Electrophysiologic evaluation for NMJ disorders including Myasthenia gravis	
1	**Set up** - Ensure limb is warmed to at least 33C - Immobilize the limb as best as possible
2	**Routine motor and sensory nerve conduction studies** (to ensure normal nerves) - Preferably a motor and sensory nerve in one upper and one lower extremity - CMAP amplitudes would be normal in MG - If CMAP amplitudes low/borderline, test for presynaptic NMJ transmission disorder (eg LEMS) by repeating distal stimulation immediately after 10 seconds of exercise. >40% increment above baseline is abnormal; >100% is highly suggestive of a presynaptic NMJ disorder.
3	**Repetitive nerve stimulation (RNS)** at rest - Using supramaximal stimulation - Slow RNS (2-3 Hz) x 5-10 impulses, 1 second apart, repeated x3 to ensure reproducibility - Choose at least one proximal and one distal motor nerve (always try to study weak muscles) - In a normal patient, there is <10% decrement between the 1st and 4th responses - If there is no significant decrement at baseline, have patient maximally exercise for 1 minute, then repeat slow RNS immediately, 1, 2, 3, 4 minutes afterward to demonstrate postexercise exhaustion - If there is significant decrement present at any point, have the patient maximally exercise for 10 seconds and immediately afterward, repeat slow RNS to look for postexercise facilitation/repair of the decrement
4	**Needle electromyography (EMG)** - Concentric needle EMG of proximal and distal muscles, especially weak muscles - Unstable or short, small, polyphasic motor unit action potentials may be seen in moderate-severe MG with normal or early recruitment - Note: any muscle with denervation or myotonia on needle EMG may demonstrate a decrement on RNS, in which case the decrement on RNS does *not* signify a primary NMJ disorder (may be a severe denervating or a myotonic disorder)
5	**Single fiber EMG (SF-EMG)** - If strongly suspect MG and the above findings are normal/equivocal, perform SF-EMG in the extensor digitorum (EDC) +/- one other muscle (always best to study a weak muscle) - Jitter and blocking indicate an NMJ disorder - A normal SF-EMG in a clinically weak muscle excludes an NMJ disorder

Table 2. Protocol for electrodiagnostic evaluation for disorders of the NMJ including MG (adapted from Preston & Shapiro).