

# ***activforce 2***

## **User Guide**



# Activforce 2 Table of Contents

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# Activforce 2

Activforce 2 is a patented dynamometer, inclinometer and easy-to-use companion app that utilizes advanced technology that tracks and records real-time force and range of motion data. The comprehensive Activforce 2 platform provides real-time strength and range of motion measurements and tracks patient progress along the rehabilitation continuum.

## **What specifically does the Activforce 2 dynamometer measure?**

The Activforce 2 provides accurate measurements of the following:

- Active and Passive Range of Motion (AROM & PROM)
- Peak Force
- Average Force
- Force over Time
- Force/ Weight Ratio
- Muscle Symmetry

## **The Activforce 2 package includes the following components:**

- Activforce 2 dynamometer
- Rounded pad
- Arched pad
- Hand and leg straps
- Mobilization belt
- Belt loop plate
- Custom carrying case

**The rounded pad** is the default accessory for measuring strength and range of motion on most body parts, while **the arched pad** is used to test angular body parts such as the elbow.

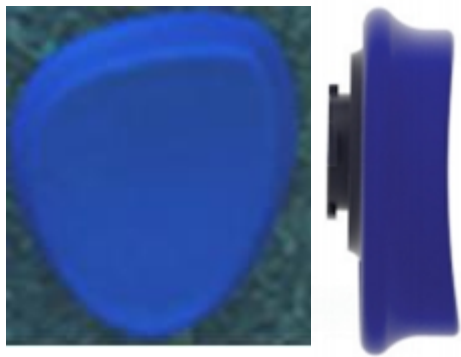
**The mobilization belt aids** in pull measurements by helping therapists apply traction to the spine or the joints to stabilize movement during certain protocols. Hand and leg straps are provided to securely hold the Activforce 2 dynamometer in place during measurement.

-

# What's included



Activforce 2 Dynamometer



Arched Pad



Rounded Pad



Belt Loop Plate



Leg Strap



Hand Strap



Belt



Case

# Specifications

## Physical Dimensions – Activforce Device

Weight: 137 gram / 4.8 oz (with battery)

Length: 95 mm / 3.7 in

Width: 78 mm / 3.1 in

Height: 33 mm / 1.3 in

Volume: 139cm<sup>3</sup>/8.5 in<sub>3</sub> (approx)

## Physical – Package (case)

Weight: 875 gram/29.45 ounces

Length: 360 mm/14.2 in

Width: 152 mm/6 in

Height: 100 mm

## Accessories

	Hand Strap	Leg Strap	Belt
Length	34.29 cm/13.5 inch	80.01 cm/31.5 inch	247.9 cm/97.6 inch
Width	3.81 cm/1.5 inch	3.81 cm/1.5 inch	3.81 cm/1.4 inc

# Specifications (continued)

## Functional

**Force Range:** 90 kg / 200 lb.

**Force Accuracy:** within  $\pm 0.64$  kg/1.4 lb. + 5% of the applied force

**Max load:** 110 kg/250 lb (Applied to a circular area with diameter 3.81 cm at the centre of the rounded or arched pad)

**Range of Motion Accuracy:** The greater of  $\pm 3\%$  or  $\pm 1$  degree. Note: 1 degree covers cases of small angles where the 3% calculation results in accuracy less than 1 degree. In such case 1 degree will be greater and will be selected as required accuracy

**System Requirements:** Activforce 2 IOS 11.4+ and Android 8+

**Connectivity Bluetooth:** 4.1 (Frequency Range: 2402 - 2480 MHz)

**Operating Distance:** up to 2 m/7 ft (from the Activforce 2 App host device)

The device itself and the accessories are water-resistant. They may be wiped down with a damp cloth or a disinfecting wipe.

**Battery:** Activforce 2 device uses a AAA battery (replaceable ) 1.5V that will last between 6 months to a year, depending on usage.

**Environmental: Operational Temperature:** 0 to 35 °C / 32 to 95 °F

**Storage Temperature:** -25 to 50 °C / -13 to 122 °F

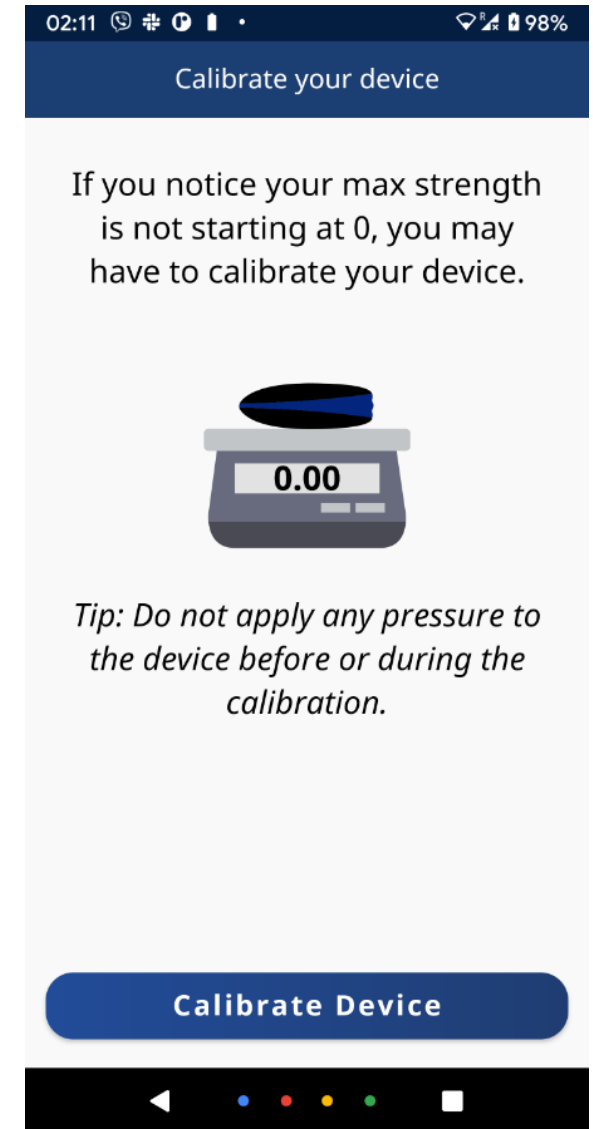
**Humidity:** 15% – 93% RH

**Pressure:** 700 to 1060 hPa (IEC 60601-1-11 clause 4.2.2.)

## Activforce 2 Dynamometer: Performance Quality Assurance: Tare (Calibration)

A simple Calibration operation (Tare, like bathroom scale) is needed, when the dynamometer shows a non-zero force value without a force applied to it. This can potentially happen very rarely at the start of force measurements. In such case the Tare steps, are:

1. Make sure the Activforce 2 dynamometer is connected to the Mobile Activforce App
2. Place the Activforce 2 dynamometer on a hard surface (e.g. table), **do NOT apply any force to it**
3. In the Activforce 2 App: Go to Settings menu (top right corner on the main screen)
4. Tap “Calibrate your device”
- 5 . Tap “Calibrate Device”
6. Observe message on screen: “Your device has been calibrated”
7. Continue with force measurements.



## **USAGE, SAFETY, MAINTENANCE AND TROUBLESHOOTING**

### **Usage**

Activforce 2 is designed for measuring compressive forces up to 90 kg / 200 lbs., by applying pressure to Activforce 2's exterior surfaces, when placed between two body parts, such as your palms, or a body part and object, such as your palm and a desktop. Pressing on or near the belt will result in an inaccurate force measurement and may cause physical injury. Make sure to follow the instructions and guidelines, as provided in the exercising apps, games and/or guides.

### **Safety**

Activforce 2 is certified compliant with all required safety standards and regulations, including electro-magnetic compatibility and hazardous materials, for all territories Activforce 2 is distributed in.

### **Flammability**

Activforce 2 is not waterproof and should not be immersed in or sprayed with water or other liquids. Like many consumer electronic devices, Activforce 2 is flammable and should be kept from exposure to flame or other excessive heat sources. Activforce 2's performance can be also affected by extreme temperature or humidity.



## **Cleaning Activforce 2**

You can clean your Activforce 2 by hand-wiping with a damp soft cloth. For more thorough cleaning, saturate the cloth with a mild detergent or 70% water solution of isopropyl alcohol.

Bleach solution: hypochlorite at 10,000ppm (proportion 1%), can be used on all AF2 dynamometer surfaces, all attachable pads and blue silicone.

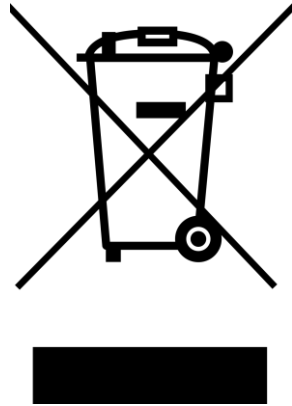
### **Reset**

Your Activforce 2 undergoes a normal reset cycle each time you turn it on and on. In rare troubleshooting situations, a hard reset may be required. To do this, simply take the battery out of its compartment and insert it back in

### **Service and Trouble Shooting**

In addition to Battery Replacement and Reset (as described in this User Manual), Activforce 2 is only designed for service by authorized personnel. For further information, please contact [support@activbody.com](mailto:support@activbody.com).

# Disposal



In the European Union, this symbol indicates that this product should not be disposed with other household waste. Batteries should be discarded separately, and the device should be deposited at an appropriate facility to enable recycling. Please separate these items from other types of waste and recycle them responsibly, following your local government's disposal guidelines and/or electronic parts return system.

# Attaching a Pad and Hand Strap to Your Activforce 2 Dynamometer



[Activforce 2 Attachment](#) (tap to watch video)



[Activforce 2 Hand Strap](#) (tap to watch video)

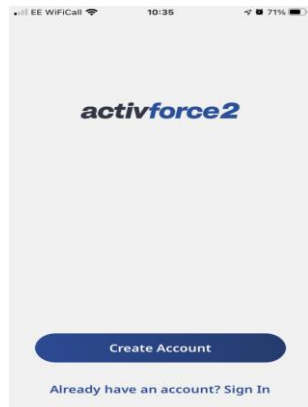
# Activforce 2 Tutorial Videos

[Activforce 2 Best Practices](#)

[Range of Motion Testing with Activforce 2](#)

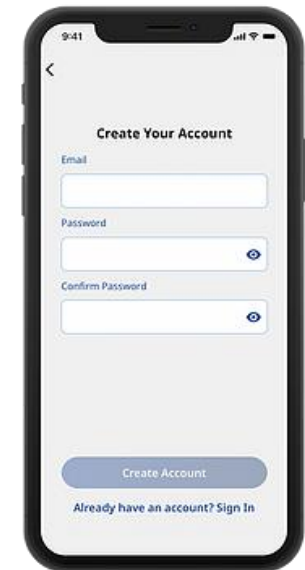
[Knee Extension Force Testing with Activforce 2](#)

1. Download & open the Activforce 2 app from the app store or Google Play Store.



If you already have an Activforce or Activforce 2 account – Sign In otherwise create an account

2. Create an Activforce 2 profile.  
If there will be more than one user for the account use a generic/ shared email



3. Turn on your Activforce 2 device and pair it using Bluetooth to your phone or tablet.

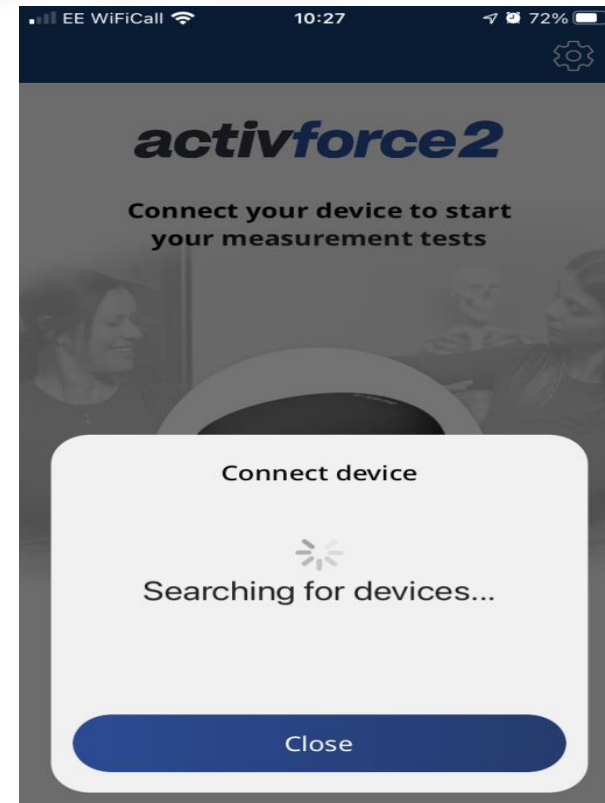
# Turning on Your Activforce 2 Dynamometer:



## LED CODES

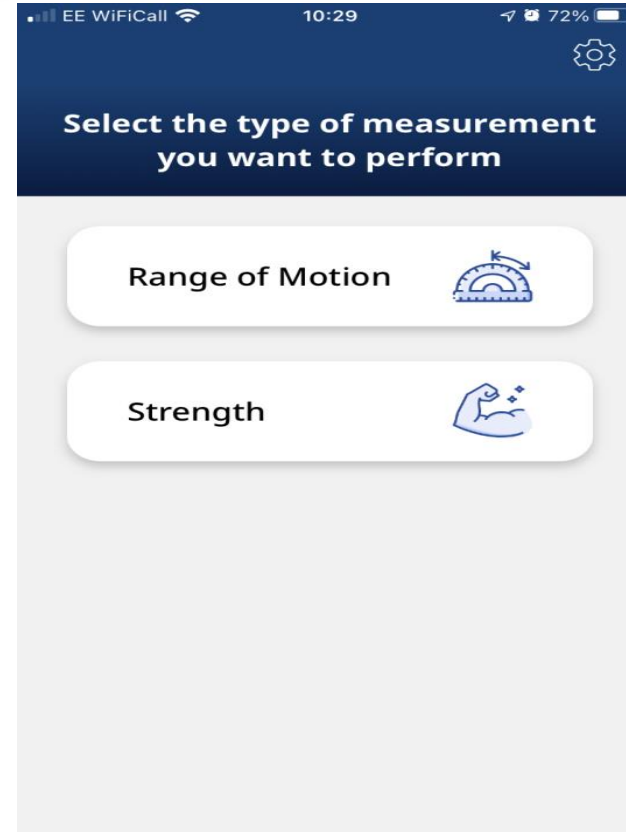
- **BLUE** light means Activforce 2 is available for a Bluetooth connection with a compatible app.
- **GREEN** light means Activforce 2 is connected to an app.
- **RED** flashes can indicate two separate states. Periodic red flashes indicate that the battery is low and needs replacement, while a single red flash acknowledges that the device has been successfully turned off.

# activforce2 app



Press and hold down the button on top of the Activforce 2 Dynamometer until you see the blue light

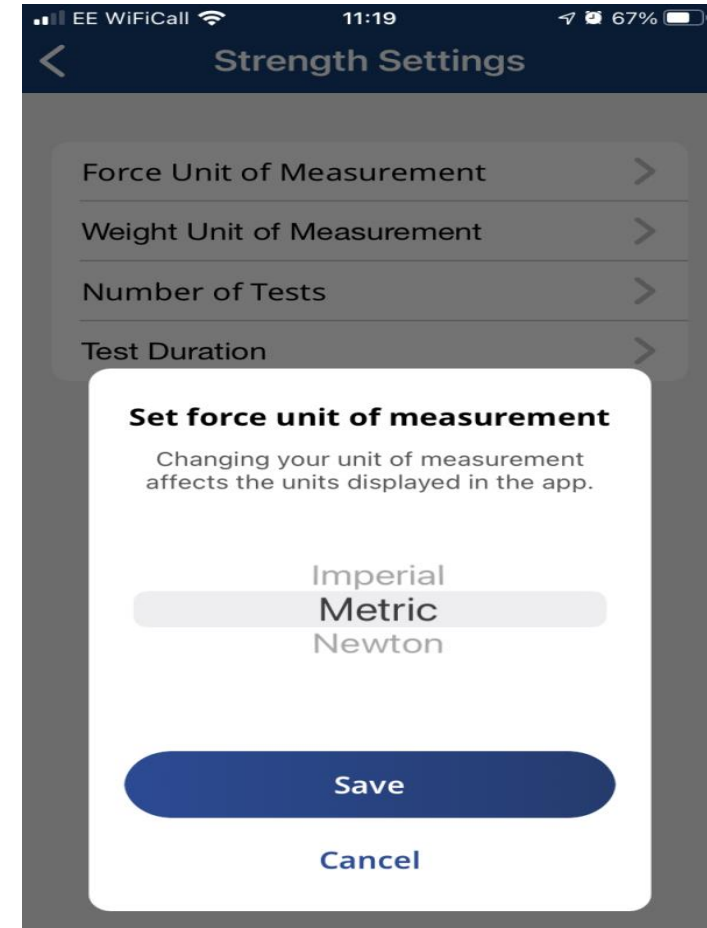
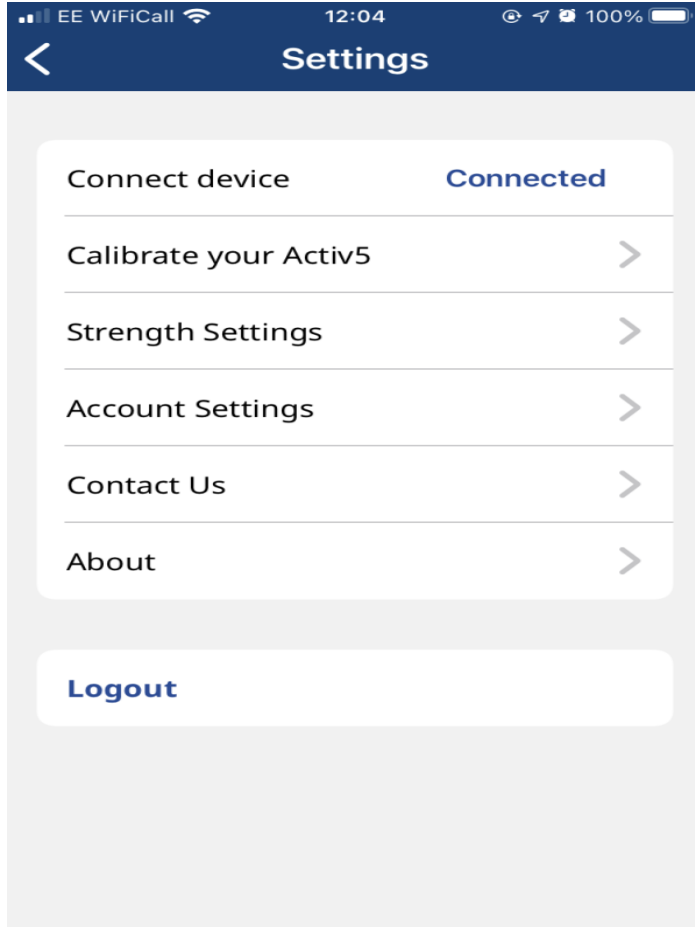
# activforce2



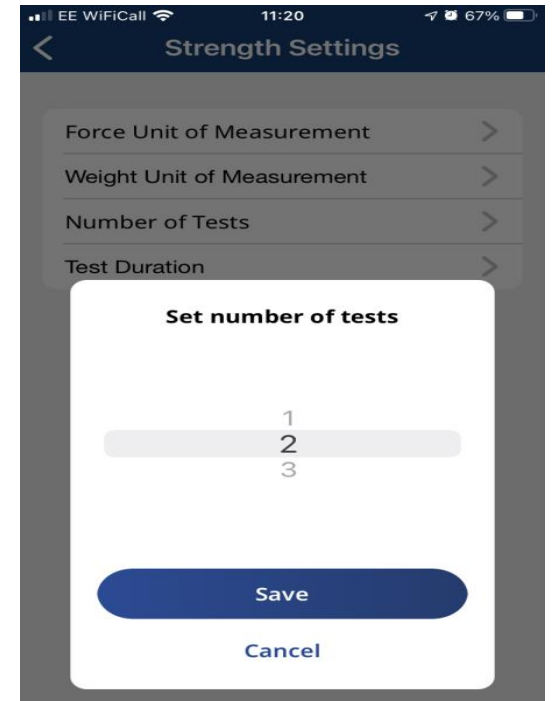
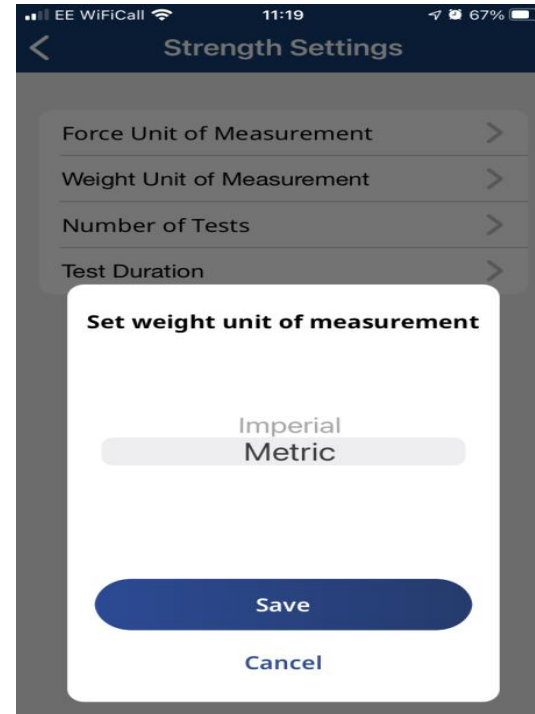
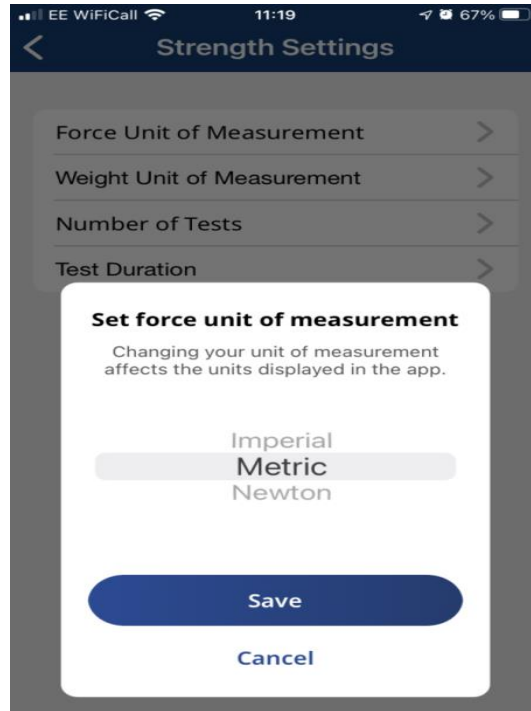
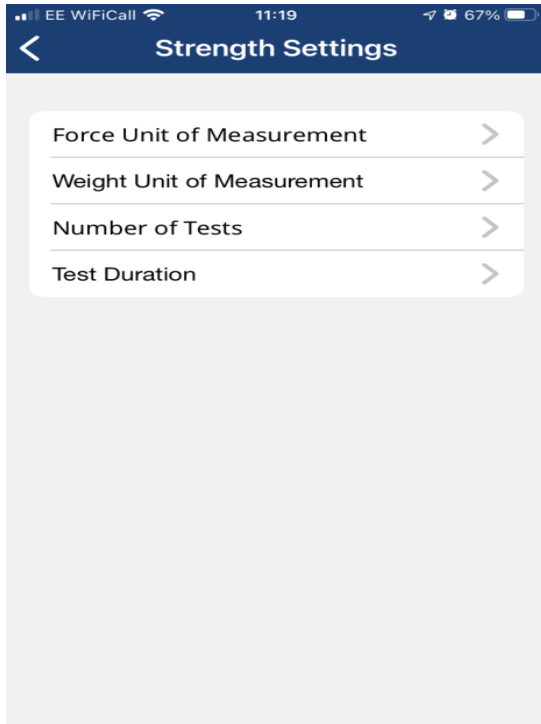
Tap on “Connect” and when the Activforce 2 Dynamometer is paired the blue light will turn green and the Select the type of measurement you want to perform screen will automatically appear



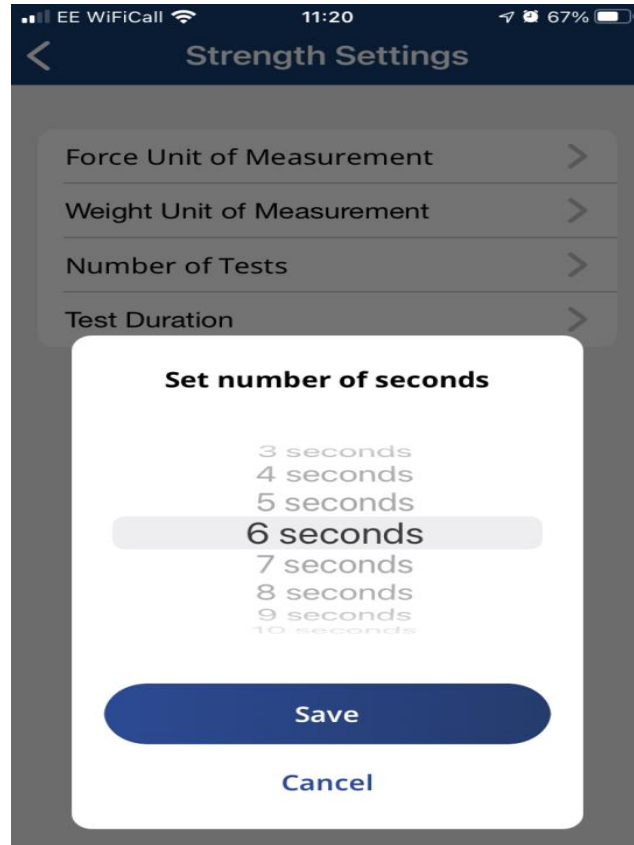
# Settings (continued)



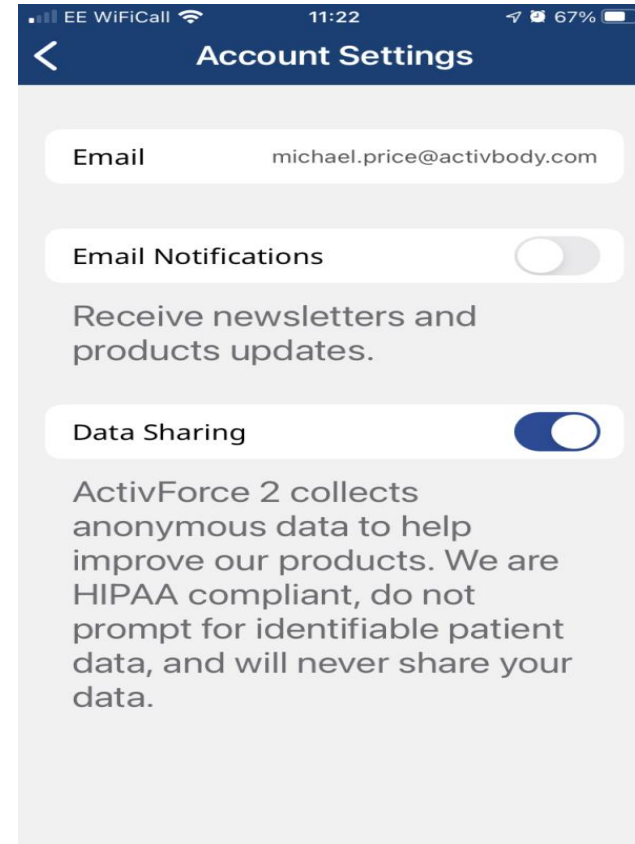
# Settings (continued)



# Settings (continued)

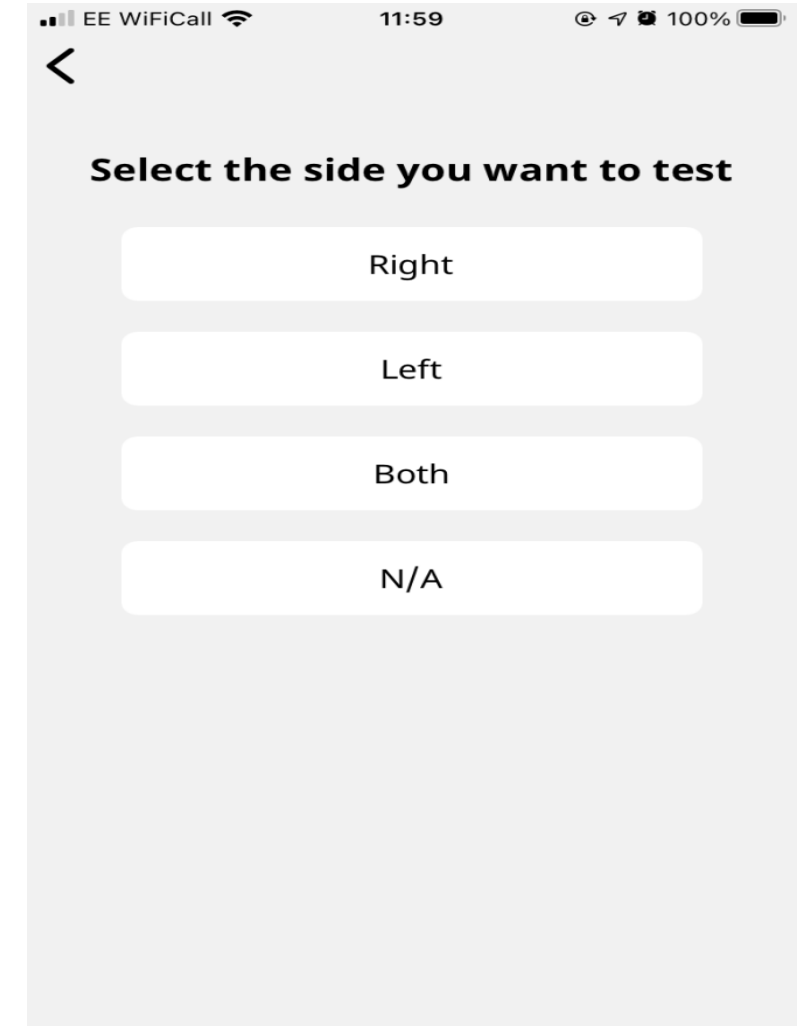
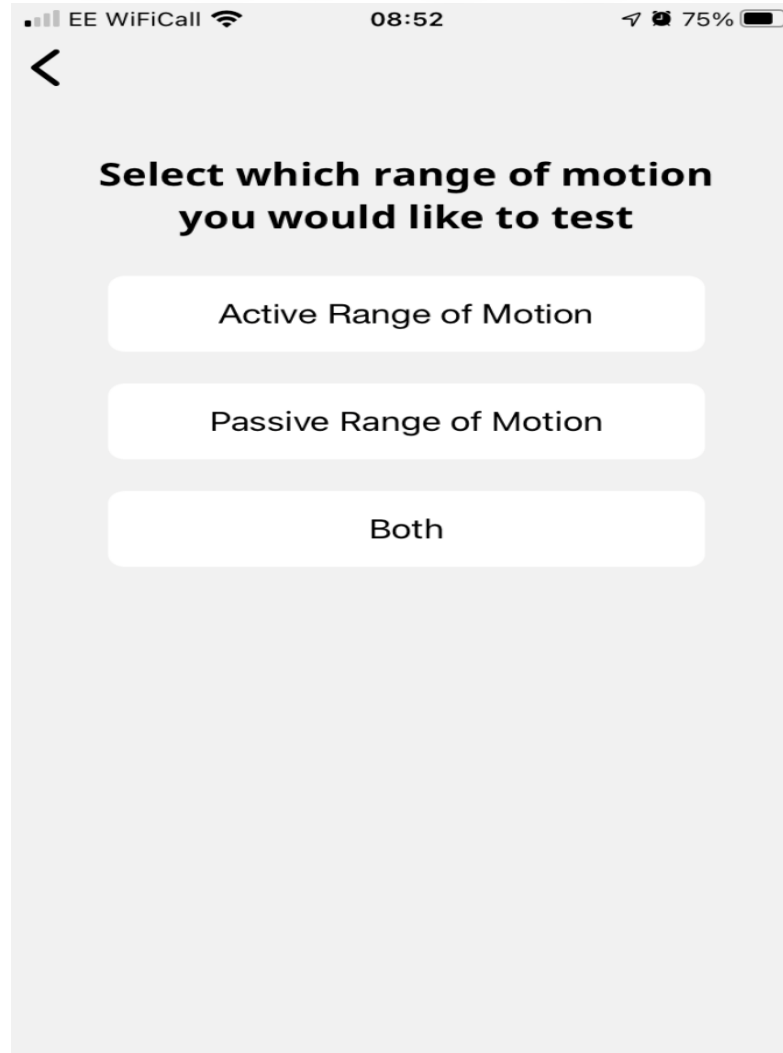
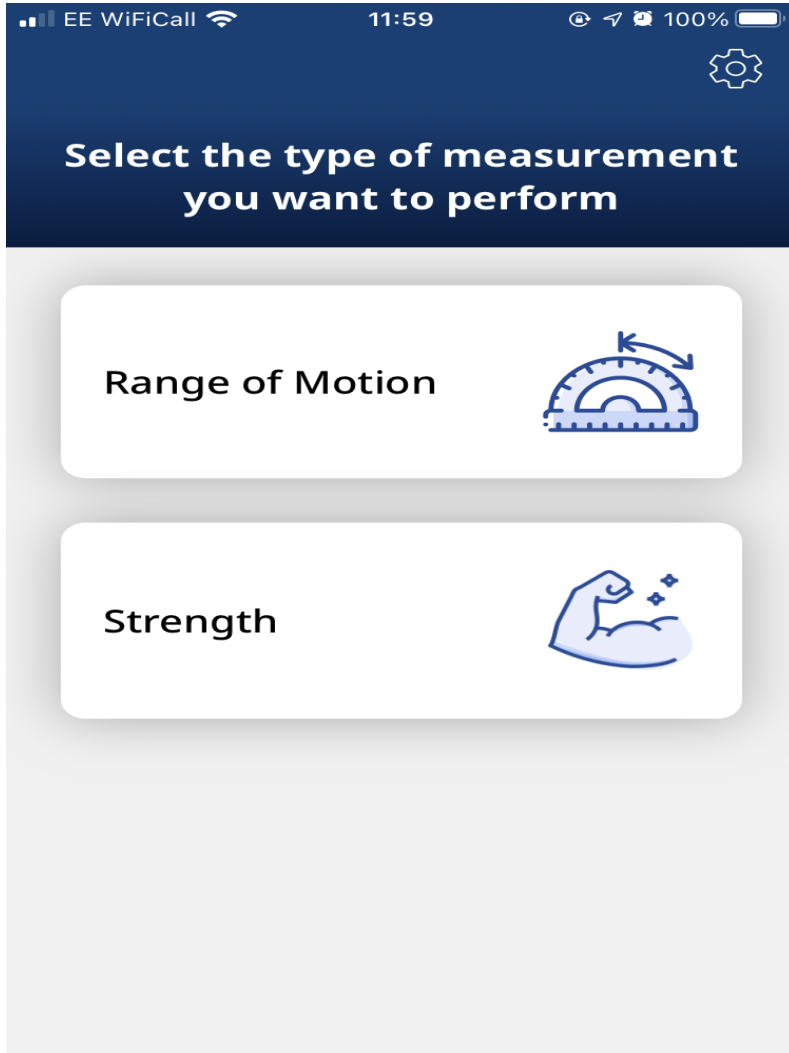


Select From 1 to 60 seconds



Email address associated with the account.

# activforce2 app



# Range of Motion Testing

EE 4G 13:08 56%

< Skip

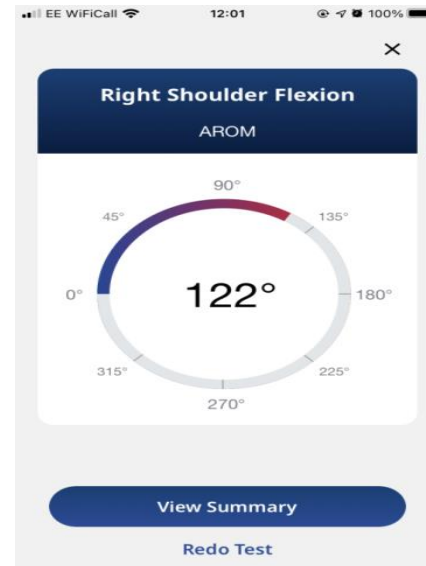
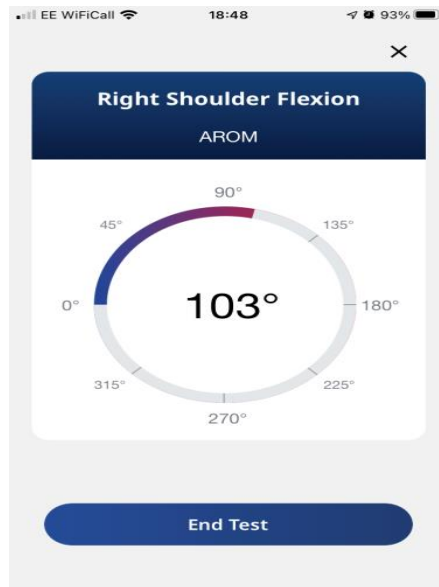
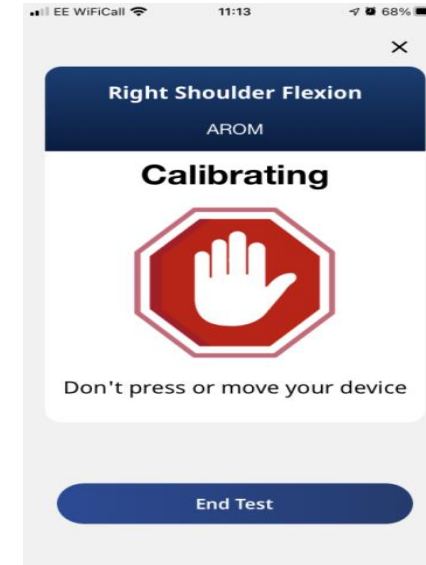
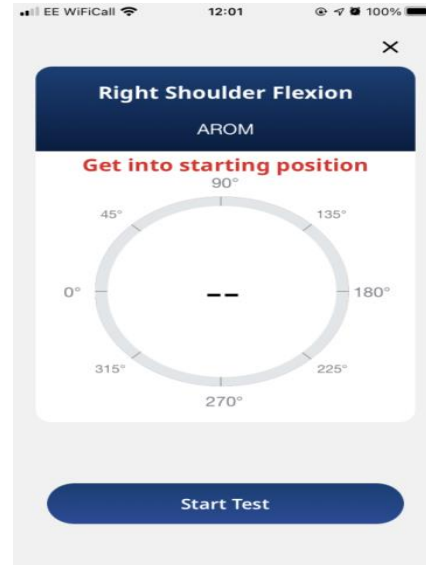
### Name your test

Test Name

example: Shoulder Flexion

Ankle Cervical Elbow  
Finger MCP Foot MTP Hand  
Hip Knee Lumbar  
Shoulder Thumb MCP Wrist

Next



EE WiFiCall 12:01 100%

### Summary

Shoulder Flexion

**AROM Symmetry**

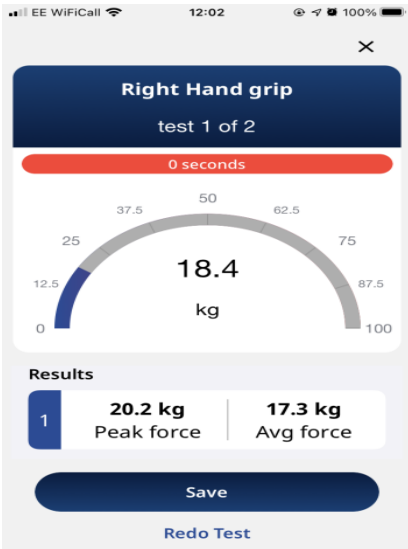
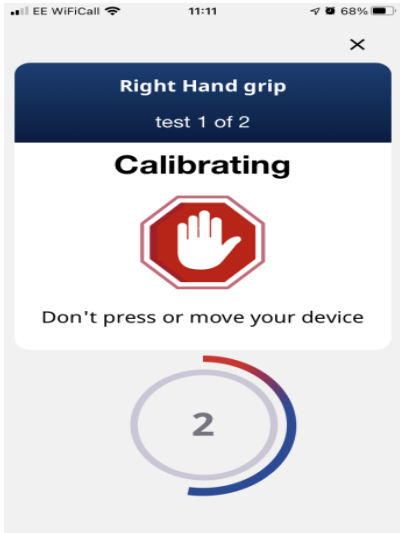
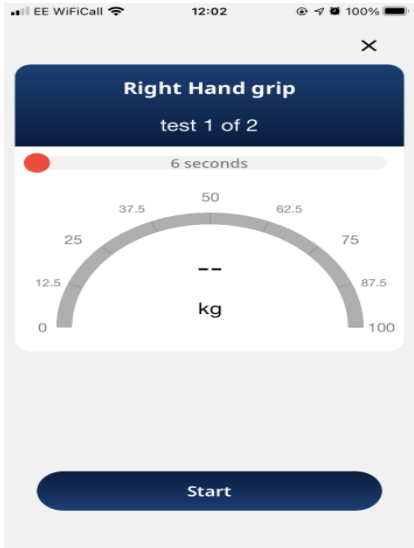
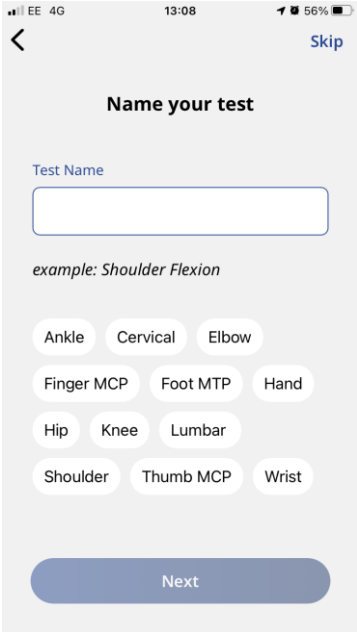
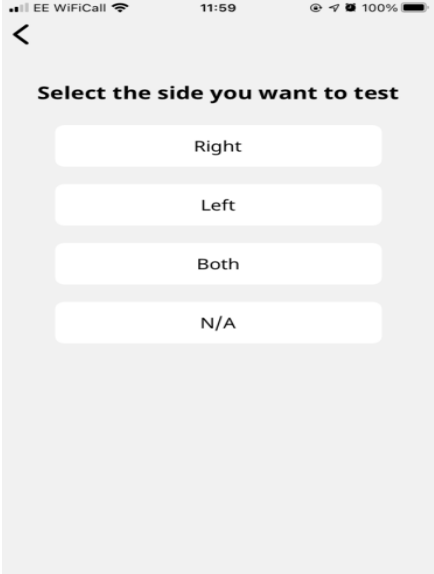
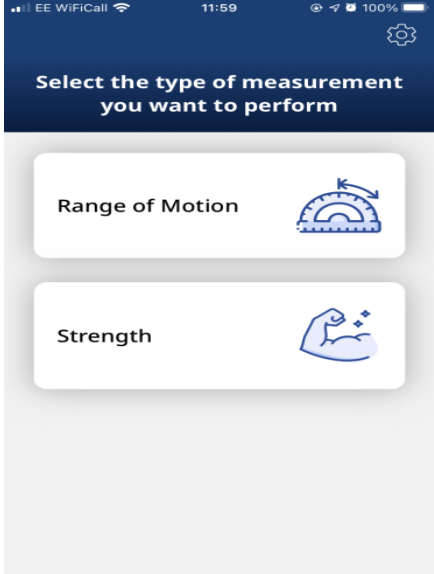
Right  
121.78°

Email Summary

Perform Another Measurement

If finish testing tap email summary or select perform another test

# Strength Testing



# Summary Reports

The screenshot shows the 'Summary' app interface with the 'All Data' tab selected. It displays results for two hand grips: Right and Left. Each grip has two test entries with their respective peak and average forces.

Hand	Test	Peak force	Avg force
Right Hand grip	1	20.19 kg	17.32 kg
	2	19.99 kg	13.80 kg
Left Hand grip	1	18.58 kg	16.73 kg
	2	17.79 kg	16.14 kg

Buttons: Email Summary, Perform Another Measurement

The screenshot shows the 'Summary' app interface with the 'Symmetry' tab selected. It displays a 'hand grip' entry with a 'Force over time' graph for the 'Right' hand. The graph shows a blue line representing force over 5 seconds, with an average force of 18.7 kg. A legend indicates 'Test 1'.

Force over time  
Right

Avg force: 18.7 kg

Buttons: Email Summary, Perform Another Measurement

Click email summary to send the report

If finish testing tap email summary if not, select perform another test

# Force Range Graph

## Activforce 2 Summary Report

*activforce2*

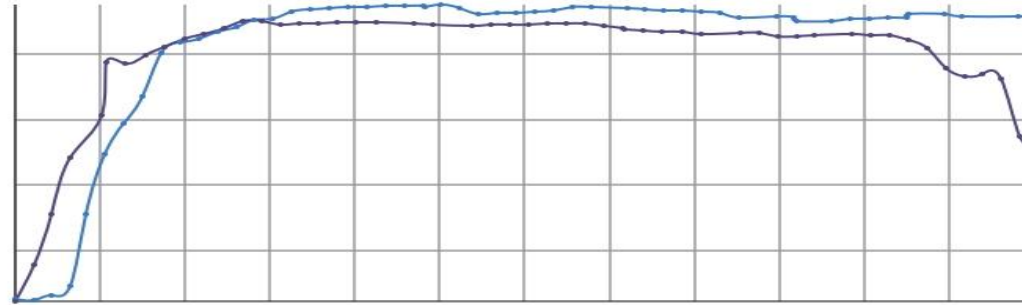
Summary

22/12/2020

10:41

hand grip

Right



● ●  
Average values

Test 1

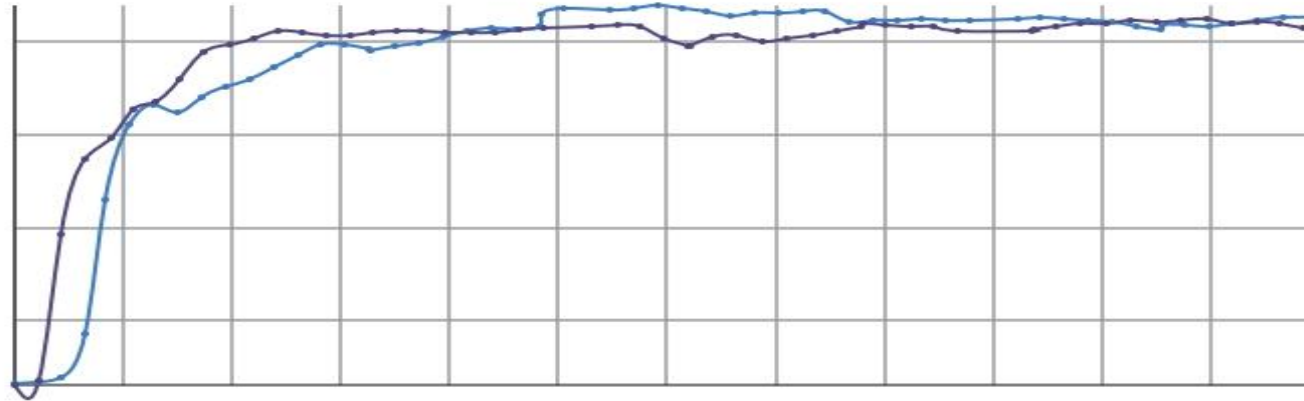
21.11 kg

Test 2

20.32 kg



### Left



#### Average values

Test 1	19.38 kg
Test 2	19.64 kg

#### Peak Force (kg)

Right	23.78 kg
Left	21.95 kg
Strength Difference	1.84 kg
Percentage Difference	8.03%

#### Shoulder extension

##### AROM Symmetry

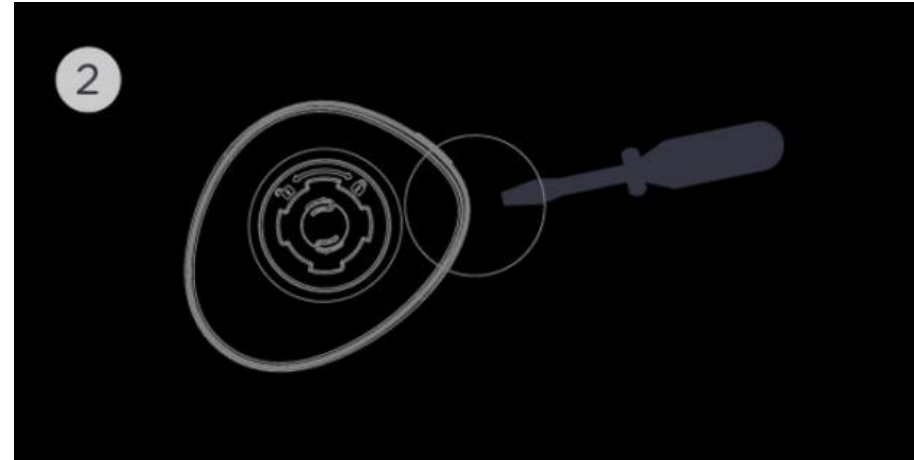
Right	224.08°
Left	205.08°
Angle Difference	19.01°
Percentage Difference	8.86%

# Replacing the Battery on Your Activforce 2 Device:

To replace the battery, follow these simple steps:

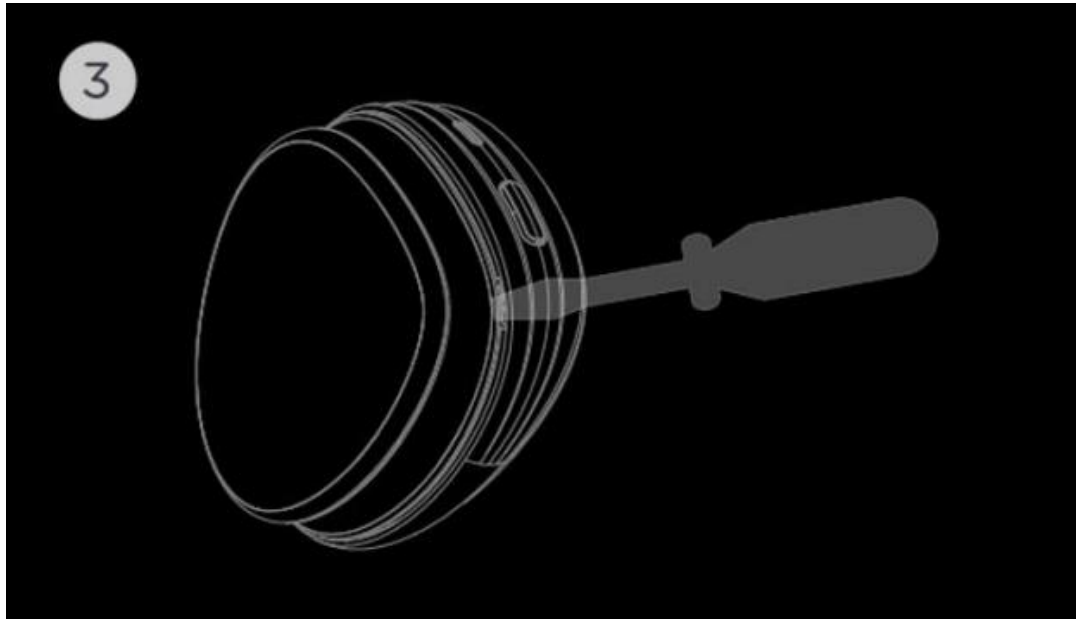


You need a new AAA battery & a flat-head screwdriver.

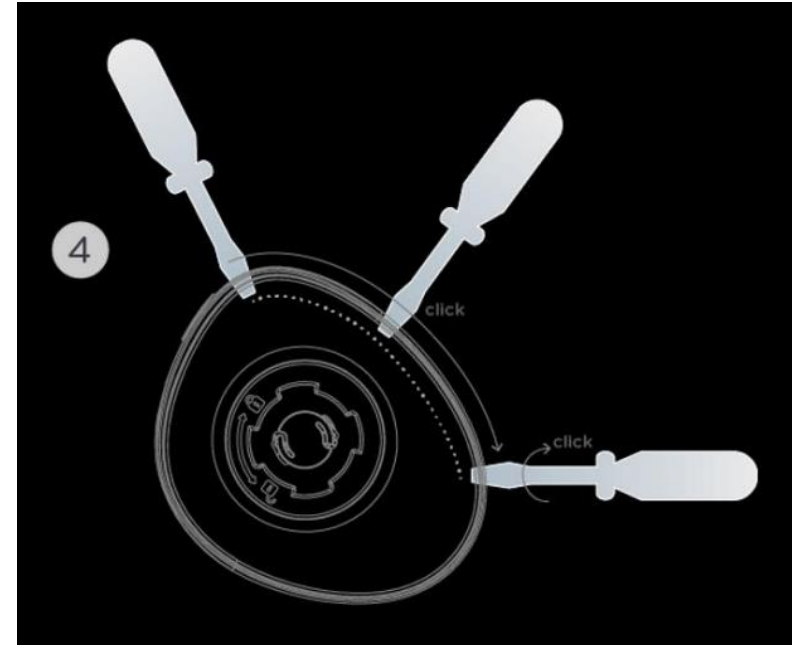


Hold Activforce2 and the screwdriver like this. The Activforce star logo should NOT be visible

## Replacing the Battery on Your Activforce 2 Dynamometer (continued)



Insert the tip of the screwdriver into the opening



Gently slide the screwdriver along the edge of Activforce2, keeping the tip inside the crevice, until you get to the spot as shown in the picture. Then stop and slightly turn until you hear a **CLICK**. The lid is now open, and you can carefully remove it.

# FAQ

- **Will my account be tied to a specific device?**

- To create a new Activforce 2 account, you will need a new Activforce 2 dynamometer that has not been “activated.” Once you create an account, it can be connected to any Activforce 2 device.

- **Does the Activforce 2 dynamometer ever need to be calibrated or tared?**

Your Activforce 2 device should not need to be calibrated. Rarely, you may find that your strength measurements do not seem as accurate.

When this happens, go to Settings > Calibrate your device and tare the device.

- **How do I switch out the Activforce 2 pads?**

- To change out pads, hold the top, softer part of the pad and turn it to the left. The pad should easily twist off. Take the new pad, line it up with the locking mechanism on the device and twist to the right until the pad is secure.

- The locking mechanism is designed to hold the pads at multiple angles. Keep turning the attachment at 90 degree angles until it locks into the angle you prefer.

- **Can I redo a single test within a test series?**

- After performing a strength or angle measurement test, you will have the option to redo the test. Just tap the “Redo Test” text under the test result screen.

- **Can I access test data from previous measurement tests I performed in Activforce 2?**

- No patient data is stored at this time. Once you email a data summary to the email associated with your account or explicitly end a test, the data for the measurements you previously performed is no longer accessible.

- **Can I store and view patient data later?**

- No patient data is stored at this time.

# FAQ (continued)

- **Can I create a custom protocol?**

Each test series you perform with Activforce 2 is customizable. You can set and store default settings for strength tests, but you cannot create custom protocols at this time.

- **Are there standard protocols I can use in the new app?**

- Based on extensive feedback from physical therapists, we have done away with standard protocols in favour of measurement tests that are customized for your patient's injury.

- **How do I measure a knee or elbow joint that does not have full extension?**

- Although the Activforce2 device tests a range of motion, it does not calculate a starting angle, you can still measure a knee or elbow joint that does not have full extension. See how-to video for step-by-step instruction.

- **How do I strength test someone who is stronger than I am?**

The belt may be used to test a client's or athlete who may be stronger or larger than you.

- **How can I see a patient's force-to-weight ratio?**

To view force to weight ratio data, tap the "Enter Weight to see F/W %" button on the Strength Summary screen. You will be asked to enter the patient's weight, then tap "Calculate F/W %."

- **How do I change the email associated with my account?**

If you need to update the email associated with your account, please contact [support@activbody.com](mailto:support@activbody.com).

- **I own the original Activforce device. Will I still be able to use the old Activforce app?**

Yes, we will still continue to support the original Activforce app for use with the Activforce device.

# FAQ (continued)

- **Can I use the new Activforce 2 app with my older Activforce device?**

Yes, the new Activforce 2 app works with the original Activforce device, although the Activforce data dashboard is not currently supported in the new app.

- **Can I use the old Activforce app with a new Activforce 2 device?**

No, the new Activforce 2 dynamometer only works with the Activforce 2 app.

- **Will I be able to activate my data from the original Activforce in the new Activforce 2 app?**

Not at this time, but we expect to allow for the migration of legacy Activforce data into the new app in a future version.

- **How do I activate the new app to work with my Activforce 2 dynamometer?**

After you purchase your Activforce 2 device, sign up for an account on the app or log in to an existing one. During this process you will be prompted to activate your device.