

Abstract: The Development and Use of Clinically Relevant Learning Activities in a Human Neuroanatomy

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Background: Courses in human neuroanatomy typically consist of lectures by the faculty, readings in assigned textbooks and sometimes dissection exercises with cadavers. However, as student's progress into the more clinically oriented phases of the curriculum, many discover that the anatomical knowledge they need is somewhat different from the kind they possess. We developed a series of applied neuroanatomy learning activities structured around the general neurological examination to help students appreciate the importance of neuroanatomy in the evaluation and management of patients.

Methods: We developed seven "applied neuroanatomy" laboratory sessions with content appropriate to each of five, common components of the neurological examination. The exercises involve inspection, palpation and other maneuvers commonly included in the general physical examination. Students are divided in to small groups and instructed to perform each exercise on all other members of the group. Faculty circulate among the groups to guide students in the performance of tasks and to answer questions as they arise. Short written questions accompany many of the exercises that highlight central and peripheral neuroanatomic structures and relationships. Students were surveyed at the end of each unit regarding their perception of the value of these exercises.

Results: Students generally liked the active learning format of these sessions, particularly their close relationship to the clinical skills they were learning concurrently in other courses. Students appreciated the fill in the blank questions which they viewed as "practice questions" for the upcoming final exams. Some students felt somewhat uncomfortable serving as subjects for their peers. This hesitancy gradually diminished as the year progressed.

Conclusion/Discussion: Students acknowledged the value of these active learning activities early in the curriculum as directly related to essential knowledge and skill sets that will be necessary in the clerkship and elective years..