

Study Questions for Lecture 12 Assigned Readings.

From Nauta Chap 8: Innervation of the Viscera.

1. For the sympathetic and parasympathetic subsystems of the autonomic nervous system, identify the following:
 - a. The location of the preganglionic motor neurons in the CNS.
 - b. The neurotransmitter of the preganglionic neurons.
 - c. The location of the postganglionic neurons (are they inside or outside the CNS?).
 - d. The neurotransmitter of the postganglionic neurons.

2. Among the systems that the hypothalamus significantly influences are: a) the preganglionic motor neurons of the sympathetic nervous system, b) the anterior pituitary, and c) the posterior pituitary. Describe the functional links between the hypothalamus and these three systems. In particular:
 - a. Do fibers from the hypothalamus release their chemical products directly onto the structures, or are there intermediate steps?
 - b. What are the intermediate steps (if any)?
 - c. What is the chemical product released by the hypothalamus (need to answer only for anterior and posterior pituitary)?

From Nauta Chap 10: Ontogeny; Spinal Cord.

1. Three districts of the neural tube are the ventricular layer, the mantle layer, and the marginal layer. What becomes of each of these structures in the adult central nervous system?

2. On which side of the neural tube are the alar and basal plates situated, respectively? Will each of these plates come to contain motor or sensory neurons?

3. From what developmental structure do cells of dorsal root ganglion, sympathetic ganglion, and parasympathetic ganglion arise?