



SNS COLLEGE OF ALLIED HEALTH SCIENCES

SNS Kalvi Nagar, Coimbatore - 35

Affiliated to Dr MGR Medical University, Chennai



DEPARTMENT : PHYSICIAN ASSISTANT

COURSE NAME : NEPHROLOGY

UNIT : CLINICAL EXAMINATION OF KIDNEY

**TOPICS : CLINICAL EXAMINATION OF KIDNEY AND
GENITOURINARY SYSTEM - SYMPTOMS, SIGNS AND
INVESTIGATIONS**



URINARY SYMPTOMS



- **Frequency:** Patient reports an increased need to urinate, often more frequently than usual.
- **Urgency:** Patient experiences a sudden, compelling need to urinate, which may be difficult to postpone.
- **Dysuria:** Patient complains of pain or discomfort during urination, which can range from mild to severe.



- Nocturia: Patient wakes up at night to urinate more frequently than expected, disrupting sleep patterns.
- Hesitancy: Patient has difficulty initiating urination, often requiring prolonged effort to start the stream.
- Weak Stream: Patient notices a reduction in the force or caliber of the urinary stream, which may indicate obstruction.



- Incontinence: Patient experiences involuntary leakage of urine, which can occur with coughing, sneezing, or exertion.
- Hematuria: Presence of blood in the urine, which may be visible or detected microscopically.
- Polyuria: Excessive production of urine, leading to frequent urination and increased fluid intake.



- Oliguria: Reduced urine output, often defined as less than 400 mL per day in adults.
- Anuria: Complete absence of urine output, which can indicate severe kidney dysfunction or failure.





SYSTEMIC SYMPTOMS



- **Fever:** Elevated body temperature, often indicative of an underlying infection.
- **Malaise:** Generalized feeling of discomfort or unease, which may accompany various systemic illnesses.
- **Fatigue:** Persistent tiredness or weakness, which can result from anemia or chronic kidney disease.



- **Weight Loss:** Unintentional reduction in body weight, which may be associated with malignancy or metabolic disorders.
- **Anorexia:** Loss of appetite, leading to decreased food intake and potential nutritional deficiencies.



PAIN



- Flank Pain: Patient experiences discomfort or pain in the sides of the body, below the ribs, often indicative of renal pathology.
- Abdominal Pain: Pain localized to the abdominal region, which may be diffuse or localized depending on the underlying cause.
- Groin Pain: Pain in the inguinal or groin area, which can be referred from the urinary tract or reproductive organs.



- Testicular Pain: Pain localized to one or both testicles, which may be indicative of infection, torsion, or other pathology.
- Pelvic Pain: Pain in the lower abdomen, pelvis, or perineum, which can be associated with genitourinary or gynecological conditions.



OTHER SYMPTOMS



- **Swelling:** Edema or fluid retention, commonly observed in the lower extremities, face, or abdomen in patients with renal impairment.
- **Changes in Urine Color or Odor:** Patient notices alterations in the color, odor, or consistency of urine, which may indicate underlying pathology.



- **Difficulty in Sexual Function:** Patient reports challenges or abnormalities in sexual desire, arousal, or performance, which can be related to genitourinary disorders.
- **Urinary Tract Infection (UTI) Symptoms:** These include a burning sensation during urination, foul-smelling urine, cloudy urine, and fever.



SIGNS



Physical Examination:

- Inspection: Look for signs of dehydration, peripheral edema, or abdominal distension.
- Palpation: Assess for tenderness, masses, or enlargement of the kidneys, bladder, or other pelvic structures.



- Percussion: Tap over the kidneys for tenderness or assess for dullness, indicating possible fluid accumulation.
- Auscultation: Listen for abnormal sounds such as renal bruits, which may suggest renal artery stenosis or other vascular abnormalities.



INVESTIGATIONS



Urinalysis:

- Evaluate urine for color, clarity, pH, specific gravity, protein, glucose, ketones, blood, leukocytes, nitrites, and casts.
- Perform microscopic examination to identify cells, bacteria, crystals, or other abnormalities.



Blood Tests:

- Measure serum creatinine and blood urea nitrogen (BUN) levels to assess kidney function.
- Assess electrolyte levels (sodium, potassium, calcium, phosphate) to evaluate electrolyte balance.



- Conduct a complete blood count (CBC) to detect anemia, leukocytosis, or other hematological abnormalities.
- Determine serum albumin and total protein levels to evaluate nutritional status and overall health.



Imaging Studies:

- Utilize ultrasonography to visualize the size, shape, and structure of the kidneys, bladder, and urinary tract.
- Consider computed tomography (CT) or magnetic resonance imaging (MRI) for detailed imaging of renal or pelvic pathology.



- Perform intravenous pyelogram (IVP) or retrograde pyelogram (RGP) to assess urinary tract anatomy and function, particularly in cases of obstruction or structural abnormalities.



- **Renal Biopsy:** Obtain a small sample of kidney tissue for histological examination in cases of suspected renal parenchymal disease.
- **Urodynamic Studies:** Evaluate bladder function and urine flow dynamics using urodynamic testing, especially in patients with urinary incontinence or voiding dysfunction.



- **Cystoscopy:** Perform endoscopic examination of the bladder and urethra to visualize abnormalities, tumors, or stones.
- **Genetic Testing:** Consider genetic analysis in cases of suspected hereditary kidney disorders, such as polycystic kidney disease or Alport syndrome.



- **Functional Tests:** Measure renal clearance tests (e.g., creatinine clearance) to assess glomerular filtration rate (GFR) and overall kidney function.



ASSESSMENT



- What all are the Systemic symptoms ?
- What all are the Investigations ?