Experiment HM-2: Electromyogram (EMG) Activity in Antagonistic Muscles

Equipment Required

PC or Mac Computer

IXTA, USB cable, IXTA power supply

ROAM EMG

Disposable electrodes

Small weight (1-2 lbs)

EMG Cable Setup

1. Locate the ROAM and disconnect it from the dock.

Figure HM-2-S1:The TA and ROAM EMG.

2. Locate the muscles of the forearm over which the recording electrodes will be placed. Muscles can be located by flexing or extending the hand and noting the areas of the forearm where the muscles are tense during these hand positions:
    - One pair of recording electrodes will be placed over the flexor muscles on the anterior surface of the forearm. The first electrode in this pair will be placed about 8 centimeters below the inside of the elbow and about 4 centimeters from the medial margin of the forearm. The second electrode in this pair will be placed about 8 centimeters below the other electrode along the midline of the anterior surface of the forearm.

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- A second pair of electrodes will be placed over the extensor muscles on the posterior surface of the forearm. The first electrode in this pair will be placed about 9 centimeters below the tip of the elbow along the midline of the posterior surface of the forearm. The second electrode in this pair will be placed about 6 centimeters below the first electrode and about 3 centimeters from the lateral margin of the posterior surface of the forearm.
- A fifth electrode, used as the ground, is centered between the positions of the four recording electrodes.

4. Snap the recording lead wires onto the electrodes, so that:

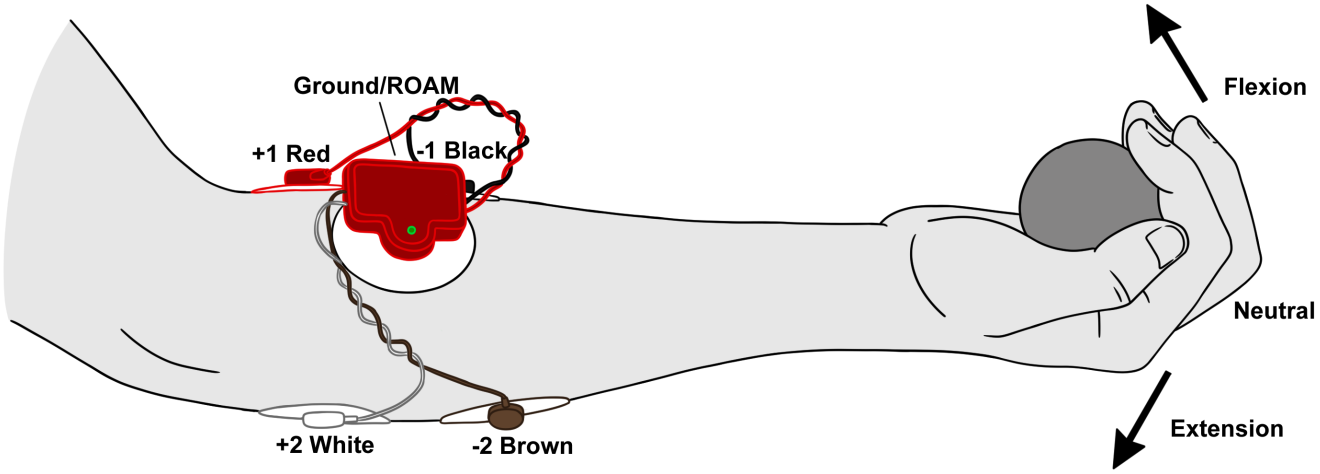

Figure HM-2-S2: Position of electrodes used to record EMG from muscles in the forearm during flexion and extension.

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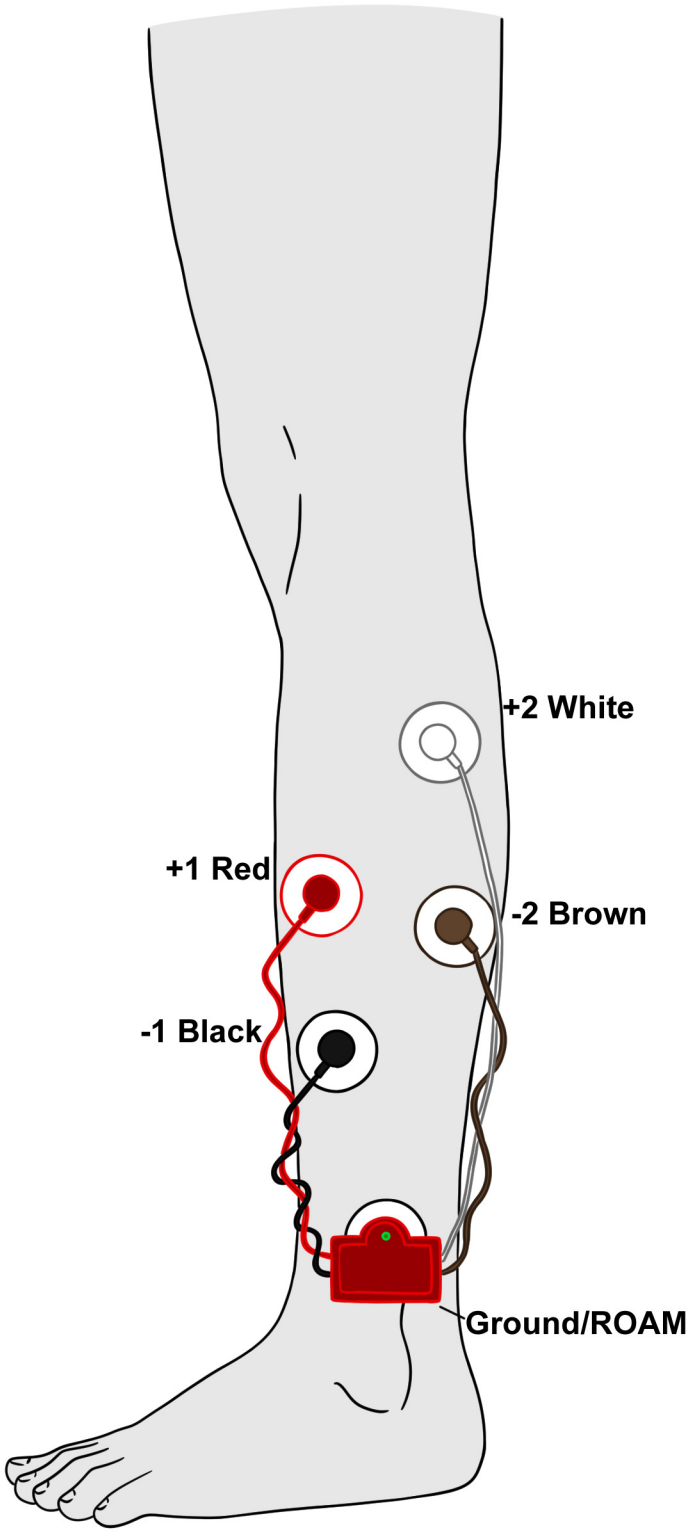

Figure HM-2-S3:
Position of electrodes used to record EMG from muscles in the leg.

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