

Experiment HM-10: Electromyogram (EMG) Activity while Arm Wrestling

Equipment Required

PC Computer

IXTA, USB cable, IXTA power supply

ROAM EMG

Disposable electrodes

Flat table

Rubber mat or towel to protect elbows

EMG Cable Setup

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

Note: Only one of the participants will have the electrodes attached to their arm.



Figure HM-10-S1: The TA and ROAM.

2. Locate the muscles of the forearm and upper arm 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 Pronator teres muscle on the anterior surface of the forearm. The pair of electrodes should be placed side by side, with 2-4 centimeters between them, on the length of the muscle as it crosses the inner forearm.

- A second pair of electrodes will be placed over the Biceps brachii on the upper arm. The first electrode in this pair will be placed about 4 centimeters above the elbow. The second electrode in this pair will be placed about 2-4 centimeters above the first, towards the shoulder.
 - A fifth electrode, used as the ground, is placed between the second pair of electrodes on
3. Remove the plastic disk from a disposable electrodes and apply them to these areas.
 4. Snap the recording lead wires onto the electrodes and place the electrodes as shown in HM-10-S3.

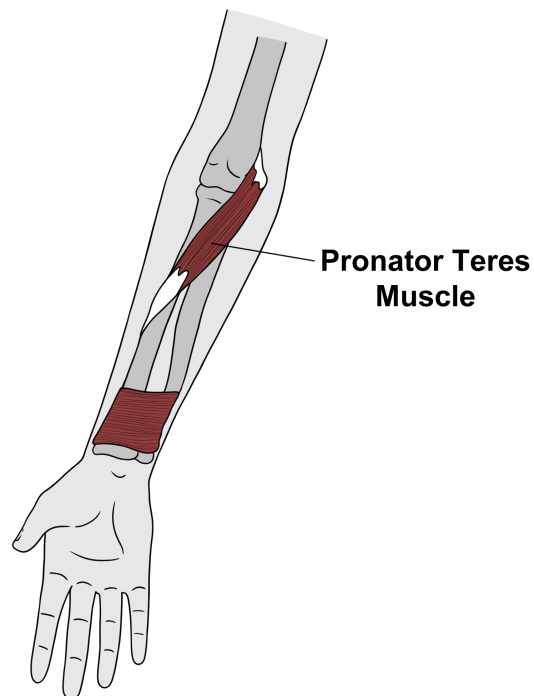


Figure HM-10-S2: Location of Pronator teres muscle.

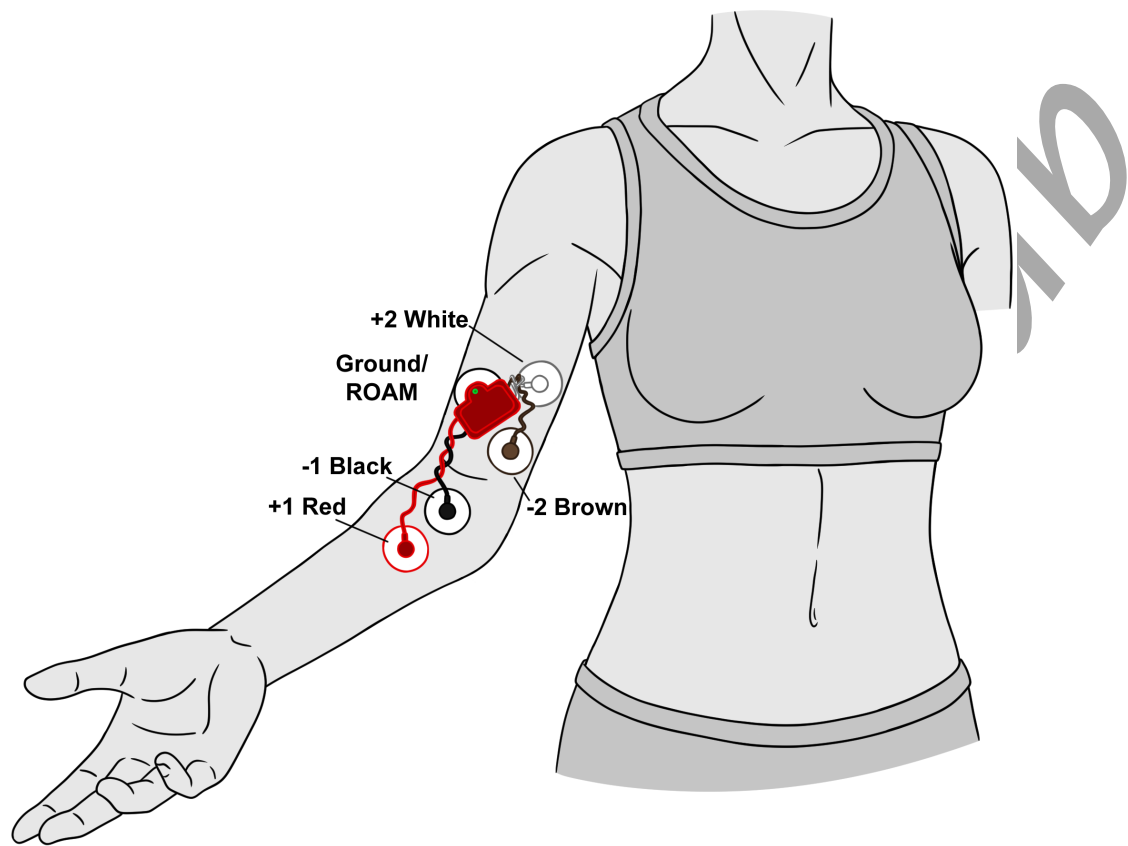


Figure HM-10-S3: Position of electrodes used to record EMG from muscles in the forearm during arm wrestling.

