

9.01 Study Questions
Session 12 Lecture

- 1) Write short definitions of the following terms:
 - a. Propriospinal system of axons
 - b. Paravertebral ganglia (chains of ganglia)
 - c. Prevertebral ganglia, e.g., the celiac ganglion
 - d. Vagus nerve
 - e. Dorsal horn, ventral horn, lateral horn
 - f. Dorsal columns, lateral columns, ventral columns
 - g. Medial lemniscus
 - h. Motor cortex projections
 - i. Alar plate, basal plate, sulcus limitans
 - j. Neural crest cells
 - k. Preganglionic motor neurons
- 2) What are the spinal enlargements? Where are they, and why did they develop?
- 3) The neural tube forms as an invagination of the primitive _____.
- 4) Three examples of descending pathways in the spinal cord are _____.
- 5) Describe Otto Loewi's experiment that indicated that synaptic transmission was chemical in nature. [Just to remind you of an earlier lecture!]
- 6) Loewi talked about two neurotransmitters acting on the heart: "acceleransstoff" and "vagusstoff" (the accelerator substance and the vagus substance). What did these two neurotransmitters turn out to be?
- 7) Summarize the difference in locations of preganglionic motor neurons of the sympathetic and the parasympathetic nervous systems.
- 8) Contrast the anatomy and the function of the sympathetic and the parasympathetic innervation of the iris, the heart and the intestinal tract.
- 9) The ventrobasal thalamic nucleus, or the ventral-posterior nucleus (Latin terms: *nucleus ventralis posterior, pars lateralis* and *pars medialis*) receives somatosensory input from both paleolemniscal and neolemniscal channels. The two CNS tracts that carry this input from the spinal cord are known as _____ and _____.