Experiment HM-13: Box Jump and Other Exercises – Wireless EMG- ROAM

Equipment Required

PC or Mac Computer

IXTA, USB cable, IXTA power supply

ROAM EMG and Disposable electrodes

Box (for Box Jump)

Yoga mat

Appendix for other Exercises

Subject Attire:

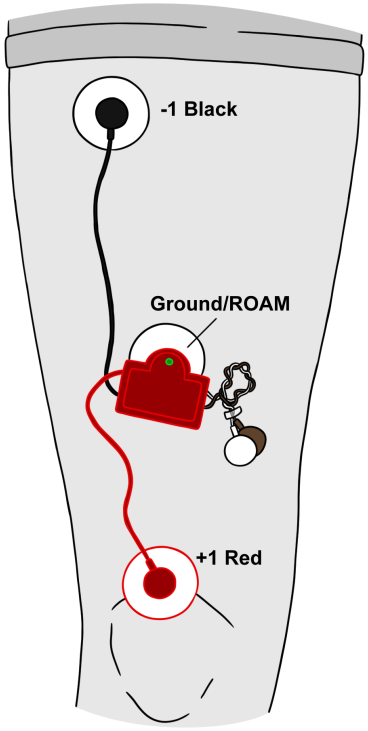
It is important that the subject wears loose comfortable clothing that allows for the attachment of electrodes to the leg and hip area. Bending, stretching, standing and lying down are all part of the exercise protocols that will be used. Comfortable, loose running shorts or pants are a good choice.

iWire-ROAM Setup

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

Figure HM-13-S1: The IX-TA and ROAM

iWorx Sample Lab



NOTE - Attach the black and red lead electrodes in position first, then attach the ROAM base.
The exact position of the ROAM base is less critical than the recording electrodes.

ALTERNATE ELECTRODE PLACEMENT
Red and Black on the Vastus lateralis
Brown and White on the Vastus medialis
The ROAM on the Rectus femoris.

**This will give you a recording of two muscle groups instead of just one.

Figure HM-13-S2: The ROAM EMG with the electrodes on the Rectus femoris.

EMG Setup

1. Attach the electrodes as shown above and in the appendix.
2. Locate the muscles of the leg over which the recording electrodes will be placed. Muscles can be located by flexing, extending, abducting and adducting the leg and noting the areas of the leg where the muscles are tense:
   - Initially, a pair of electrodes will be placed over the ***Restus femoris*** muscle as shown.
   - *** If using 2 channels on the ROAM EMG, the electrodes will be placed over both the ***Vastus lateralis (red and black) and Vastus medialis (brown and white).*** The ROAM will be on the Rectus femoris. This is shown in the appendix and in the Figure HM-13-S3
3. https://www.youtube.com/watch?v=AhnXHiHVi10

NOTE: ***The ROAM EMG can be moved to different muscles of the leg or abdomen based on the exercises being performed.***

IWorX Sample Lab

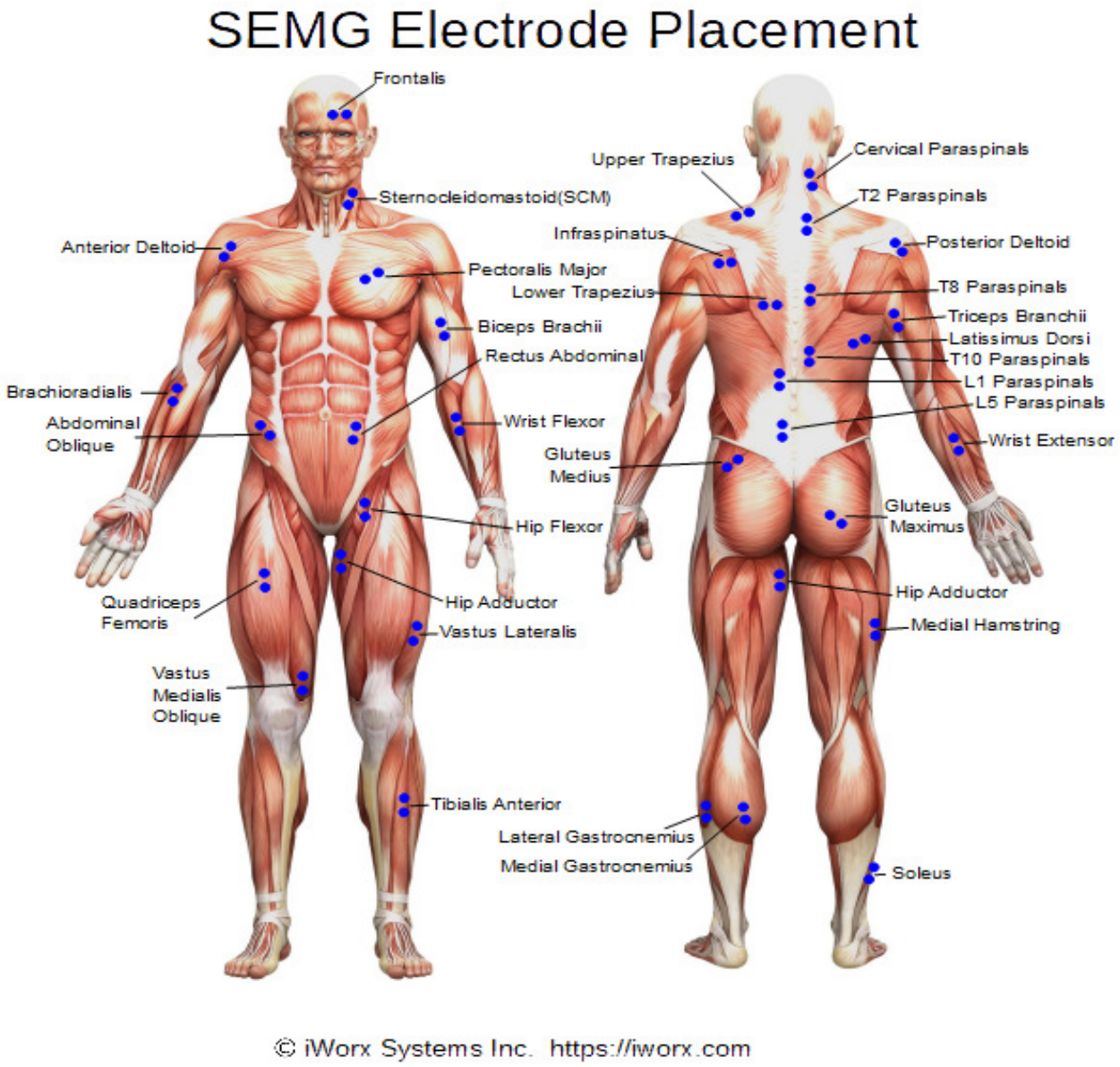


Figure HM-13-S3: Position of electrodes used to record EMG from muscles in the leg and hip during various exercises.