <p>Urine drainage tubes should be secured to avoid tension at the insertion site and/or accidental removal.</p> <p>Unusual findings in voiding patterns or urinary output may indicate compromised urinary function. Follow up with a focused GU assessment.</p> <p>Fever may suggest urinary tract infection. In the elderly, urinary tract infections can result in delirium and as a result present serious safety concerns for the patient.</p> <p>The colour of urine might suggest hydration status.</p>
<p><b>Palpate</b> the suprapubic abdomen to assess for pain, possible urinary retention</p>	<p>Palpation while asking about pain or urgency may suggest urinary retention. Bladder scan if equipment is available.</p>

### Subjective Data

- Ask if the patient is experiencing any difficulty with voiding.
- Ask the patient about colour of their urine.
- Ask about history of urinary tract infections, burning, frequency, presence of blood in urine, sediment, odour with urine, and history of kidney, renal, and genital health issues.
- Ask about nocturia and incomplete bladder emptying. In older males, alterations to urinary habits (frequency, urgency, nocturia) may suggest prostate disease.
- Ask the client if they have any concerns about their sexual health.

**Focused GU assessment may also include:**

<p><b>Bladder scan</b> to assess for residual urine volume</p>	<p>Bladder scan according to manufacturer and agency guidelines.</p>
<p><b>In and out urethral catheter insertion</b> for residual urine volume</p>	<p>Assist the patient to void and catheterize immediately following the attempt. Note the volume of the void and the volume associated with the catheterization.</p>
<p><b>Presence of an ileal conduit (urostomy), nephrostomy</b></p>  <p>Nephrostomy drainage system</p>	<p>Note amount and character of urine.</p> <p>Urine via an ileal conduit passes through a piece of bowel, the character of the urine will likely be cloudy from mucous and likely foul smelling from the bacterial that lives in the ileal conduit. <b>Ileal conduit / urostomy:</b> Assess the stoma.</p> <ul style="list-style-type: none"><li>• <b>Nephrostomy insertion sites:</b> Assess the drain insertion site and condition of the dressing. The insertion site should be covered with a sterile dressing.</li></ul>

Potential urinary related nursing diagnoses:

- Altered pattern of urinary elimination (retention).
- Risk of urinary tract infection due to urethral foley.