Comment on Dr. Cannon's New Simulations

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Dr. Cannon's new simulations indicate that if only fast inactivation was blocked in the Na^+ channels responsible for the depolarization-induced paralysis, muscle fibers might cycle between excitable and inexcitable states. Depolarized-inexcitable fibers would repolarize after several minutes due to slow inactivation reducing the Na^+ current from the abnormal Na^+ channels. The repolarized fibers would regain excitability and could become paralysed again when a sufficient number of abnormal channels had recovered from slow inactivation to again produce a depolarization-induced paralysis. In my experience, electromyograms of patients with periodic paralysis do not demonstrate intermittent electrical activity in muscle fibers, which suggests that the membranes of the muscle fibers are not cycling between excitable and inexcitable conditions.