



# QT ECG Troubleshooting



<https://www.qtmedicla.com>

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Android



iOS

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# Preventive Maintenance

The following sections describe how to clean the QT ECG system, including recommended cleaning and disinfecting solutions and methods. This section also covers routine preventive maintenance for the QT ECG Recorder.

## QT ECG Recorder

To clean the QT ECG Recorder, dampen a soft cloth with lukewarm soapy water or natural cleanser and gently wipe down the recorder. The QT ECG Recorder should not be immersed in water under any circumstances. Take care not to scratch the device with abrasive cleansers or excessive wiping on the label. The QT ECG Recorder should be gently cleaned before every use. To disinfect the QT ECG Recorder, dampen a soft cloth with isopropyl alcohol and gently wipe the Recorder. Regularly inspect the QT ECG Recorder for damage such as warping or cracking. If there is any damage, do not use the QT ECG Recorder and contact QT Medical customer service.

## QT ECG Electrode Strip

The Electrode Strip is clean and ready to use straight out of the package. There is no need to clean it. Electrode Strips are for one-time use only and should be discarded after use.

## Wall Charger

The cleaning procedure for the wall charger is the same as that for the QT ECG Recorder. Disconnect the wall charger from the power outlet before any cleaning procedure.



# 1. QT ECG Recorder

## 1.1 PWR LED indicator does not light up during charging

**Solution :** PWR LED indicator will turn off after the battery is fully charged. If the PWR LED does not light up while charging, this may indicate that the battery is fully charged.

## 1.2 Unable to turn on the QT ECG Recorder

**Solution :** Press and hold the power button for 30 seconds. If the Power LED indicator still does not light up, try again after charging the device for 1 hour.

If above mentioned solution does not work, please contact QT Medical customer service.

## 1.3 Unable to turn off the QT ECG Recorder

**Solution :** Make sure the Micro-USB cable is not connected.

**Solution :** Press and hold power button for 30 seconds. If still unable to turn off the QT ECG Recorder, please contact QT Medical customer service.

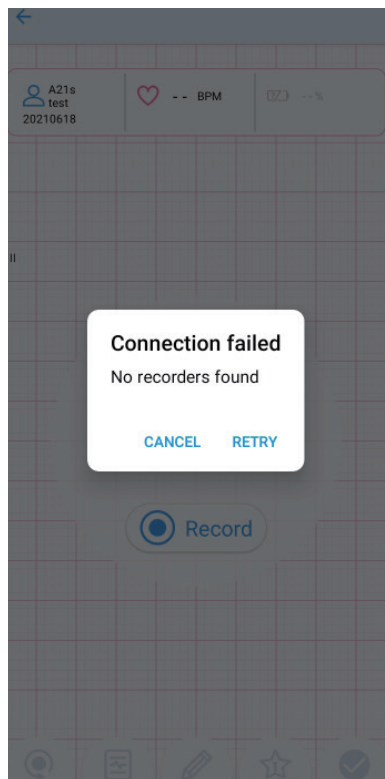
## 1.4 Unable to connect the QT ECG Recorder to the mobile device (iPad, Android tablet, etc) via Bluetooth

**Solution :** If Bluetooth is not connected when the QT ECG Recorder is on, the blue CON LED indicator will blink. When Bluetooth is properly connected, the CON LED indicator will be a solid light. If the CON LED indicator is off when the Recorder is turned on, please contact QT Medical customer service.



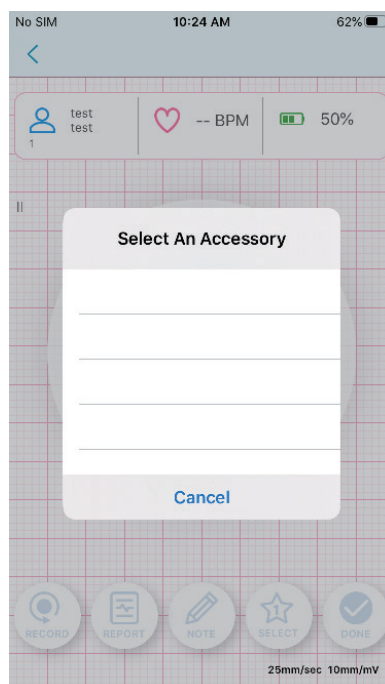
## 1.5 Connection Failed, No Recorders Found

**Solution:** (if PWR LED is solid green, CON LED is flashing blue), "connection failed" appears, please reboot the recorder, and ensure the distance between the recorder and mobile device is within 10 meters and no objects in between effecting the connection.



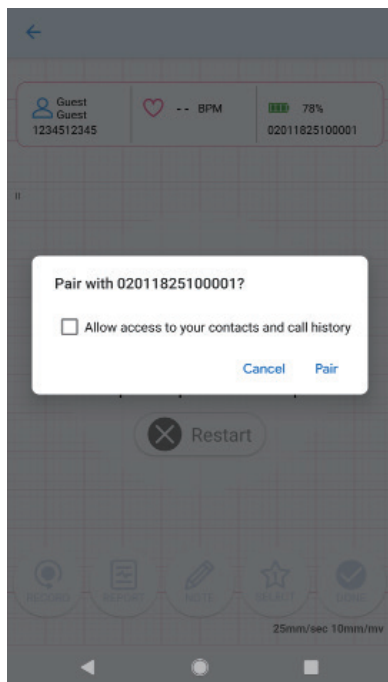
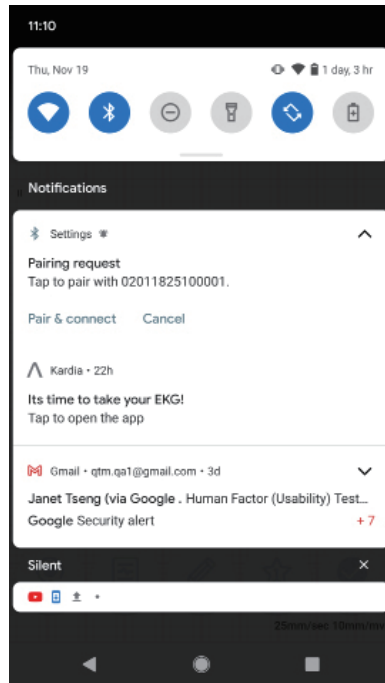
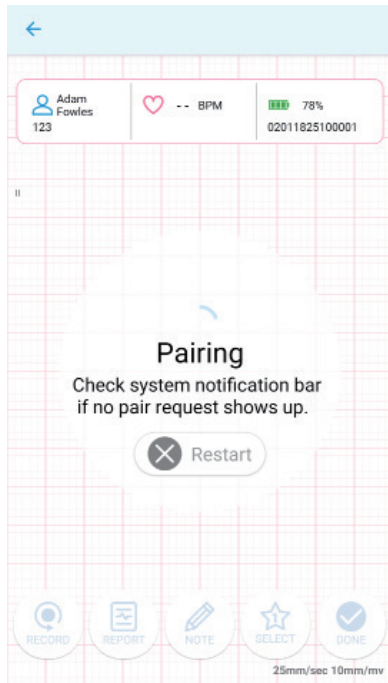
## 1.6 (For iOS) S/N of the QT ECG Recorder does not appear during the second phase of pairing

**Solution:** Press "Cancel" after 3 minutes, reboot the QT ECG Recorder and try pairing again, or refer to Step 2.5



## 1.7 (For Android) Pairing request does not appear

**Solution:** Swipe down to Settings and tap on "Pairing request" to manually start the pairing process.



Please reboot the QT ECG Recorder and try again, or refer to **step 2.5**

## 2. APP

### 2.1 The APP crashes during use.

**Solution :** Make sure you run the latest version of the APP and the operating system on your mobile device. Reboot and restart your mobile device. If the problem persists, please contact QT Medical customer service.

Always ensure that the latest version of the app is running; if an older version of the app is running, the app may not function properly (Please be advised, we recommend that you turn off the automatic update functions for your phone's OS and app. Before proceeding with updates, please check our compatibility list for the most updated OS/app combination that we currently support.)

### 2.2 Cannot open application or the app quits unexpectedly.

**Solution :** Please contact QT Medical customer service.

<https://www.qtmedical.com/contact-us>

### 2.3 QT ECG application is not performing smoothly

**Solution :** Too many apps may be opened and running at the same time. Reboot the mobile device and try again.

### 2.4 All ECG tracings disappear on the display.

**Solution :** The problem may be caused by system overload. Disconnect the QT ECG Recorder from the Electrode Strip then carefully remove the Strip from the Patient's chest. Restart the entire process by re-attaching the Electrode Strip (or use a new Strip) on the patient. If the problem persists, please contact QT Medical customer service.

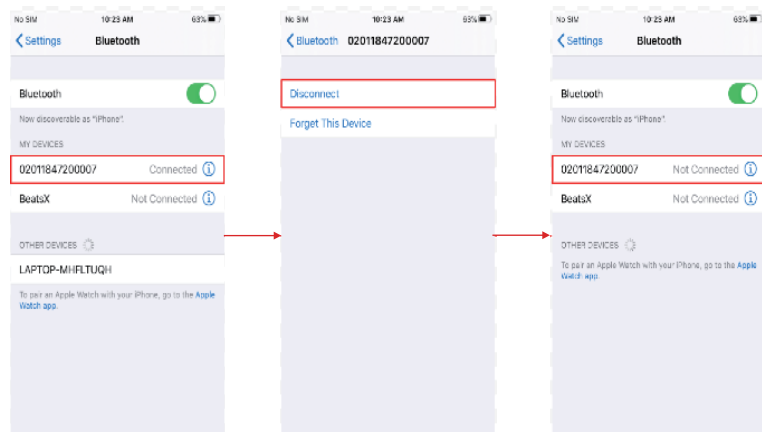
### 2.5 Cannot connect to the device

**Solution :** If the connection fails over 3 times, please retry with the following steps :

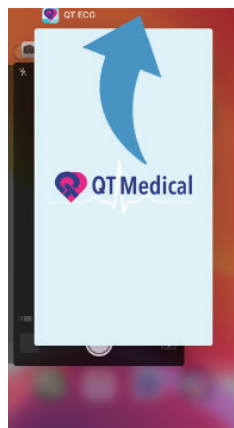
1. Reboot the device
2. Restart the APP
3. If connection fail remains, the possible reason is that too many Bluetooth devices are connected to the mobile device, the problem may be solved by the following steps:



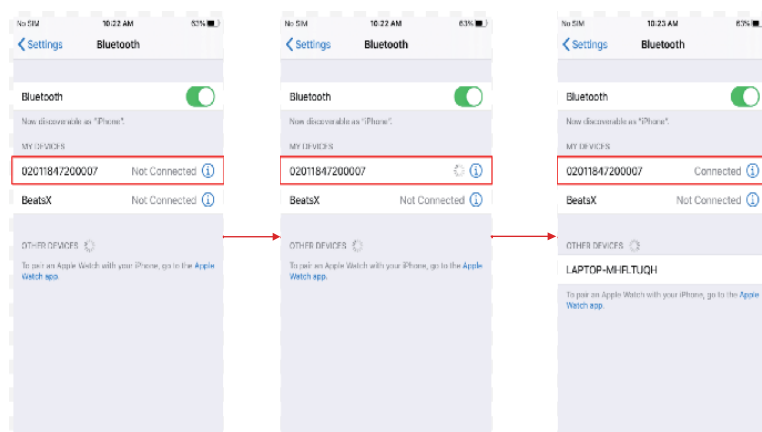
**(For iOS)** To remove connected Bluetooth device, please follow these steps to disconnect, Setting > Bluetooth > Remove unused devices.



Please force close the QT ECG APP.



Select Setting>Bluetooth>Select the SN of the QT ECG Recorder you wish to connect.

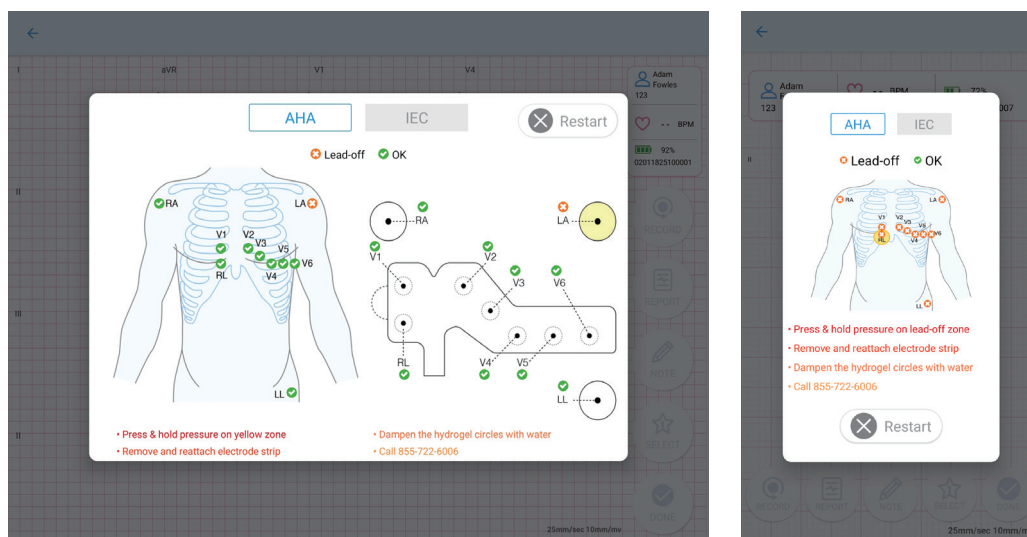


**(For Android)** Setting > Bluetooth > Remove unused devices or Reset network settings.



## 2.6 Lead-off warning.

See figure below :



**Solution :** Check the corresponding limb/chest electrode(s). Make sure each electrode is attached properly to the skin and making good physical contact. Firmly press on the area of the strip indicated in yellow to ensure good electrode contact with the skin.

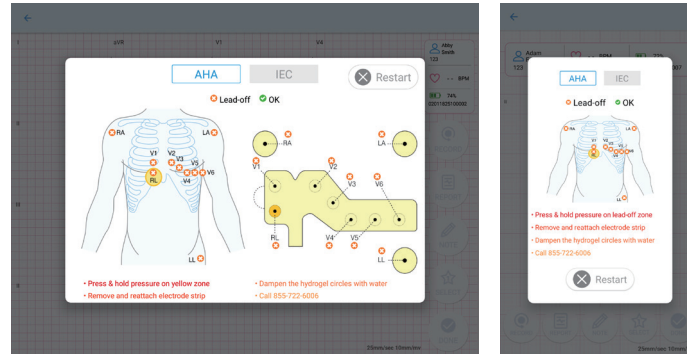
- 1 press firmly down on the strip to ensure it is making good skin contact.
- 2 If this does not resolve the problem, ensure the skin is clear. If there is hair in the electrode strip area, shave along the indicated area. If the skin is oily or dirty, try wiping down the skin under the electrode strip with a clean cloth.
- 3 In a low humidity environment, electrodes may dry up, preventing adhesion to the skin. If the electrodes have been stored in a dry environment, and a "lead-off" alert is shown in the app during use, please use a moist cloth to dampen the hydrogel circle(s) of unattached electrode(s) indicated in the app alert, then reattach the electrode.
- 4 If lead-off remains, but the hydrogel circles has been dampened and strip firmly contacted to skin already.  
Please try the following steps:
  1. Take off the strip and re-attached to skin,
  2. Unplug the connector and plug in again.
  3. then reboot the recorder and try again.
- 5 If lead-off remains still after all the process, please contact us.

## \*Common Lead off indication

### 1. All leads are OFF

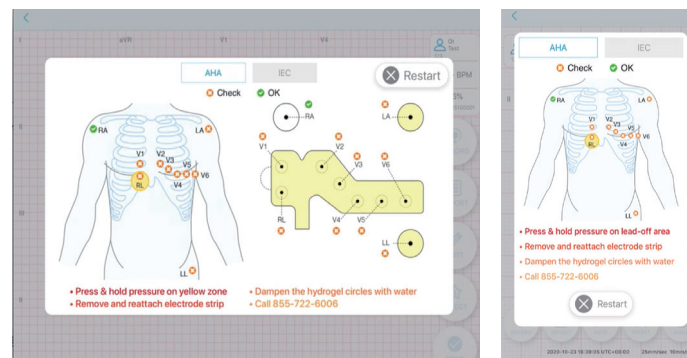
A. Make sure each electrode is attached properly to the skin making good physical contact, and the hydrogel circles on electrodes are moist and conductive.

B. unplug the strip from the connector, and plug in again, then reboot the recorder.



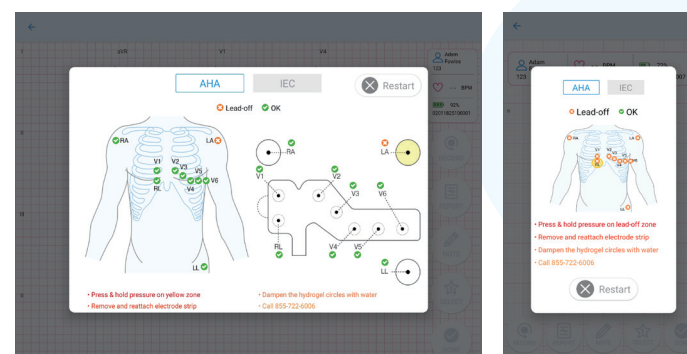
### 2. RA is ON, rest of leads are OFF

This usually happens when RL lead is off; make sure to press firmly on RL to ensure proper attachment.



### 3. 1-2 lead(s) are OFF

Follow the indications and check the corresponding leads, if lead is attached properly but shows leads off, please use a moist cloth to dampen the hydrogel circle(s) of these electrode(s) indicated in the app alert, then reattach the electrode.



## 2.7 Low battery warning.

**Solution :** Disconnect the Recorder from the Electrode Strip and remove the Electrode Strip from the patient. Charge the QT ECG Recorder using the wall charger and Micro-USB cable provided. Do not attempt to use the Recorder and charge the battery at the same time.

## 2.8 Cannot record ECG signals.

**Solution :** Review the User's Manual to ensure all steps and instructions are followed properly.

**Solution :** If the instructions are followed but the app problem persists, close the app, reboot the mobile device and the QT ECG Recorder, and try again.

**Note:** For IOS system: Make sure the bluetooth in the "Settings" and "Control center" are both opened.

**Solution :** If all the steps are followed but the recorder continues to fail to record , contact QT Medical customer service.

## 2.9 Situations below may affect the signal quality.

**Situation 1 :** When the Electrode Strip first attaches to the recorder.

**Situation 2 :** When the mobile device first connects to the recorder through Bluetooth.

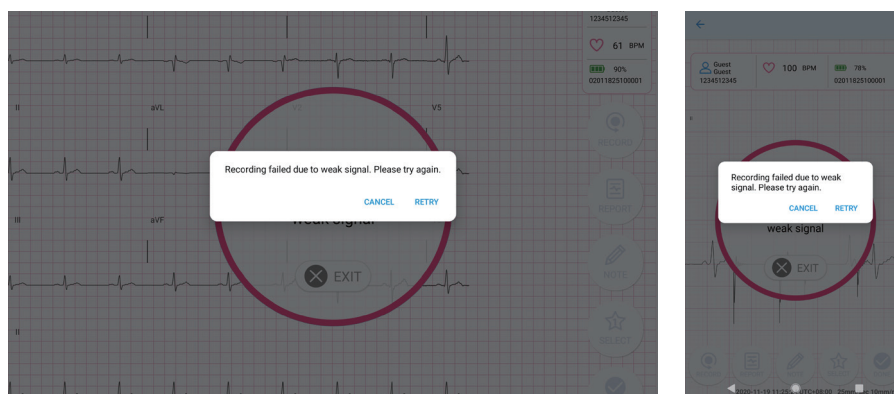
**Situation 3 :** When the mobile device first comes back from sleep mode.

**Situation 4 :** When restarting recording after uploading successfully.

**Solution :** Wait for 5~10 seconds before recording. If the recorder continues to fail, contact QT Medical customer service.



## 2.10 Weak signal warning.



### Solution :


The weak signal message means there are lots of wireless interferences in the environment that are affecting the Bluetooth transmission. The interferences may come from smart phone or external wireless devices.


**(For smart phone)** Please make sure your smart device has:

- A. turned off WiFi Hotspot function.
- B. disconnected all other Bluetooth devices such as wireless headphones, wireless speakers, smart bands and smart watches.


**(For external)** Please make sure there are less than 10 smart devices (wireless devices using WiFi and Bluetooth) around. If the external interference exists, please try to find another place to do the measurement.


If the above mentioned steps do not resolve the issue, please try the following:

 **(For iOS devices)** Wait for 5~10 seconds before recording. If the recorder continues to fail, contact QT Medical customer service.

 **(For Android devices)** Reset network settings on the mobile device and record again. If the problem persists, please contact QT Medical customer service.

Tip: To reset network settings,

 **(Google Pixel Phone)** open your phone's Settings app and tap System > Advanced > Reset options > Reset Wi-Fi, mobile & Bluetooth.

 **(Samsung devices)** open the mobile device's Settings app and tap General management > Reset > Reset network settings.

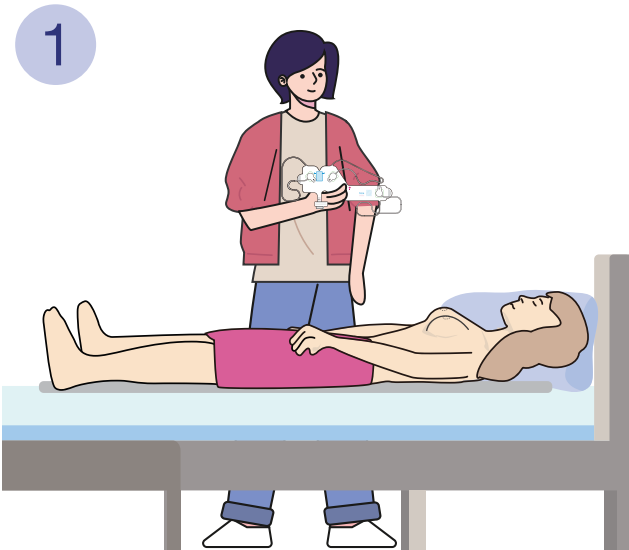
## 3. Other Problems

### 3.1 Other conditions

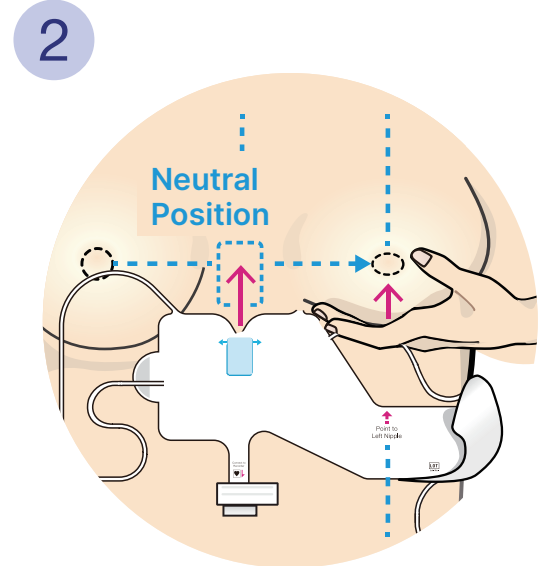
1. Dense hair on the chest may cause weak signal, shaving the chest hair along the adhesive area is suggested.
2. If the strips are loosely attached, causing leads off error, please use surgical tape to securely attach the strip tightly.
3. Our strips have passed biocompatibility test. If you have a history of sensitive skin or allergy, and your skin becomes red, itchy or inflamed during the procedure, please remove and consult your physician.
4. For female, please avoid the breast; have the strip go around the underside of the breast by moving the strip lower.



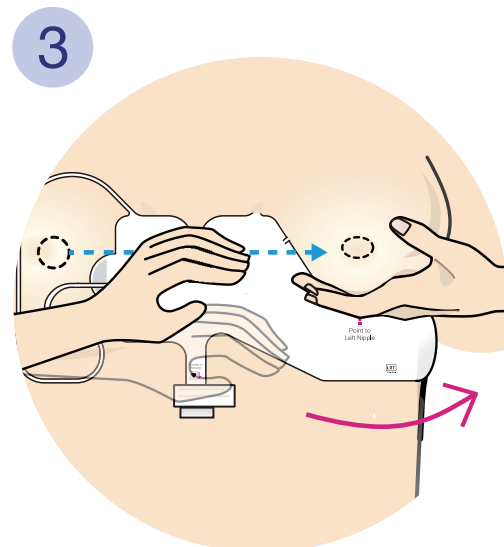
## 3.2 Instructions for electrode placement on a female patient.



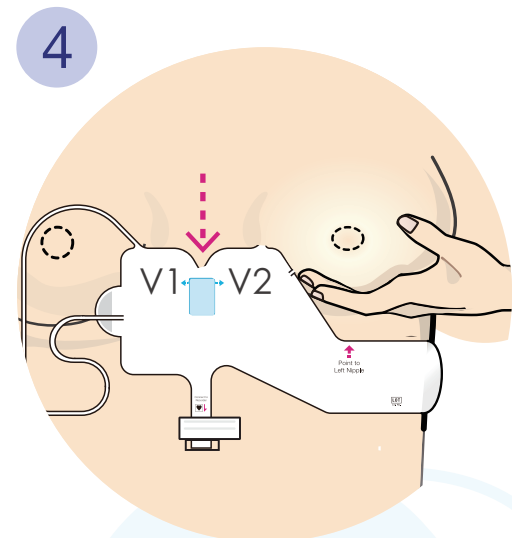
1. Female patients should lie down flat and have someone on the side to help.



2. It is advised to remove the bra and hold the left breast up to a "neutral position", place the "blue box" in the center of the chest between nipples.



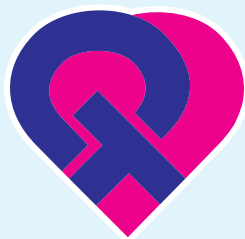
3. Wrap the tail of the strip around the underside of the left breast. Press on all parts of strip to ensure good adherence to the skin.



4. In some women, it may be challenging to place the "blue box" between the breasts. It may be necessary to move the entire strip slightly lower to allow more space for better placement.

# Customer Service Support

For customer service support, please contact:



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