

### RECORDING MANUAL OF HANDS MOVEMENT MODULES

Medical Motion, LLC

## Video Recording Manual

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## Introduction

MOVXAM is a human movement analysis system and a software for the Brain me exercise report. With single camera recording, it provides digital and waveform presentation of human movement. Designed modules analyze movements of hand, foot, arm, leg and gait. It is an add-on tool of assessment of the progress of the exercise, physical skill, movement mobility, agility and dexterity.

## **Module List**

Group One Module	Hand/Finger Fine and Gross Mobility and Coordination	Assessment
1. LFIT/RFIT	Finer tapping , bilateral Modules, Left/Right Hand Finger Tapping	Agility of finger tapping (amplitude and speed)
2. LHF/RHF	Hand Flapping , bilateral Modules, Hand Open and Close	Hand gross movement
3. LHPS/RHPS	Hand supination/Pronation, bilateral Modules, Hand Supination and Pronation	Hand gross movement
4. LPTP/RPTP	Both index finger taping, bilateral Modules, two Index Fingers Tapping Each Other, with Hands Touching	Left and right coordination
5. LITI/RITI (finger-to- nose)	Finger to nose , bilateral Modules, Index Finger to Opposite Index Finger, then to the Nose	Visual movement control
6. LDEX/RDEX	Finger dexterity, bilateral modules, finger dexterity	Hands fine motor movement









ProMovie Recorder Professional 4K Video Camera





#### **Hand Modules Introduction**

Subject will be sitting in an arm adjustable chair, recording distance of 23-24 inches for hand modules. Face sideways to camera for all hand modules. Suggest finishing all left side modules, then change chair to opposite direction to perform right side modules.

For the camera stand you should use a three-foot adjustable-height iPad stand.

Following is an illustration of the recording overlay.

On the bottom of the picture, you can see the Zoom and Focus scales.





# 1. Finger Tapping

#### (LFIT/RFIT) Description

 Subject sits sideways to camera, elbow rests on adjustable-height arm of the chair. Subject uses index finger tapping to the thumb, both thumb and index finger open away from each other with maximal degree and tapping close against each other with firm and stable tapping for 10 seconds.

 Start left hand first then move the chair to face to opposite side with right arm in the background. Right hand has the exact same performance as the left one.



## Finger tapping, left and right recording





#### 2. Hand Flapping (LHF/RHF) Description

 Subject sits sideways to the camera, with arm straight out in the front, opening the hand then closing, like making a fist. The thumb should open as much as possible. Each hand openclose cycle should be precisely performed and pacing the speed as fast as you can for 10 seconds. The chair is then moved to the right side. Perform the same action with the right hand.



## 3. Hand Supination and Pronation (LHPS/RHPS) Description

 Subject sits sideways to the camera, left arm straight out at a 90-degree angle to the shoulder.
 Starting with moving left-hand supination then pronation. Be sure every cycle is in a precise position, pacing the speed as fast possible for 10 seconds. The chair will then be moved to the right side, with the right hand performing the same movements as the left hand did.





## 4. Pointer-to-Pointer (LPTP/RPTP) Description

 Subject sits sideways to camera, two index fingers tapping each other with two hands crossed holding each other, with the thumbs either tucked in or crossed (see the image). It the thumbs are crossed, then the motion will be more stable. Hold the hands together loosely with the index fingers straight out, left hand on top first, with pinky side of hand facing to background, right back of hand facing to the ground, left back of hand facing to ceiling. Then tap the index fingers together as fast and accurate as possible for 10 seconds. Moving chair to opposite direction, do right side with the same performance.





# 5. Finger-to-Nose (LITI/RITI) Description

 Subject sits sideways to camera, pointing left index finger to the right index finger then to the nose repeatedly. The distance from holding index finer to the nose is around 12 inches. The left module will have right index as the base, with the left index finger moving from the nose to the right finger. Repeat the motion as fast and accurate as possible for 10 seconds. Then switching chair to opposite side, with left hand as the base, right index tapping from nose to left index.



# 6. Finger Dexterity (LFIT/RFIT) Description

 Subject sits sideways to camera, elbow rests on adjustable-height arm of the chair. Subject uses index finger, middle finger, ring finger and pinky tapping to the thumb in orders, open the finger as much as possible, using each finger tapping the thumb as fast as possible for 10 seconds.

 Start left hand first then move the chair to face to opposite side with right arm in the background. Right hand has the exact same performance as the left one.



## Instruction of submit to video:

 After finished the recording the exercise video, please log in to the website: thehealthsensor.com or brainmeexercise.com( coming soon).

Submit video

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Provide information : Name, age, sex ,

 Before submit video, please provide which exercise module you are submit:

File name as following General name rule is as following.

Module name\_name\_date(ddmmyy)

For example: LFIT\_judy\_06302022 RFIT\_jack\_05222022

# Name your fine before submit for analyzing

- Left finger tapping:
  LFIT\_name\_date(ddmmyyyy)
- Right finer tapping:RFIT\_name\_date(ddmmyyyy)
- Left hand flapping:LHF\_name\_date(ddmmyyyy)
- Right hand flapping:RHF\_name\_date(ddmmyyyy)
- Left hand supination/pronation:
  LHPS\_name\_date( ddmmyyyy)

- Right hand supination/pronation:RHPS\_name\_date(ddmmyyyy)
- Left finger to nose:
  LITI\_name\_date(ddmmyyyy)
- Right finger to nose:
- RITI\_name\_date(ddmmyyyy)
- Lift index to right index
- LPTP\_name\_date(ddmmyyyy)
- Right index to the left index:RPTP\_name\_date(ddm/yyyy)