Tester: Todd Harlow

Subject: Todd Harlow, right bicep

Equipment used:

1. Lab Power Supply (GW Instek GPS-3303)
2. Oscilloscope (Tektronix MSO 4054)
3. Muscle Sensor V3
4. Gel electrodes
5. Custom wearable electrode sleeve

Equipment settings:

* +/- 5 V from the power supply to the Muscle Sensor V3
* 1 kHz sample rate on the oscilloscope
* For custom electrode sleeve, muscle sensor gain reduced by 180 degrees counter-clockwise on trim pot

Procedure:

* 10 second samples
* 4 bicep curls performed using loaded backpack (~10 lbs)

Notes:

* The skin was not prepped in any way

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Step** | **Action** | **Expected Outcome** | **Pass** | **Fail** | **Comments** |
| 1 | Don wearable | Wearable is snug, maintains constant electrode contact | X |  |  |
| 2 | Perform bicep curl | Wearable does not impede the exercise | X |  |  |
| 3 | Connect wearable to muscle sensor | Connected wearable generates an electrical signal | X |  |  |
| 4 | Perform bicep curl | Connected wearable generates a signal similar to direct electrodes | X |  | Signal is noisier and stronger |
| 5 | Perform curl until fatigued | Fatigue is detected using current working algorithm |  |  | Not performed |

* The custom electrode sleeve was dry

**Results:**

* The custom electrodes generate a signal similar to the gel electrodes
* However, the signal is louder and noisier
* Gain on the Muscle Sensor V3 needed to be reduced to prevent clipping

