

ای که بنامت جهان آغاز شد
و قمر ما هم بنامت باز شد

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**BETTER CALL
NEPHROLOGIST**



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PAEDIATRIC NEPHROLOGIST

PROFESSOR OF PAEDIATRICS

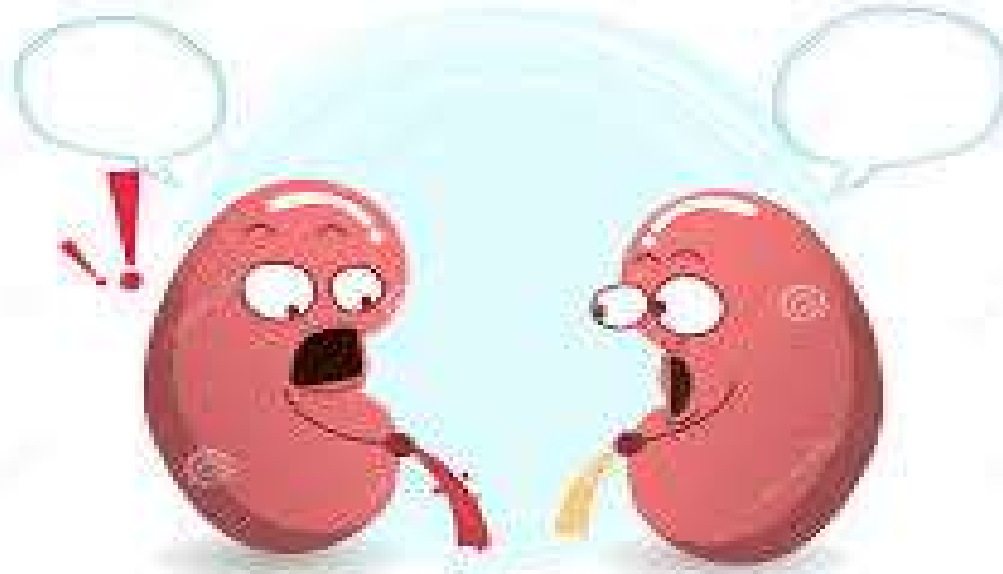
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**NEPHROLOGISTS AVAILABLE IN HOSPITALS
LIKE OUR HOSPITAL !!!!**

URINE

Blood in urine (hematuria)



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HAEMATURIA

- **Macroscopic hematuria**
- **Significant microscopic hematuria**
- **RBC Cast**
- **Concomitant with Pyuria (no positive urine culture)**
- **With Low GFR**

URINE

Very clear urine!

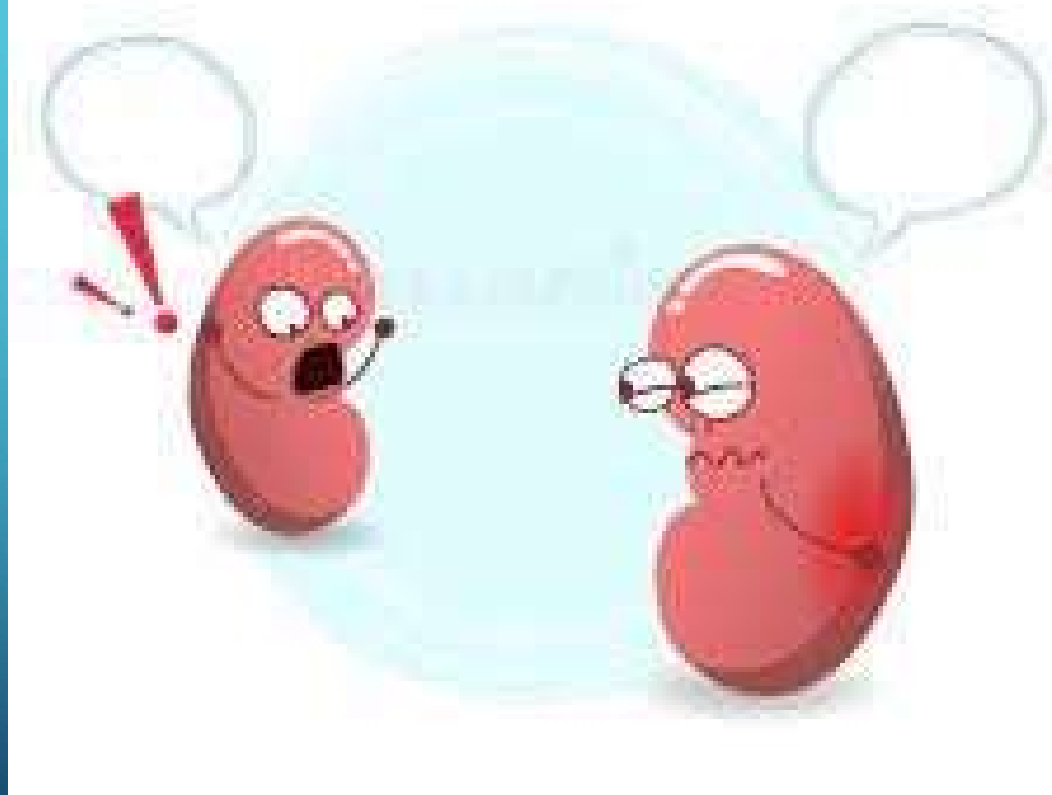


POLYURIA (NON-DIABETIC PATIENTS)

- **With dehydration**
- **With hypertension**
- **With hypokalaemia**
- **With hypercalcemia**
- **With PH of seizure (CNS symptoms)**
- **Post- Surgery (CNS, UT obstruction)**
- **Post AKI**

KIDNEY PAIN

Back pain?

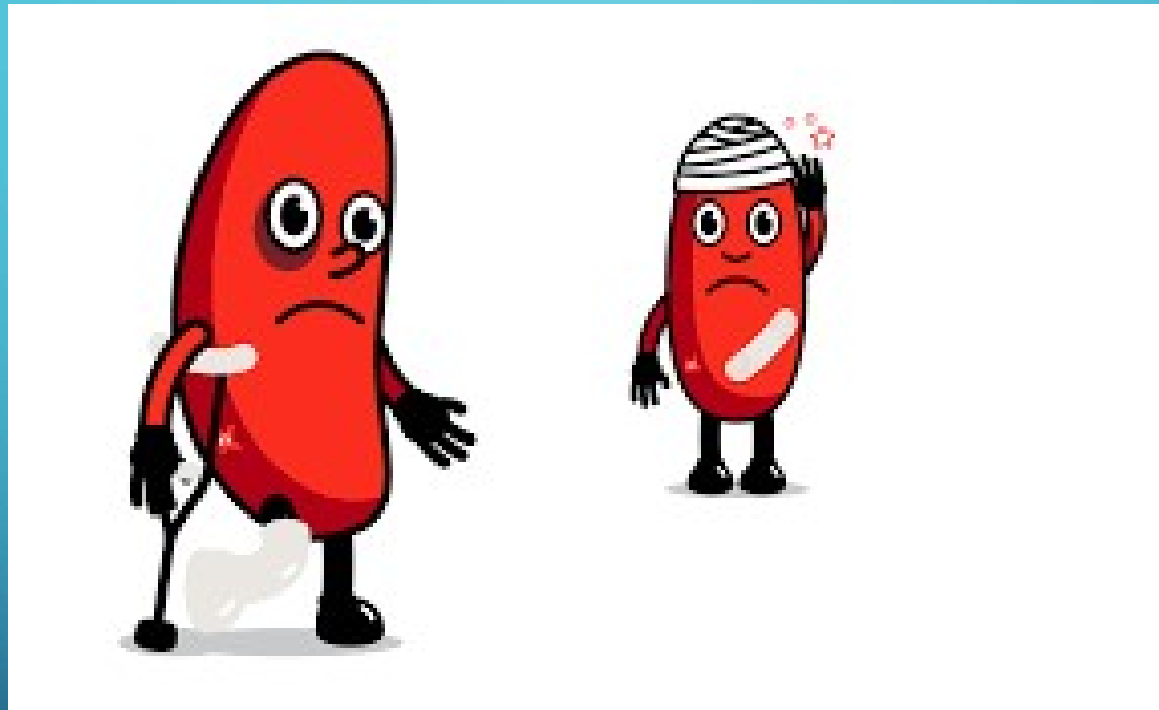


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ULTRASOUND FINDINGS

- Stone with obstruction: refer to urologist
- Stone with urinary tract infection: treat
- Hydronephrosis; severe with signs of Pyonephrosis
- Kidney Abscess
- Bilateral small size kidneys with newly found low GFR
- Kidney mass



FLUID AND ELECTROLYTES DISTURBANCES

- **pH < 7.2 or > 7.6**
- **HCO₃ < 8 or > 29**
- **Decreasing or increasing pH rapidly**
- **Na < 125, Na > 160**
- **K < 3, K > 5**
- **Abnormal potassium values with EKG findings**
- **Fluid overload**

CREATININE RISE

- **Calculate GFR (Schwartz Formula)**
 - **GFR < 30**
 - **Decreasing rapidly**
 - **In ICU patients**
 - **New case**
 - **With edema, HTN, gross hematuria, any sign and symptom of emergency overload**
 - **With uremic signs and symptoms**



HYPERTENSION

- **Stage ٢ of HTN (newly diagnosed)**
- **Emergency, Urgent and or malignant HTN**
 - **Please check their definitions**



“So, we’ve had a little swelling?”

PERIPHERAL AND OR FACIAL OEDEMA

- **Check urine for protein**
- **Check blood for albumin and creatinine**
 - **Urine protein $\geq +3$**
 - **Serum Albumin < 2.5**
 - **GFR < 30**
 - **Accompanying with haematuria (microscopic or macroscopic)**

NEPHROLOGISTS NOT AVAILABLE IN HOSPITALS

SUCH AS DESERTS!!!!!!

OR

EVERYWHERE EXCEPT OUR HOSPITAL



CLINICAL URGENCY CATEGORIES FOR SPECIALIST CLINICS

- **Urgent (< 30 days):**

- Severe chronic kidney disease (CKD) (eGFR < 15/ml/min/1.73m² or rapidly progressive)
- Rapidly progressive or high risk glomerulonephritis
- Symptomatic nephrotic syndrome
- Kidney disease at high risk of rapid (< 30 days) clinical deterioration

CLINICAL URGENCY CATEGORIES FOR SPECIALIST CLINICS

- **Semi-Urgent (30-90 days):**
- Follow up of recent acute kidney injury (AKI)
- A sustained decrease in eGFR of $\geq 25\%$ or more within 12 months
- OR a sustained decrease in eGFR of ≥ 15 mL/min/ 1.73 m² per year

CLINICAL URGENCY CATEGORIES FOR SPECIALIST CLINICS

- **Routine (90-365 days):**

- CKD with eGFR < 30 ml/min/ 1.73 m² (CKD 4-5)
- Persistent significant albuminuria (urine ACR ≥ 30 mg/mmol) that is unexplained (e.g. not explained by diabetes)
- CKD with hypertension that is uncontrolled despite at least three antihypertensive agents at maximum doses and including a diuretic
- Renal anemia with Hb < 10 g/L requiring erythropoietin

CLINICAL URGENCY CATEGORIES FOR SPECIALIST CLINICS

- **Routine (90-365 days):**
 - Glomerular haematuria
 - Complex renal stone disease
 - Renal tubular acidosis
 - Inherited polycystic kidney disease (PKD)

Condition / Symptom

- eGFR < 60 mL/min/ 1.73m^2
- Persistent significant albuminuria (urine ACR > 30 mg/mmol)
- A consistent decline in eGFR from a baseline of < 60 mL/min/ 1.73m^2 (a decline > 5 mL/min/ 1.73m^2 over a six-month period which is confirmed on at least three separate readings)
- Haematuria with significant albuminuria (> 30 mg/mmol)
- CKD and hypertension that is hard to get to target despite at least three anti hypertensive agents

Investigations Required Prior to Referral

- **Mandatory:**
 - **Blood:**
 - FBE, CUEs, Ca/ PO_4
 - **Urine:**
 - Albumin/Creatinine ratio (ACR)
 - Or Protein/Creatinine Ratio (PCR),
 - Urine microscopy
 - **Imaging:**
 - Renal ultrasound
 - **Discretionary:**
 - Glomerulonephritis screen:
 - (ANA, ANCA, anti-GBM, ASOT, dsDNA, C 3 , C 4)
 - 24hour urine collection (Cr clearance, protein and calcium excretion)
 - Iron studies, PTH, vitamin D, lipids, LFTs, HbA $1c$, uric acid

