



DIALYSIS TECHNOLOGY
DIPLOMA 2ND, 3RD AND 4TH SEMESTER

HAFEEZ INSTITUTE OF MEDICAL SCIENCES, PESHAWAR

2nd SEMESTER

Renal Anatomy & Physiology

1. Morphology of the kidney and its development
2. General features and its relations to the different body organs
3. Surface anatomy of the kidney
4. Brief description of the renal glands
5. Physiology function of nephrons
6. Formation of urine
7. Effects of hormones on the kidney

Renal Pathology & Medicine

1. Developmental disorders of the kidney ureter and the bladder
2. Pathology of common renal diseases
3. Pathology of acute renal failure
4. Chronic renal failure
5. Renal cell carcinoma
6. Functional Pathology of the kidney and clinical assessment
7. Acid base fluid and electrolyte disorders

Teaching & Learning

- Lectures
- Models
- Demonstration on Pattern

3rd SEMESTER

1. Sign and symptoms of renal diseases
2. Clinical assessment of hyponatremia
3. Hypernatremia
4. Metabolic acidosis
5. Respiratory acidosis and alkalosis
6. Hyperkalemia
7. Hypocalcaemia
8. Oedema and clinical use of diuretics
9. Hyperphosphatemia
10. Introduction to the glomerular diseases
11. Renal involvement
 - a. Cardiovascular diseases
 - b. Connective tissue disorders
 - c. Diabetes
 - d. Chest diseases
 - e. Cancers
 - f. gastrointestinal diseases
12. Etiology and Pathophysiology of renal failure
13. Acute renal failure and metabolic derangement
14. Management of acute renal failure
15. Principles of drug therapy in renal failure
16. Drugs during two different nephropathy
17. Sickle cell nephropathy
18. Polycystic and acquired cystic diseases
19. Alports syndrome and related diseases
20. Medullary cystic diseases nephrolithiasis
21. Tubular interstitial diseases
22. Nephrolithiasis
23. Urinary tract infection
24. Kidneys in infants/children
25. The aging kidney
26. Introduction to chronic renal failure
27. Hypertension
 - a. Its pathogenesis
 - b. Essential
 - c. Renovascular Hypertension
 - d. Treatment

4th SEMESTER

1. Treatment of metabolic derangements
2. ECG-Normal and abnormal in renal diseases
3. Treatment of glomerular diseases
4. Role of steroids in renal diseases
5. Treatment modalities in acute renal failure & chronic renal failure
6. Treatment of renal emergencies
7. Pre and post dialysis
8. Complications of dialysis
9. Shock and renal involvement in shock
10. Septicemia
11. Cardiac arrest
12. Use of contrast in renal Medicine
13. The importance of Cardio-pulmonary resuscitation