CHRONIC RENAL FAILURE (CRF)
- DIMINISHED RENAL RESERVE -

- Glomerular Filtration Rate (GFR) - ≥ 90 ml/min
- Kidney Damage with Normal or ↑ GFR
- Observation & Control of Blood Pressure
- Decreased Urinary Concentration - Nocturia
- 24 Hr Urine for creatinine clearance to detect loss of renal reserve
- Treatment of Comorbid Conditions - diabetes, hypertension, renal artery stenosis

CHRONIC RENAL FAILURE (CRF)
ESRD - END STAGE RENAL DISEASE
↓ 15 ml/min GFR

- Neurological Weakness / Fatigue Confusion
- Psychological Withdrawn Behavior Changes Depression
- Cardiovascular ↑ BP Pitting Edema Periorbital Edema ↑ CVP Pericarditis
- Hematological Anemia Bleeding Tendencies ↑ Serum K
- Pulmonary SOB Depressed Cough Thick Sputum
- Skin Dry Flaky Pruritus Ecchymosis Purpura Yellow-Gray Skin Color
- GI Ammonia Odor to Breath Metallic Taste Mouth / Gum Ulcerations Anorexia Nausea / Vomiting
- Musculoskeletal Cramps Renal Osteodystrophy Bone Pain

Hemodialysis
Evaluate access site for:
Patency & signs of infection
DO NOT take BP or obtain blood samples from extremity that has access site.
CHRONIC RENAL FAILURE (CRF)
- RENAL INSUFFICIENCY -

- Headaches
- \(\downarrow\) Ability to Concentrate Urine
- Polyuria \(\rightarrow\) Oliguria
- \(\uparrow\) BUN & Serum Creatinine
- Edema
- GFR - progressively decreases from 90 to 30 ml/min
- Mild Anemia
- \(\uparrow\) Serum K
- \(\uparrow\) BP
- Weakness & Fatigue

RENAL CALCULI

- \(\uparrow\) Incidence in Males
- Nausea & Vomiting
- Agonizing Flank Pain May Radiate To: Groin Testicles Abdominal Area
- Sharp, Sudden, Severe Pain: (May be intermittent depending on stone movement)
- Hematuria
- Dysuria
- Urinary Frequency

Diagnosis
Ultrasound
IVP
Renal Stone Analysis
Retrograde pyelogram
Cystoscopy
Measure Urine pH

Risk Factors - Etiology
Infection
Urinary Stasis & Retention
Immobility
Dehydration
\(\uparrow\) Uric Acid
\(\uparrow\) Urinary Oxalate

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**Glomerulonephritis**

- Antigen-Antibody Complex in Glomeruli
  - Inflammation
  - ↓ Glomerular Filtration Rate

- Antigen-Antibody Complex From Recent Strep Infection

- Headache
- ↑ BP
- Facial / Periorbital Edema
- Lethargic
- Low Grade Fever
- Weight Gain (Edema)

- Proteinuria
- Hematuria
- Oliguria
- Dysuria

**Post Kidney Transplant Rejection Signs**

**Hyperacute...**
- Onset with 48 hours
- Malaise, high fever
- Graft tenderness
- Organ must be removed to ↓ S & S

**Acute...**
- 1 Week to 2 Years
- Oliguria, Anuria
- ↑ Temp (>37.8°C - 100°F)
- ↑ BP
- Flank Tenderness
- Lethargy
- ↑ BUN, K, Creatinine
- Fluid Retention

**Chronic...**
- Gradual Over Months to Years
- ↑ In BUN, Creatinine
- Imbalances in Proteinuria Electrolytes
- Fatigue
PREVENTING CYSTITIS

Drink 8 to 10 Glasses of Fluid Per Day...

Women Should Wipe From Front to Back

Avoid Vaginal Deodorants and Bubble Baths...

Urinate After Intercourse...

RENAL COMPENSATION IN SHOCK

↑ ADH = Fluid Retention

Thou Shalt Not Pee!

Aldosterone = Na & Fluid Retention

Angiotension = Vasoconstriction
WHO NEEDS DIALYSIS?
(Check The Vowels)

- Acid-Base Problems
- Electrolyte Problems
- Intoxications
- Overload Of Fluids
- Uremic Symptoms

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