

Medical Neuroscience Laboratory Manual

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Learning Neuroanatomy

Neuroanatomy is easy. Learning neuroanatomy is difficult. Why? First, because it is a new vocabulary. Second, because no matter where you start, you are always referring to parts of the brain you haven't studied yet. Third, because students almost invariably "fail to see the forest for the trees," losing sight of the important relations by focusing on unimportant, trivial details. This laboratory manual emphasizes important facts you should know. Study it carefully. It contains many references to pictures and illustrations in the Haines atlas (*Neuroanatomy: An Atlas of Structures, Sections, and Systems*), which is a *reference book* that contains many things we think you should *not* learn at this time. Therefore, do not use the Haines atlas as a book to be studied and memorized but only as a reference and aid to learning the material **in this manual**.

Examples of important facts include the main sensory and motor pathways and systems, such as the *dorsal column/medial lemniscal pathway*, the *visual pathway*, and the *corticospinal pathway*. Other important topics include understanding the relation of the *cerebellum* and *basal ganglia* to the rest of the motor system. Examples of unimportant facts include the names of the ten or twelve different *raphe nuclei*, the exact location of the spino-olivary fibers in the spinal cord, and the location of the frenulum. If you spend a minute studying these last three items, you have not only wasted your time but have actually seriously hindered your learning of the essentials by filling your mind, which has a finite capacity to absorb new information, with trivia. **Do not do this.** Rather always strive to keep the big picture and the overall pattern before you. **Note About Cases:** In almost all chapters you will find one or more clinical case descriptions. You will find some of the cases studied early in this lab manual difficult because they require more knowledge than most of you will have at this time. However, do not be discouraged. One of the reasons the cases are presented is to show you where you are going, what your final destination is, how fundamental knowledge about the brain is actually used clinically. Even if you are not there yet, some sense of your ultimate goal is useful.