

INTRODUCTION TO ELECTROPHYSIOLOGY

One of the most difficult concepts you will encounter on your journey to becoming a budding student of Anatomy and Physiology is **electrophysiology**. Electro—what? Exactly! However, we are confident that after a few light pages of reading, you will be able to use electrophysiological principles in your everyday conversations. Why is this subject so important? For starters, consider this quote from President John Taylor: "...I could show you upon scientific principles that man himself is a self-registering machine, his eyes, his ears, his nose, the touch, the taste, and all the various senses of the body, are so many media whereby man lays up for himself a record..." (Pres. John Taylor, *Journal of Discourses*, 26:32.). In more scientific terms, the body is able to take external stimuli (i.e. light, sound, smell, taste), using various sensory organs of the body, and convert these stimuli into unique perceptions in the brain. How the body converts the various types of stimuli from outside sources to inside signals is a major emphasis of electrophysiology. In addition, consider the magic that occurs when your brain decides to put your hand in your pocket and, using mechanoreceptors on your fingers, pull out the exact item you were seeking, without even looking at it! Well, with any luck, after you are done with this section, you should be able to explain the "magic" behind these different phenomena.

Ions and Cell Membranes
Membrane Potentials
Graded Potentials
Action Potentials
Refractory Periods
Propagation of an Action Potential



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