

Adult Nursing II

Renal Disorders: Clinical Manifestations Diagnostic Tests

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Renal Disorders:

Clinical Manifestations: Pain

- **Pain:**
- Ache or acute pain, colic
- Suprapubic, left or right lower abdominal, loin pain
- Dysuria: difficulty and pain on micturition, often burning sensation

Renal Disorders:

Clinical Manifestations: Micturition

- **Micturition:**
- Frequency
- Urgency
- Hesitancy
- Nocturia
- Retention of urine (difficulty in emptying bladder)
- Incontinence

Renal Disorders: Incontinence

- **Incontinence:**
- Stress incontinence
- Urgency incontinence
- (Neurogenic bladder:
- Upper neuronal problem of reflex emptying without voluntary control
- Lower neuronal problem of retention with overflow)

Renal Disorders: Urine

- **Description of urine:**
- Haematuria:
- Frank, bright with clots
- Smoky urine
- Cloudy urine
- Oliguria
- Anuria
- Polyuria

- Renal Disorders: Diagnostic Tests

Renal Disorders: Diagnostic Tests

- **Urinalysis:**
- Colour
- Clarity
- Specific gravity (ref: 1.010 – 1.025)
- pH (ref: 4.5 – 5.5)
- Analysis: protein, glucose, ketones, nitrates
- Microscopy: gravel, bacterial culture and sensitivity, RBC, WBC, pus, casts, crystals

Renal Disorders: Diagnostic Tests

- Blood culture if pyelonephritis suspected
- **Renal Function Tests:**
- Blood urea and electrolytes (Na, K, Cl, HCO₃)
- Creatinine clearance:
- (24⁰ urine collection for creatinine; serum creatinine at 12⁰)
- Serum calcium and phosphorus

Renal Disorders: Diagnostic Tests

- **Xrays and Scans:**
- KUB: straight Xray of kidneys, ureters, bladder, showing shape, size, tumours, stones, hydronephrosis, hydroureter
- Ultrasound scan: non-invasive, shows size, shape, obstructions, measures residual urine after voiding

Renal Disorders: Diagnostic Tests

- CT scan (computed tomography)
- MRI (magnetic resonance imaging)
- Both give excellent cross-sectional views with minimal Xray exposure (May use radio-opaque contrast with CT – check for allergy to iodine)
- Nuclear imaging (isotopes)

Renal Disorders: Diagnostic Tests

- **Intravenous urography:**
- Intravenous Pyelogram (IVP): contrast medium IV to test function and structure (concentrated through kidneys and flows through renal tract)
- Retrograde Pyelogram via cystoscopy and ureteric catheters (function and structure)
- Cystography: micturating cystogram to check reflux at vesico-ureteric junction

Renal Disorders: Diagnostic Tests

- Renal angiography: outlines renal arteries
- Via arterial puncture, usually femoral
- (Note: pressure, rest, vital signs, peripheral pulses and temperature of affected limb post-procedure)

Renal Disorders: Diagnostic Tests

- Cystoscopy: examination of the bladder with a lighted instrument (cystoscope)
- Biopsy of bladder or ureter and urine samples for cytology
- (Also used for urography, basket retrieval of calculi, trans-urethral resection prostate/ bladder tumour, chemotherapy or BCG local therapy)