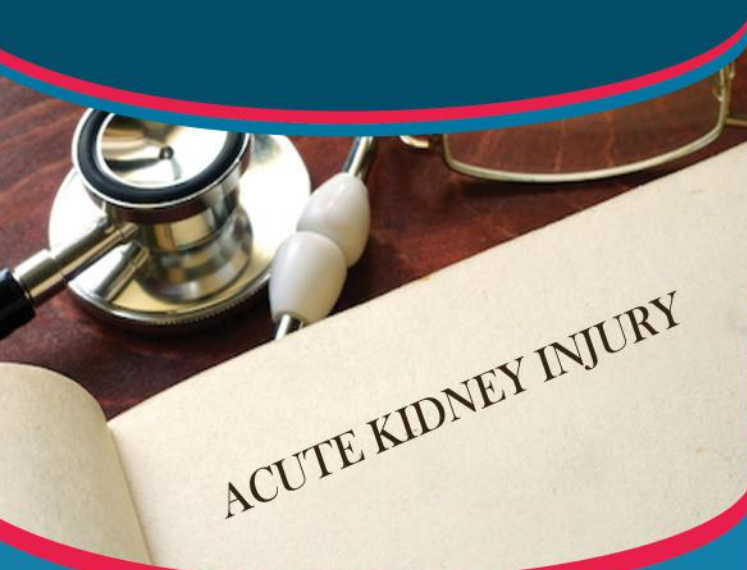


Acute Kidney Injury



- Imaging tests such as ultrasonography
 - Kidney biopsy
 - Urine tests

➤ Acute kidney injury Treatment ◀

To treat AKI, the doctor should treat the leading cause. When kidney function falls below 10% of normal, dialysis or a kidney transplant is most often needed. Dialysis is a way to pump the blood through a machine that filters out the waste products in the blood and returns the blood to the body. Kidney transplant is the best way to treat many patients with end stage renal disease (ESRD).

As the majority of cases, AKI occur in association with volume depletion and sepsis, it is essential to restore effective renal perfusion as soon as possible. This will allow early recovery of renal function and help in prevention of acute tubular necrosis development.

➤ **Optimize intra-vascular fluid volume:** Patients should be carefully assessed for signs of hypervolemia.

➤ **Optimize Blood Pressure:** Blood pressure is a key to driving ultrafiltration at the glomerulus.

➤ Diet Therapy in Acute kidney injury ◀

Patients with AKI have increased nutrient requirements. Nutritional support is beneficial in this group of patients.

➤ **Rich sources of potassium:** potato crisps, chocolates and citrus fruits.



➤ It is important to provide the maximum energy intakes, within fluid restrictions. A protein restriction may be required to control BUN level.

➤ Patients with AKI need an energy intake of 30-40 kcal/kg and a protein intake of 0.8-1 g/kg of ideal weight, that it is increased with glomerular filtration improvement.

➤ The degree of salt restriction depends on blood pressure, edema and urine output: Usually a 'no added salt' diet is adequate.

➤ Elevated levels of phosphorus indicate a need for dietary restriction of phosphorus. Phosphate binders may also be required to achieve acceptable levels.

➤ Dietary potassium restriction is indicated by elevated serum potassium levels.

➤ The volume of prescribed fluid during conservative treatment is based on urine output and insensible losses

Acute Kidney Injury



Acute Kidney Injury

Conditions that the renal bloodflow is stopped or reduced in it (pre-renal AKI)
Something has directly damaged the kidneys like blood clots and Cholesterol deposits (renal AKI)



➤ Acute kidney injury ◀

Acute kidney injury (AKI) or acute renal failure occurs when the kidneys suddenly stop filtering waste products from the blood. It happens within a few hours or a few days. AKI causes a build-up of waste products in the blood and makes it hard for the kidneys to keep the appropriate balance of body fluids. Anyone can get AKI while it is common in patients who are in hospitals, intensive care units, and especially in older adults. Other things that can increase the risk of AKI incidence include:

- Presence of a chronic disease
 - Hypertension
- Aging 65 years old or above
- Presence of peripheral artery disease

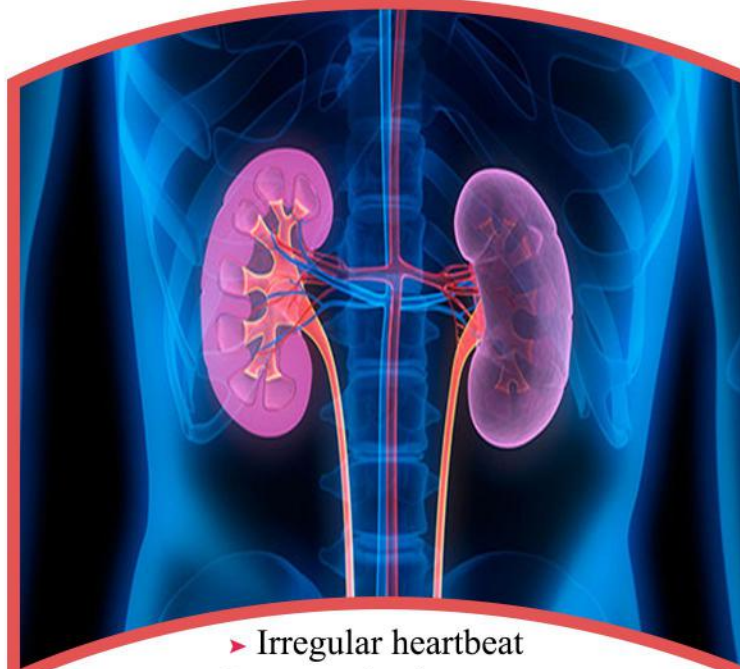
There are three main reasons for occurrence of AKI:

- Conditions that block urine drainage (post-renal AKI)

➤ Acute kidney injury symptoms ◀

Signs and symptoms of AKI may include:

- Chest pain



- Irregular heartbeat
- Decreased urine output
 - edema
 - Dyspnea
- Internal bleeding

➤ Acute kidney injury Diagnosis ◀

The diagnostic approach to a patient with AKI requires a careful medical history (especially attention to drugs), physical examination and interpretation of appropriate investigations.

Renal failure is most often found with a creatinine level. Depending on the cause of AKI, the doctor will run different tests.

The following tests may be done:

- Measuring urine output
- **Blood tests:** to find levels of creatinine, blood urea nitrogen (BUN), phosphorus and potassium
- **GFR:** to estimate the decrease in kidney function