

## **Study Guide for Exam 2 - Membrane Potentials, Inflammation, and Tissue Repair**

The Interactive Physiology CD that came with your text contains some great film clips and explanations related to the topic of membrane potentials. Do yourself a favor and view the following clips:

**Muscular**

**The Neuromuscular Junction**

**Nervous I**

**Ion Channels**

**The Membrane Potential**

**The Action Potential**

**Nervous II**

**Synaptic Transmission (only pages 1 and 3-6)**

**Text info on Membrane Potentials: 7<sup>th</sup> ed. p. 81-83, p. 288-290, p. 397-405, and p. 409-411**

**Text info on Membrane Potentials: 8<sup>th</sup> ed. p. 77-79 (79-80 in some printings), p. 284-288, p. 395-404, and p. 407-413**

### **1<sup>st</sup> Lecture**

**What you Must Know first...**

**ECF vs. ICF**

**The normal distribution of electrolytes ( $\text{Na}^+$ ,  $\text{K}^+$ ,  $\text{Ca}^{++}$ , &  $\text{Cl}^-$ ) and proteins**

**The permeability of the cell membrane to  $\text{Na}^+$  and  $\text{K}^+$**

**RMP (Resting Membrane Potential)**

**Is the Result of...**

**The Cardinal Rule...**

**Altering RMP for communication**

**Chemical Synapses - Components & Events**

**Results / Review Exam #1 (15 min.)**

### **2<sup>nd</sup> Lecture**

**Polarity, Depolarization, Threshold**

**Repolarization**

**Refractory periods**

**Absolute and Relative**

**Hyperpolarization**

**Types of membrane potentials**

**Resting, Graded, and Action**

**Clinical Applications: "What if...?"**

### **3<sup>rd</sup> Lecture**

**Inflammation**

**Signs and Symptoms**

**Inflammatory Chemicals**

**Tissue Repair**

**Regeneration vs. Fibrosis**

**Primary Union vs. Secondary Union**

**Regeneration Capacities of Tissues**

## **EXAM #2**