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**Course Title:** Renal Physiology Body Fluid and Temperature Regulation
**Course Code:** PHS 303

**Department**: Medicine and Surgery

**Question**

1. Discuss the pathophysiological process involves in renal failure?
2. With the aid of suitable diagrams discuss the types of dialysis you know?

**Answers**

1. RENAL FAILURE

Renal failure refers to the deterioration of renal functions resulting in a decline in the glomerular filtration rate (GFR) and rise in urea and non-nitrogenous substances in the blood.

It is of two types:

* Acute renal failure and
* Chronic renal failure.

Acute renal failure

Acute renal failure refers to a sudden decline in GFR over a period of days or weeks associated with the rapid rise in blood urea.

Chronic renal failure

Chronic renal failure refers to a slow, insidious, irreversible deterioration of renal functions resulting in the development of clinical syndrome of uraemia, manifested by excretory, metabolic, neurological, haematological and endocrinal abnormalities.

NEPHROTIC SYNDROME

Nephrotic syndrome refers to a massive proteinuria (more than 3.5 g/day), mainly albuminuria and its associated consequences which include:

* Hypoalbuminaemia,
* Oedema,
* Hyperlipidaemia,
* Lipiduria and
* Hypercoagulability.

Pathophysiology. A wide variety of disease processes including immunological disorders, toxic injuries, metabolic abnormalities, biochemical defects and vascular disorders involving glomeruli contribute to the development of nephrotic syndrome.

1. DIURETICS



The diuretics are the drugs which primarily cause a net loss of Na+ (natriuresis) associated with water loss (secondary to natriuresis) and thus increase the rate of urine flow.

Classification

Depending upon their efficacy, the diuretic drugs can be classified as:

1. High-efficacy diuretics (inhibitors of Na+–K+–2Cl− transport), also called loop diuretics, e.g. Furosemide.