

App Guide
Walking 2
(Foot Progression Angle)

SageMotion
Wearable Biofeedback System



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Components



Hub



Nodes (8x)



Battery



Node Straps: *Medium (8x), Short (4x), Long (2x)*



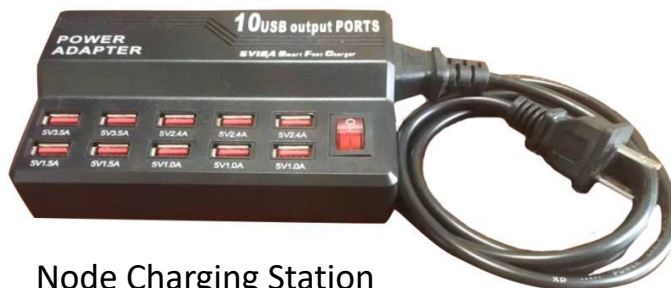
Cable A (10x)

-Connect Hub to Battery
-Charge Nodes & Battery



Cable B (*optional use*)

-Connect Hub to Computer



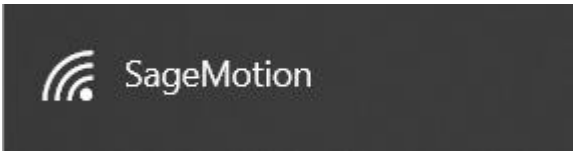
Node Charging Station

Wirelessly Connect to Computer or Cellphone

1) Connect Cable A to Battery and to Hub



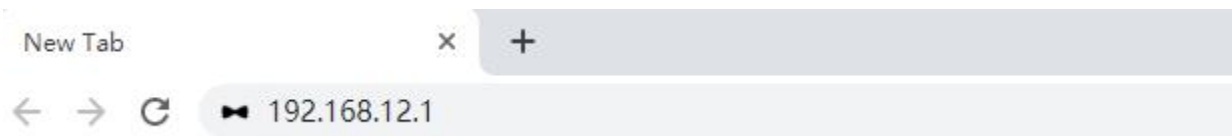
2) On Computer/Cellphone, Connect to Wi-Fi: "SageMotion"



Note 1: Need to wait for up to 1 minute for "SageMotion" to appear in Wi-Fi list. If it doesn't appear, try turning the Wi-Fi off and then on again on the computer/cellphone.

Note 2: Hub is connected after clicking "Connect" even if in Windows it shows "Connecting" or "No internet, open".

3) On Computer/Cellphone, in Chrome Address Bar, Go To <http://192.168.12.1>



[Note] If Computer Doesn't Have Wi-Fi: *plug in Cable B to the Hub and to the ethernet port of your computer, then in chrome address bar, go to **<http://192.168.137.1>***

Walking 2 App

The purpose of the Walking 2 App is to record, analyze, and provide feedback for Foot Progression Angle while subjects perform walking activities.

1) Turn on 3 Nodes

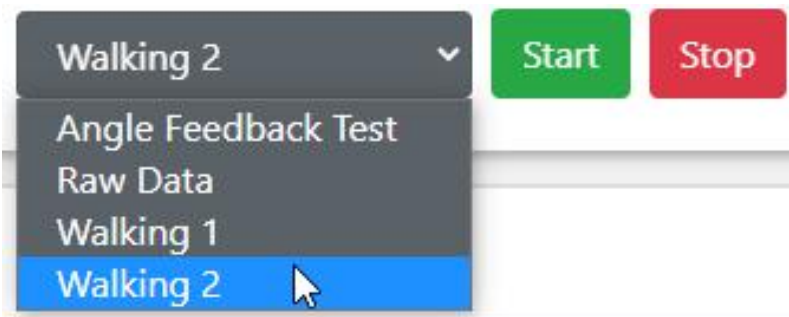


Slide switch toward middle to turn node on



Green light will blink after the node is on and running

2) Select “Walking 2” App



3) Click “Search”

Node List



Walking 2 App (cont.)

4) Configure 1 Sensor Nodes and 2 Feedback Nodes as Shown Below:

Node List

Search

Connect

Type	Position	MAC	
sensor ▼	foot ▼	88:6B:0F:E1:D8:A6	
feedback ▼	foot_medial ▼	88:6B:0F:E1:D8:96	
feedback ▼	foot_lateral ▼	88:6B:0F:E1:D8:9F	

5) Click “Connect”

Node List

Search

Connect



6) “Ready to collect data” Will Appear after Node Connection is Complete

Walking 2 ▼

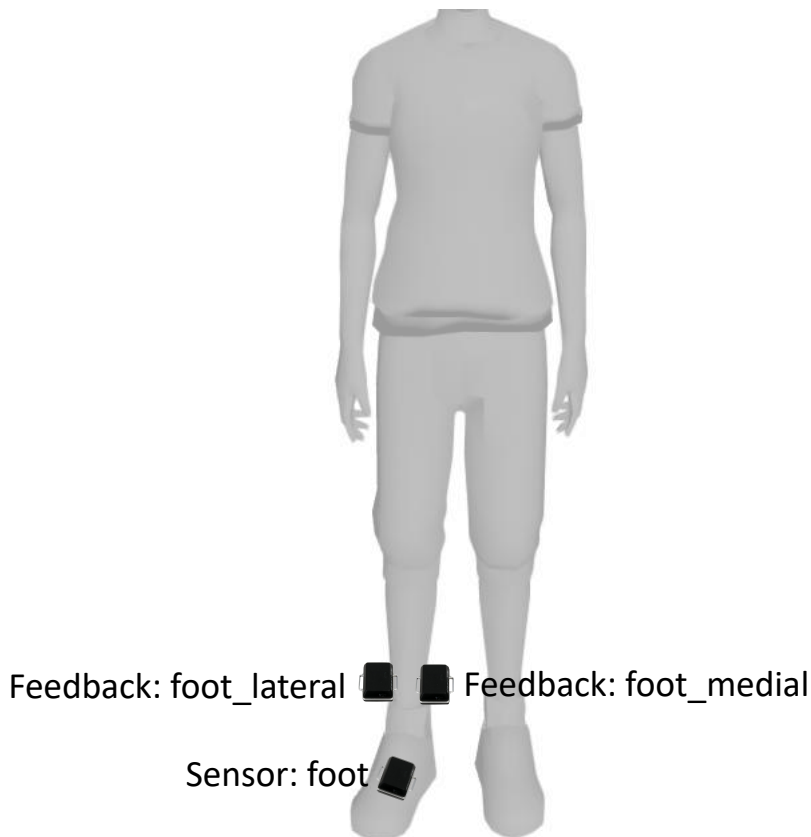
Start

Stop

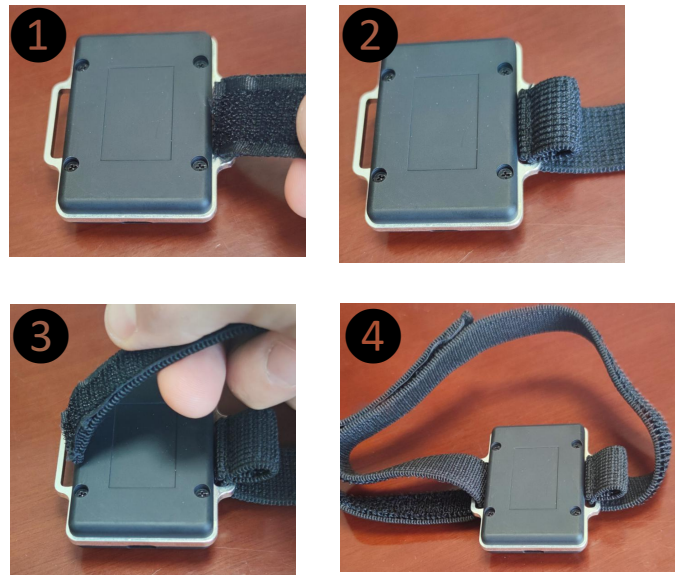
✓ Ready to collect data

Walking 2 App (cont.)

7) Thread Straps through Nodes and Attach at Locations Shown Below:



How to Thread Straps



[Note] foot sensor (top, switch pointing forward).

8) Click “Blink” for each Node to Confirm Correct Locations (red LED for given node blinks 3 times on click)

Type	Position	MAC	Signal	Battery	Action
sensor	foot	88:6B:0F:E1:D8:A6			
feedback	foot_medial	88:6B:0F:E1:D8:96			
feedback	foot_lateral	88:6B:0F:E1:D8:9F			

Walking 2 App (cont.)

9) In App Configuration, Enter Settings (Example Below)

App Configuration

Trial Name trial_walk2_1

Sensor Setting

RIGHT FOOT true

Feedback Setting

FOOT FEEDBACK ON true

Foot Angle

Lateral 5

Medial -5

Save Options

Save Mode xlsx

Walking 2 App (cont.)

10) Click “Start” to Start Running the App




11) After the Trial is Finished, Click “Stop”





12) After Clicking “Stop”, a File from that Trial will Appear under Download Data. Click the File (e.g. trial_walk2_1) to Download it to the Computer or Phone.

Data Management

 Download Selected

 Delete Selected

<input type="checkbox"/>	Name	Date▲	Duration	App	Type	Size	Rename	Delete
<input checked="" type="checkbox"/>	trial_walk2_1	2021-09-18-10-42-48	0:00:26	Walking 2	.xlsx	1.9 MB		

Walking 2 App (*cont.*)

Description of Data in Downloaded File

Iteration: package count

Step_Count: steps of walking

Gait_Phase: gait phase of left foot. 0 is “Early stance”; 1 is “Middle stance” ; 2 is “Late stance”; 3 is “Swing”

FPA_This_Step: Foot Progression Angle of this step

FPA_Feedback_Medial: The feedback state for medial feedback node. 0 is “feedback off”; 1 is “feedback on”

FPA_Feedback_Lateral : The feedback state for lateral feedback node. 0 is “feedback off”; 1 is “feedback on”

SensorIndex_1: index of raw sensor data

AccelX/Y/Z_1 (m/s²): raw acceleration data

GyroX/Y/Z_1 (deg/s): raw gyroscope data

MagX/Y/Z_1 (μT): raw magnetometer data

Quat1/2/3/4_1: quaternion data

Sampletime_1: timestamp of the sensor

Package_1: package number of the sensor