

CHRONIC RENAL FAILURE

Renal failure results when the kidneys are unable to remove the body's metabolic wastes or perform their regulatory functions.

❖ **Types of renal failure:** There are two types of renal failure: acute renal failure and chronic renal failure.

Acute renal failure is an abrupt decline in kidney function as defined by increases in BUN and plasma creatinine levels. Urine output is generally decreased (less than 40 ml/hr—oliguria) but may be normal or even increased. Depending on cause,

Acute renal failure is classified by

prerenal (e.g., hypovolemia).

intrarenal (e.g., tubular necrosis, nephrotoxicity),

postrenal (obstruction of urine flow, e.g., calculi, BPH, cancer of bladder)

❖ **Chronic renal failure or ERSD** is a progressive, irreversible deterioration in kidney function in which the body's ability to maintain metabolic and fluid and electrolyte balance fails, resulting in uremia or azotemia.

Uremia—a syndrome of renal failure characterized by elevated blood urea nitrogen (BUN) and creatinine (Cr) levels

Azotemia—asymptomatic elevated BUN and Creatinine

❖ **Etiology of Chronic renal failure:**

1. Earlier acute renal failure
2. Hypertension
3. Diabetes mellitus
4. Atherosclerosis
5. Recurrent infections and exacerbations of nephritis and other urinary diseases

❖ **Pathophysiology of Chronic renal failure:** Progression of chronic renal failure is through 4 stages:

1. decreased kidney reserve,
2. kidney insufficiency,
3. kidney renal failure, and
4. ERSD

❖ **Signs and symptoms:**

1. Azotemia, uremia
2. Hyperkalemia—the patient may become apathetic and confused and may have nausea, vomiting, abdominal cramps, muscle weakness and numbness of the extremities
3. Hypervolemia, hypertension, decreased urine output
4. Dysrhythmias (failure of cardiac function)
4. Hypocalcemia
5. Metabolic acidosis—tachypnea, Kussmaul's respiration

6. Anemia (decreased erythropoitin)
7. Anorexia
8. Impaired immunologic function—General immune response is suppressed and antibody production is declined. Therefore, the patient has reduced ability to resist infection
9. Lethargy, confusion
10. Pruritus
11. Infertility, decreased libido

❖ **Nursing management:**

Nursing assessment: Health history, physical examination, and lab investigations to assess signs and symptoms

Nursing diagnoses: may include but are not limited to:

1. Excess fluid volume
2. Imbalanced nutrition: less than body requirement
3. Risk for infection related to compromised immune response
4. Risk for injury related to decreased level of conscious
5. Fatigue related to uremia, anemia
6. Acute pain related to sodium depletion, uremia, muscle cramping
7. Ineffective coping related to situational crisis
8. Situational low self-esteem
9. Deficient knowledge

Nursing interventions:

1. Maintaining fluid and electrolyte balance
2. Facilitating nutrition
3. Preventing infection and injury
4. Promoting comfort rest and sleep
5. Facilitating coping with changes in lifestyle and feeling regarding self
6. Patient and family education including:
 - Relationships between symptoms and causes
 - Relationships among diet, fluid restriction, medication, and blood chemistry values
 - Preventive health care measures: oral hygiene. prevention of infection etc.
 - Dietary regimen including fluid restrictions
 - Monitoring for fluid excess—accurate measurement of intake/output etc.
 - Medications
 - Measures to control pruritus
 - Planning for follow-up care