

# Learning Objectives in Pathophysiology

## V semester module No. 19

### Pathology of Neuro-Endocrine, Vegetative and Somatic Systems

1. General etiology and pathogenesis of nervous system disorders
2. Disorders of nerve cell function
3. Pathophysiology of nerve cells
4. Disorders of synapse function
5. Disorders of synthesis of mediators
6. Disorders of transport of mediators
7. Disorders of peripheral nerve conduction
8. Pathophysiology of nerve cells
9. Wallerian degeneration, anterograde transneuronal degeneration, retrograde transneuronal degeneration
10. Etio-pathogenesis of Peripheral Nerve Injury: Stretching, Laceration, Compression, Seddon Classification
11. Pathogenesis of denervation syndrome
12. Pathophysiology of astrocytes, microglia, oligodendrocytes and Schwann cells
13. Demyelination
14. Genetic defects of the myelin-sheath protein
15. Multiple sclerosis, etiology and pathogenesis
16. Disorders of Neuromuscular Transmission
17. Myasthenia gravis, etiology and pathogenesis
18. Pseudo myasthenic syndrome of Eaton Lambert
19. Diseases of the motor system
20. The role of  $\gamma$ -motor neurons in the formation of muscle tones
21. The importance of damage to pyramidal and extrapyramidal pathways in the violation of movement
22. Types of violation of motor function
23. Hypokinesia, etiology, pathogenesis, types
24. Hyperkinesia, etiology, pathogenesis, types
25. Types of paralysis
26. Injury of Lower Motor Neurons
27. Diseases of the Motor Unit and Muscles
28. Spinal shock
29. Diseases of the Basal Ganglia
30. Parkinson's Disease, etiology, pathogenesis
31. Hyperkinesias. Tardive dyskinesia, etiology, pathogenesis
32. Epilepsy, etiology, pathogenesis
33. Stroke, Ischemic strokes, Hemorrhage, etiology, pathogenesis
34. Excitotoxicity
35. Types and mechanisms of sensory disorders
36. Pain, types of pain

37. The mechanism of pain development
38. The role of the spinal cord gate mechanism in pain convergence
39. Diseases of the Somatosensory System
40. Brown–Sequard’s syndrome
41. General Pathophysiology of Hormones
42. Excess and deficiency of Hormones as a Disease-producing System
43. Endocrine pathology as a consequence of violation of the central mechanism of regulation, pathological processes in the glands and disorder of the peripheral mechanisms of the action of hormones
44. Abnormalities of Endocrine system regulation
45. The manifestations of pituitary disorders
46. Etiology, pathogenesis and the clinical manifestations of excess or deficiency of pituitary hormones
47. Hyperpituitarism, Hypopituitarism, Panhypopituitarism
48. The Antidiuretic Hormone, Etiology, pathogenesis, and clinical manifestations of The antidiuretic hormone excess and deficiency
49. Pathogenesis of Diabetes insipidus
50. Etiology, pathogenesis, and the clinical manifestations of Prolactin excess and deficiency
51. Growth hormone, Etiology, pathogenesis and the clinical manifestations of Somatotropin excess and deficiency
52. Pituitary dwarfism
53. Growth and Growth Hormone disorders, Short Stature in Children, Idiopathic Short Stature, Psychosocial Dwarfism, Growth Hormone and Insulin-Like Growth Factor Deficiencies in Children, Congenital GH deficiency
54. General pathogenesis of Thyroid Disorders (Goiter, diffuse nontoxic and multinodular)
55. Disorder of Regulation, Formation, and release of T<sub>3</sub> and T<sub>4</sub>
56. Causes of Hypothyroidism, Hyperthyroidism and Goiter
57. Graves’ disease: Etiology, pathogenesis and the clinical manifestations
58. Hyperthyroidism: Etiology, pathogenesis, effects and symptoms
59. Autoimmune thyroid disease
60. Hyperfunctioning (“toxic”) multinodular goiter
61. Hyperfunctional (“toxic”) adenoma of the thyroid gland
62. Hypothyroidism: etiology, pathogenesis, effects and symptoms
63. General Pathogenesis of Adrenal Cortical Hormone Disorders
64. Enzyme Defects in Formation of Adrenocortical Hormones
65. Causes and Effects of Abnormal Release of Adrenocortical Hormones
66. Causes and effects of Cortisol and Aldosterone Excess
67. Causes and effects of Cortisol and Aldosterone Deficiency
68. Cushing’s Disease: etiology, pathogenesis and the clinical manifestations
69. Mineralocorticoids: etiology, pathogenesis, and effect of excess and deficiency
70. Deficiency of Adrenocorticoid Hormones: Addison’s Disease (Etiology, Pathogenesis and the clinical manifestations)
71. Causes and effects of Androgen excess and deficiency
72. Effects of deficient testosterone action

73. Release and Effects of Female Sex Hormones
74. Effects of excess and deficiency of Female Sex Hormones
75. Osteocysts and osteoclasts, their functions
76. Bone homeostasis and remodeling
77. Congenital disorders of bone and cartilage
78. Achondroplasia, the mechanism of its development
79. Thanatophoric Dysplasia
80. Osteogenesis Imperfecta - Pathogenesis of Type 1 Collagen diseases
81. Osteopetrosis
82. Metabolic disorders of bone: osteopenia and osteoporosis
83. Rickets and Osteomalacia, the mechanism of development, etiology and clinical findings
84. Hyperparathyroidism
85. Pejet disease (Osteitis Deformans)
86. Bone fractures
87. Osteonecrosis
88. Osteomyelitis
89. Bone tumors and Tumorlike lesions
90. General pathogenesis and etiology of digestion system impairment
91. Diseases of the digestive system as a consequence of disorder of neural and humoral mechanisms of regulation
92. Digestion impairment in the oral cavity
93. Hyposalivation, causes, and consequences
94. Hypersalivation, causes, and consequences
95. The mechanism of vomiting and nausea
96. Disorder of the Stomach function
97. Gastropathy and Acute Gastritis
98. Chronic Gastritis
99. Autoimmune Gastritis
100. Etiological factors and pathogenesis of ulcerative disease Peptic Ulcer, pathogenesis
101. Disturbance of intestinal digestion
102. Disorders of bile excretion
103. Acholia, causes and consequences
104. Causes and consequences of disorders of the secretion of pancreatic juice
105. Mechanisms of the development of pancreatitis
106. Disturbance of digestion in the small intestine
107. Malabsorption syndrome
108. Impaired motor function of bowel
109. Constipation, types
110. Ileus
111. Diarrhea: etiology, pathogenesis, types and consequences
112. Autointoxication from the intestines
113. Liver failure and its types

114. The main causes and pathogenesis of liver failure
115. Metabolism in liver injury
116. Impaired protective and barrier function of the liver
117. Signs of Hepatic Insufficiency and Mechanisms of its Development
118. Toxemic syndrome at liver failure
119. Hepatic Encephalopathy: Pathogenesis and Clinical findings
120. Hepatic coma, its etiopathogenesis, and types
121. Causes, mechanisms, and consequences of Cholestasis
122. Causes, consequences, and manifestations of acholia
123. Blood clotting at acholia
124. Jaundices and its types
125. Pathogenesis of mechanical jaundice
126. Pathogenesis of hepatic jaundice
127. Pathogenesis of hemolytic jaundice
128. Enzymopathic jaundice
129. The mechanism and consequences of the formation of bile stones
130. Circulatory impairment in liver failure
131. Causes, types, and consequences of portal hypertension