An Aid To Learning Neuro-muscular Anatomy

William E. Loechel
AN AID TO LEARNING NEURO-MUSCULAR ANATOMY

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THE ENORMOUS GROWTH of medical knowledge in the past 25 years is generally appreciated. The need for continued improvement in the organization and presentation of this limitless body of facts is obvious.

Lectures, discussions, movies, slides, drawings, diagrams, panel discussions, symposia, conferences, illustrations, demonstrations, dissections, and models are utilized daily in attempts to make this knowledge more easily learned and better retained.

Material which lends itself to presentation so that visual, auditory, and even tactile impressions can be made is better learned that when a single sensory receptor alone is stimulated.

Once a medical subject can be organized logically and is founded upon sound physiological principles, recollection becomes comparatively simple. For example, once the function of the thyroid gland is learned, it is not difficult to recall the manifestations of hyperthyroidism, or hypothyroidism.

On the other hand, learning certain subject matter depends largely upon "brute memory". Memorizing the names of muscle groups and their innervation is such a difficult task. Newer techniques and better methods of presentation are continually being added.

With this particular problem in mind, I have devised a simple device utilizing three discs or wheels. The largest or central disc is used to list each muscle of the body alphabetically about its circumference (Figure 1). Both sides of the large disc are necessary to accommodate the names. The nerves to these muscles have been lettered on the same disc, but are hidden by the smaller disc. However, there is a small window in the small disc, and when one dials the pointer to a particular muscle its nerve supply appears in the window (Figure 1).

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Figure 1

A section of the device showing the larger circumference listing the muscles alphabetically, and the "cut-away spoke" on the smaller wheel listing the nerves for the appropriate muscles. By simply dialing the pointer to the muscle in question the nerve supply appears in the "spoke." By dialing to the frontalis muscle one finds it is supplied by the facial nerve.

In most cases one dials the pointer to the muscle being considered and finds the general nerve listed, i.e. auricularis ant., sup. and post. show the nerve "facial". In a few instances one sees a breakdown, i.e. abductor digiti quinti shows the name "lateral plantar, (superficial branch)".

This "neuro-dial" or "neuro-muscular dial" should prove helpful to students, nurses, physical therapists, neurologists, neurosurgeons, orthopedists and physicians in general. It can be used by any individual who wishes to assess his knowledge of nerve-muscle relationships. Furthermore, the device is simple, compact, and can be kept near for frequent reference.

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Figure 2

A complete view of the aid to learning the "neuro-muscular dial."