**Acute renal failure**

**Definition:**Acute renal failure (ARF), is a sudden episode of kidney failure or kidney damage that happens within a few hours or a few days. It causes a build-up of waste products in our blood and makes it hard for our kidneys to keep the right balance of fluid in our body.

**Causes:**

* **Prerenal:**
1. Volume depletion resulting from:
2. Hemorrhage
3. Renal losses
4. Vomiting
5. Diarrhea
6. NG suctioning
7. Impaired efficiency resulting from:
8. MI
9. Heart failure
10. Dysrhythmia’s
11. Cardiogenic shock
12. Vasodilation resulting from:
13. Sepsis
14. Anaphylaxis
15. Antihypertensive or other medication that causes vasodilation.
* **Intrarenal:**Examples of intrarenal causes are prolonged renal ischemia, and infectious processes.
* **Postrenal:**An example of a postrenal cause is urinary tract obstruction.

**Clinical Features:**

Signs and symptoms of acute kidney failure may include:

* Decreased urine output
* Fluid retention
* Shortness of breath
* Fatigue
* Confusion
* Nausea
* Weakness
* Irregular heartbeat
* Chest pain or pressure
* Seizures or coma in severe cases
* Lethargy.
* Dryness
* Increased creatinine.

**Investigations:**

* Urine output measurements.
* Urine tests
* Blood tests
* Imaging tests
* Removing a sample of kidney tissue for testing

**Nursing Management:**

**Nursing Assessment**

Assessment usually focuses on the characteristics of the urine.

* **Assess urine output:** Urine output varies from scanty to a normal volume.
* **Assess blood in the urine:** Hematuria may be present in patients with ARF.
* **Assess laboratory results:** Laboratory results may increase, decrease, or stabilize and these may indicate each phase of ARF.

**Nursing Diagnosis**

Based on the assessment data, appropriate [nursing diagnoses](https://nurseslabs.com/nursing-diagnosis/) for a patient with ARF include:

* **Electrolyte imbalance** related to increased potassium levels.
* **Risk for deficient volume** related to increase in urine output.

**Nursing Care Planning & Goals**

The goals for a patient with ARF are:

* Improve nutritional intake.
* Restore fluid balance.
* Reduce metabolic rate.
* Promote pulmonary function.
* Prevent infection.

**Nursing Interventions**

Nursing interventions are aimed at restoring renal function and reducing potential causes of increased renal injury.

* **Monitor fluid and electrolyte balance.** The nurse monitors the patient’s fluid and electrolyte levels and physical indicators of potential complications during all phases of the disorder.
* **Reducing metabolic rate.** Bed rest is encouraged and fever and infection are prevented or treated promptly.
* **Promoting pulmonary function.** The patient is assisted to turn, cough, and take deep breaths frequently to prevent atelectasis and respiratory tract infection.
* **Preventing infection.** Asepsis is essential with invasive lines and catheters to minimize the risk of infection and increased metabolism.
* **Providing skin care.** Bathing the patient with cool water, frequent turning, and keeping the skin clean and well moisturized and keeping the fingernails trimmed to avoid excoriation are often comforting and prevent skin breakdown.
* **Provide safety measures.** Patient with CNS involvement may be dizzy or confuse

**Evaluation**

A successful [nursing care plan](https://nurseslabs.com/nursing-care-plans/) has achieved the following:

* Improved nutritional intake.
* Restored fluid balance.
* Reduced metabolic rate.
* Promoted pulmonary function.
* Prevented infection.

**Discharge and Home Care Guidelines**

The nurse plays an important role in teaching the patient and family with ARF.

* **Nutrition**:A referral to the nutritionist is made because of the dietary changes required.
* **Problems to report:**The patient and family must know what problems to report to the healthcare provider.
* **Follow-up examinations:**The importance of follow-up examinations and treatment is stressed to the patient and family because of changing physical status and renal functions.

### **Prevention**

Preventing renal failure involves the following:

* Provide adequate hydration to patients at risk for **dehydration.**
* Prevent and treat shock promptly with blood and fluid replacement.
* Monitor central venous and arterial pressures and hourly urine output of critically ill patients to detect the onset of renal failure as early as possible.
* Take precautions to ensure that the appropriate blood is administered to the correct patient in order to avoid severe transfusion reactions.
* Prevent and treat infections promptly because they can produce progressive renal damage.
* To prevent toxic drug effects, closely monitor dosage, duration of use, and blood levels of all medications metabolized or excreted by the kidneys.

**Complications:**

* Fluid buildup.
* Chest pain.
* Muscle weakness
* Permanent kidney damage
* Death