

Experiment protocol (2019-03-04):

Purpose:

The movements are as follow:

Standing still - Static & synchronous

Walking (taking a step) - Dynamic & asynchronous

Sitting down/up - Dynamic & synchronous

Equipment:

Clothes for movement.

Stopwatch to time exercises.

Vanity kit for removing hair where the electrodes are placed

EMG recording machine with misc.

Method:

First we want to test the standing 'movement' then walking and last sitting up/down in order to not exhaust the muscles thus compromising the data. There will also be a standing session after all the exercises in order to check if the previous movement impacted the muscles when standing still.

$\frac{2}{3}$ of the repetitions will be sequential thus. first walking then sitting down/up. Then there will be a small break and the last $\frac{1}{3}$ will be randomized between sitting down/up and walking a step to see if there are any noticeable muscle activity when the person knows what movement is coming next e.i if any muscle tensions are in progress already.

Exercises: (min 70 reps.)

- Standing(2 min)
- Walking
- Sitting down/up
- Standing

Device 6123: left leg, Device 6122: right leg, analogue input: 5V, inverted

Channel 1: Button

Channel 2: - might be button / broken

Channel 3: Biceps Femoris, R

Channel 4: Rectus Femoris, R

Channel 5: Button

Channel 6: Rectus Femoris, R

Channel 7: Biceps Femoris, L

Channel 8: Rectus Femoris, L

Recording 1: Standing

2min
leaning at 1:49.5 s

Recording 2: Initiate walking; 3 steps; rotate; repeat; starting left
30x starting with left; right; left

Recording 3: Initiate walking; 3 steps; rotate; repeat; starting right
30x starting with right; left; right

Recording 4: baseline sitting (should be no activity at all)

Recording 5: standing up, Sitting down
40

Recording 6: Standing
1 min

Recording 7: walking longer, starting left
30x starting with left; right; left; right; left
(One dual-button flick without importance at the start of the experiment)

Recording 8: walking longer, starting right
30x starting with right; left; right; left; right
23 holds no step

Recording 9: standing up, Sitting down
40

Recording 10: Initiate walking; 3 steps; rotate; repeat; starting left
30x starting with left; right; left
Trial 7 is marked afterwards
Trials 18 & 19 are empty

Recording 11: Initiate walking; 3 steps; rotate; repeat; starting right
30x starting with right; left; right

Results:

Reflections:

Experiment protocol (2018-11-06):

Purpose:

The idea of this experiment is to gather data of a healthy human being doing three different movements which in turn is to be used for classification of said movements.

The movements chosen to cover dynamic and static “movement” and also to cover synchronous and asynchronous movement.

The movements are also chosen because they are everyday movements for most people and because they were mentioned to cause problems for a TFA person how was ‘interviewed’ about her everyday movements.

The movements are as follow:

Standing still - Static & synchronous

Walking (taking a step) - Dynamic & asynchronous

Sitting down/up - Dynamic & synchronous

Equipment:

Clothes for movement.

Stopwatch to time exercises.

Vanity kit for removing hair where the electrodes are placed

EMG recording machine with misc.

Method:

First we want to test the standing ‘movement’ then walking and last sitting up/down in order to not exhaust the muscles thus compromising the data. There will also be a standing session after all the exercises in order to check if the previous movement impacted the muscles when standing still.

$\frac{2}{3}$ of the repetitions will be sequential thus. first walking then sitting down/up. Then there will be a small break and the last $\frac{1}{3}$ will be randomized between sitting down/up and walking a step to see if there are any noticeable muscle activity when the person knows what movement is coming next e.i if any muscle tensions are in progress already.

Exercises: (min 70 reps.)

- Standing(2 min)
- Walking
- Sitting down/up
- Standing

Channel 1: Button; High (==1) while doing experiment

Channel 3: RF/Right leg - BF

Channel 4: RF/Left leg - BF

Recording 1: Standing

2x 1 min (2nd around 1:32)

Recording 2: Initiate walking; 3 steps; rotate; repeat; starting left

20x starting with left; right; left

Recording 3: Initiate walking; 3 steps; rotate; repeat; starting right

20x starting with left; right; left

Recording 4: Sitting down, standing up

2:25-2:28 take out, wrong marking

40+ sitting down, standing up

Recording 5: Standing

2x 1 min (2nd starting around 1:21)

Recording 6: walking longer, starting left

20x starting with left; right; left; right; left

Recording 7: walking longer, starting right

20x starting with right; left; right; left; right

Results:

Reflections: