

SEM - 3

VDT-301

Applied Human Anatomy & Physiology Related to Dialysis Technology

Objective - An outline of anatomy and physiology will be provided to improve the students understanding of the technical and diagnostic procedures used with special emphasis on applied aspects. Student will learn about the anatomy and physiology related to dialysis technology which include study of kidney structure and functioning.

- UNIT - 1 Gross structures & functions of excretory system:** Structure of kidney, Structure of ureter & urinary bladder. Structure of Nephron, renal corpuscle, glomerular apparatus, proximal tubule, loop of Henle, distal tubule and collecting tubule. Physiology of bladder function & Types of bladder dysfunction, Renal function test, Micturition.
- UNIT - 2 Vascular supply of excretory system:** Renal Artery, Renal vein, Sub clavian vein, Femoral vein, Jugular vein, Radial artery, Innervations of kidney and urinary bladder, Peritoneum in general.
- UNIT - 3 Physiology related to dialysis technology:** Mechanism of urine formation: Filtration, Reabsorption, Concentration, Dilution and acidification.
- UNIT - 4 Regulatory functions of excretory system:** Role of kidney in blood pressure regulation in health and diseases, Role of peritoneum in peritoneal dialysis, Mechanism of blood formation and regulation, Role of kidney in bone formation, Other endocrine functions of the kidney, Body fluids and electrolytes and their regulation in health and disease, Disorders of water metabolism (Potassium, Sodium, Phosphate, Calcium). Role of kidney in acid-base balance.

Recommended Books:

- Anatomy and Physiology for Radiographers- C.A. Werrick
- Hand book
- k of Anatomy - P.Saraswathi Human Anatomy - B.D. Chaurasias
- Human physiology - A.K.Jain Anatomy and physiology in health and
- Illness - Ross and Willson Gray's anatomy for the students - Richard L. Drak